



AARC OVER

**Keeping Austin Wireless
for Over 96 Years!**

Bulletin of Austin Amateur Radio Clubs

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Issue 03-2017

The W1UL Ham Radio & Technology Trivia Trilogy (part 2)

Submitted by Urb LeJeune (W1UL)

Hedy Lamarr... Not Just a Pretty Face

Introduction



Hedy Lamarr (pictured at left; publicity photo circa 1944) was an Austrian and American film actress and, unbeknownst to most, a creative inventor. After an early and brief film career in Germany that included the controversial 1933 film *Ecstasy* in which she is seen swimming in the nude and running naked, she fled from her husband, a wealthy Austrian ammunition manufacturer, and secretly moved to Paris. While in Paris she met MGM head Louis B. Mayer who offered her a movie contract in Hollywood, where she became a film star from the late 1930s to the 1950s.

(continued on page 5)

* **Updates Needed** * Are **these nets** active? Web site seems quite stale.

Periodic Events

Sun	7:00 p.m.	Travis ARES net	147.36 MHz + (131.8)
Sun	8:00 p.m.	Travis ARES Packet (*in UNPROTO)	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 - (107.2)
<i>Sun</i>	<i>(After Swapnet)</i>	<i>Newsline</i>	<i>146.94 MHz - (107.2)</i>
Mon.	7:30 p.m.	STX ARES Net	3.873 MHz
Tues.	7:30 p.m.	Hays ARES net	147.100 MHz +
Tues.	8:00 p.m.	Bastrop ARES Net	443.750 MHz + (114.8)
Wed	11:30 a.m.	Ham Social Luncheon, Jim's	146.94 MHz - (107.2)
Thu	9:00 p.m.	2m SSB Net	144.250 MHz (USB)
Thu	11:00 a.m.	Lunch, Pokey Joe's 183&Great Hills	444.1 MHz+
Thu	11:45 a.m.	Lunch, Whataburger Oltorf & Burleson	146.94- (107.2)
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
Sat	7:00 p.m.	AARC Elmer Net	146.94 MHz- (107.2)
Daily	6:30 p.m.	Central Texas Traffic Net	147.14 MHz+

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Ham Radio Exams Results

The following are the results of the ARRL VE Test session held on **February 11th** at Bethany United Methodist Church:

Technician Class Licenses Processed

John M. Baugnon KG5RXH	Wayne P. Booth KG5RXF	Quinlan S. Buoy KG5RXX
Michael D. Marks KG5RXG	William L. Pryor KG5RXI	Christopher A. Whitling KG5RXJ

General Class Licenses Processed

Thomas G. Price KG5RXE

Extra Class Licenses Processed

Gordon W. Calderwood Jr. KG5RAI John H. Mandell KG5RHN

Examiners Participating in this Test Session

Dave Anderton AE5XY	Larry Gunter WB5BEK	Arlen Levin WA6AUF
Joe Makeever W5HS	Jim Peisker AF5NP	Rob Porter K5FAR

Next ARRL VE Test Sessions

March 4th @ 9:00a.m. - Bethany United Methodist Church, Disciple Bldg. Room 203/204

April 1st (no foolin'!) @ 9:00a.m. - Bethany United Methodist Church, Disciple Bldg. Room 203/204

TNX ES 73 DE W5HS

Joe

2-18-2017

The South Austin W5YI VE team heartily congratulates the following people who earned new or upgraded amateur radio licenses at our **February 18th** session:

General Class

Jared Wallace (NEW)

Technician Class (NEW)

Ross McKelvie	Benjamin Zern	Charles Wolfson
Travis Tarpley	Daniel Antry	Daniel Cotlow

Our administering volunteer examiners were:

Craig Bean, AC5KW	Gary Popp, AE5JR
Wally Marusa, K5WLY	Stuart Wolfe, KF5NIX

Our next two amateur radio exam sessions will start at **2 PM** on **March 18th** and **April 15th** in Fleck Hall, Room 118 on the campus of St. Edward's University. All sessions are walk-in and the exam fee is \$14 (cash or check).

For additional information regarding our amateur radio examination sessions, please contact Craig, AC5KW at **(512) 474-6443** or by e-mail to **AC5KW@ARRL.net** or visit our web page at: <http://texashams.org/w5yi-austin/>

2017 Officers

President	James Hollan	KG5SGR		president@austinhams.org
Vice President	Lew Thompson	W5IFQ		vice-president@austinhams.org
Treasurer	Jay Hoffman	KA5OST		treasurer@austinhams.org
Secretary	Angie Steelman	KF5ZXI		secretary@austinhams.org
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ARRL Travis Co. Emer. Coord.	Mark Esslinger	W5MAE		ec@austinhams.org
TC ARES PIO	Steven Polunsky	W5SMP		tcares-pio@gmail.net

Please contact a club officer, attend a meeting, or 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/ -600kH	No	2m D-STAR Repeater [W5KA C]
146.880 107.2 PL Tone	No	Analog/Digital Fusion
146.940 107.2 PL Tone	No	Most popular, WX, Swapnet & Newsline
224.800	No	
444.100	No	
444.200 107.2 PL Tone	No	
440.650 +5	No	70cm D-STAR Repeater [W5KA B]
1293.100/-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.

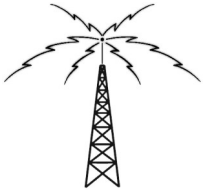
The Austin Amateur Radio Club offers annual scholarships to licensees living in Travis, Williamson, Bastrop, Hays, Blanco, Caldwell, and Burnet counties. Please see <http://austinhams.org/copeland.htm> for more information.

AARCOVER Information: ISSN 1067-0262, CODEN AAOVE3. ©Austin Amateur Radio Club, Inc. Published monthly by the Austin Amateur Radio Club, Inc. Viewpoints expressed in the AARCOVER do not necessarily reflect those of the club, or of its members, directors, or officers. Material quoted from the ARRL Letter is supplied by the American Radio Relay League, Inc.

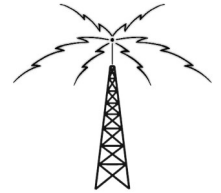
Members and other readers are *encouraged* to submit material for publication. Contact the Editor, if mailed submissions are required. Email and/or electronic files are encouraged! Submissions may be edited for publication (for content and/or space). **Deadline is the 25th of each month**, but late articles may be considered for future publication. Material may be used in a later issue. Unless otherwise noted, permission is granted to reprint AARCOVER articles, provided you credit the original author and the AARCOVER. If material is included in another publication, a courtesy copy to the Editor is appreciated.



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



Over the WWaves...



Awesome Links and other Useful Info!

(submitted by members and others at-large)

- Ham Radio Tutorial—Intro to Oscilloscopes by N1QQ—DE K5FNI (Rick)
https://m.youtube.com/watch?v=z2jp-VhXw_8 (Editor's note: There are several other related videos on the sidebar which are also very helpful.)
- Open Source codec encodes voice into only 700 bit per second:
<https://tech.slashdot.org/story/17/01/13/2037254/open-source-codec-encodes-voice-into-only-700-bits-per-second>
- Five-watt SDR HF transceiver <https://sites.google.com/site/rshfiqtransceiver/>, with feature story on HACKADAY: <https://hackaday.com/2016/11/20/five-watt-sdr-transciever-for-hams/>



Amateur Radio Balloon to be Part of K2BSA Activities at 2017 National Scout Jamboree

02/23/2017 DE ARRL

<http://www.arrl.org/news/amateur-radio-balloon-to-be-part-of-k2bsa-activities-at-2017-national-scout-jamboree>

A high-altitude Amateur Radio balloon, [K2BSA-11](#), will be launched from the 2017 National Boy Scouts of America Jamboree in West Virginia. The balloon is expected to reach an altitude of 48,000 feet and will transmit on 144.390 MHz APRS. An onboard GPS/computer will shift APRS frequencies based on the balloon's location around the globe.

Carrying out the July 20 launch from the Summit Bechtel Reserve will be Bill Brown WB8ELK; Keith Kaiser, WA0TJT, and other members of the K2BSA Radio Scouting team. They are hoping that the balloon will circumnavigate Earth.



Two Amateur Radio CubeSats Carrying Transponders Set for Future NASA Launches

02/24/2017 DE ARRL

<http://www.arrl.org/news/two-amateur-radio-cubesats-carrying-transponders-set-for-future-nasa-launches>

Two satellites with Amateur Radio transponder payloads have been selected for future NASA launches.

AMSAT reports that the TJREVERB CubeSat, developed by students at Thomas Jefferson High School for Science and Technology in Alexandria, Virginia, will carry a 435/145 MHz FM transponder. The University of Washington-Seattle's HuskySat-1 has a 145/435 MHz SSB/CW transponder and was developed by students at the University of Washington in Seattle. The satellite will demonstrate plasma propulsion and high-gain telemetry, in advance of a larger CubeSat lunar mission.

The launches are expected to take place in the 2018-2020 timeframe. The two CubeSat missions were selected as part of the 8th round of NASA's CubeSat Launch Initiative (CSLI). Both are eligible for placement on a launch manifest after final negotiations, depending on the availability of a flight opportunity.



REMINDER

The Austin Amateur Radio Club offers annual scholarships to licensees living in Travis, Williamson, Bastrop, Hays, Blanco, Caldwell and Burnet counties.

Please see <http://austinhams.org/scholarships> for more information.



(CONTINUED FROM PAGE 1)

Lamarr appeared in numerous popular feature films, including Algiers (1938), I Take this Woman), Comrade X (1940), Come Live With Me (1941), H.M. Pulham, Esq (1941), and Samson and Delilah (1949).

At the beginning of World War II, Lamarr and composer George Antheil developed a radio guidance system for Allied torpedoes, which used spread spectrum and frequency hopping technology to defeat the threat of jamming by the Axis powers. Although the US Navy did not adopt the technology until the 1960s, the principles of their work are now incorporated into modern Wi-Fi, CDMA, Bluetooth and Cell Phone technology. This work led to their induction into the National Inventors Hall of Fame in 2014.

The Patent award is shown at right. It's interesting to note that the US Navy took over the patent in the early part of WWII but never used it until the Cuban Missile Crisis in 1962. The US Navy never returned the patent rights to the inventors and as a result, they never made a nickel on their inventions.

About the submitter: Urb LeJeune (W1UL) is the creator of the Official W1UL FREE Ham Cram Website. Visit <http://ham-cram.com/> for more info.

[Editor's Note: The majority of this part was taken from [Wikipedia](#) and is presented here under the [Creative Commons Attribution-ShareAlike License](#). The complete submission is being presented in three parts— one each month. This was the second of three. Stay tuned!]

SILENT KEY

Joe Thiel, N5SMN (SK)
DE Roy Walker WA5YZD

I am sorry to pass along some sudden bad news about Joe Thiel N5SMN. He was at the dentist on Tuesday and while under anesthetics, began having trouble breathing. He was transported to the hospital and passed away Friday. I am sorry to pass this sudden bad news to you in this way. I am sure Joe, Carol and family will be in our prayers in the coming days. Joe's service was held Monday, March 6th, at the Cook-Walden funeral home in Austin. <http://obits.dignitymemorial.com/dignity-memorial/obituary.aspx?n=Joseph-Thiel&lc=4884&pid=184347930&mid=7316694>

UNITED STATES PATENT OFFICE

2,292,387

SECRET COMMUNICATION SYSTEM

Hedy Kiesler Markey, Los Angeles, and George Antheil, Manhattan Beach, Calif.

Application June 10, 1941, Serial No. 397,412

6 Claims. (Cl. 250-2)

This invention relates broadly to secret communication systems involving the use of carrier waves of different frequencies, and is especially useful in the remote control of dirigible craft, such as torpedoes.

An object of the invention is to provide a method of secret communication which is relatively simple and reliable in operation, but at the same time is difficult to discover or decipher.

Briefly, our system as adapted for radio control of a remote craft, employs a pair of synchronous records, one at the transmitting station and one at the receiving station, which change the tuning of the transmitting and receiving apparatus from time to time, so that without knowledge of the records an enemy would be unable to determine at what frequency a controlling impulse would be sent. Furthermore, we contemplate employing records of the type used for many years in player pianos, and which consist of long rolls of paper having perforations variously positioned in a plurality of longitudinal rows along the records. In a conventional player piano record there may be 88 records of perforations, and in our system such a record would permit the use of 88 different carrier frequencies, from one to another of which both the transmitting and receiving station would be changed at intervals. Furthermore, records of the type described can be made of substantial length and may be driven slow or fast. This makes it possible for a pair of records, one at the transmitting station and one at the receiving station, to run for a length of time ample for the remote control of a device such as a torpedo.

The two records may be synchronized by driv-

Fig. 2 is a schematic diagram of the apparatus at a receiving station;

Fig. 3 is a schematic diagram illustrating a starting circuit for starting the motors at the transmitting and receiving stations simultaneously;

Fig. 4 is a plan view of a section of a record strip that may be employed;

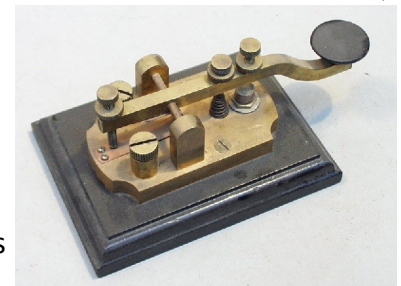
Fig. 5 is a detail cross section through a record-responsive switching mechanism employed in the invention;

Fig. 6 is a sectional view at right angles to the view of Fig. 5 and taken substantially in the plane VI-VI of Fig. 5, but showing the record strip in a different longitudinal position; and

Fig. 7 is a diagram in plan illustrating how the course of a torpedo may be changed in accordance with the invention.

Referring first to Fig. 7, there is disclosed a mother ship 10 which at the beginning of operations occupies the position 10a and at the end of the operations occupies the position 10b. This mother ship discharges a torpedo 11 that travels successively along different paths 12, 13, 14, 15 and 16 to strike an enemy ship 17, which initially occupies the position 17a but which has moved into the position 17b at the time it is struck by the torpedo 11. According to its original course, the enemy ship 17 would have reached the position 17c, but it changed its course following the firing of the torpedo, in an attempt to evade the torpedo.

In accordance with the present invention, the torpedo 11 can be steered from the mother ship 10a and its course changed from time to time as necessary to cause it to strike its target. In



Meeting Minutes — AARC General Meeting, 7 February 2017

Start: 7:03 pm

Attendance: 47

We had four visitors this month. Welcome!

We had three new hams this month. Congratulations!

There were no new members, upgrades or call sign changes.

Approval of minutes

The January minutes were approved as published in the AARCover.

Announcements: Since there were no other nominations for Ham of the Month, James, KG5SGR, chose slow cooker apple and clove ham.

See the swapnet newsletter for upcoming events.

Officer reports

- ◆ Treasurer: Jay Hoffman, KA5OST - There have been no major expenses. We have subscribed to the new website service and we will purchase a new Fusion radio to replace the one that was on loan from Don Dudley, AC5YK. There have been some legal expenses which will be reimbursed.
- ◆ Secretary: Angie Steelman, KF5ZXI - We had 43 people sign in last month. Thanks for signing in if you have, please do sign in if you haven't yet.
- ◆ Vice-President: Lew Thompson, W5IFQ - I handle the presentations and am always looking for presenters or topics. Email me if you have ideas.
- ◆ Newsletter: Mike Skurka, K5MSK - No report this month.
- ◆ ARES: Kerbey Spruiell, KG5DLD - Skywarn is this Saturday.
- ◆ BBHN: No report this month.

Space weather was presented by Lew Thompson, W5IFQ.

Jah Hoffman gave a short presentation about the new website.

Business meeting was adjourned at: 7:55 pm

Presentation was by Roy Walker discussing Yaesu System Fusion Wires-X.

~~~ End of Minutes ~~~



*[Editor's note: The presentation is available on the [new Austin Hams website](#).*

*Follow the menu: Technical -> Yaesu Fusion.*

*The link to the presentation is near the bottom of the page.]*



## 2017 Calendar of Events

### AARC Meeting Info

7:00pm to 9:00pm / Tuesday, March 7  
 Location: Applied Research Lab  
 10000 Burnet Road, Austin TX

#### **Topic:**

Global WinLink email system  
 Solar WX Summary: W5IFQ (Lew)

### Officers Meeting

Officers meet from 6:00 to 7:00p.m. prior to regular club meeting and is open to all. Contact an officer for more information.

## 2016 Upcoming Amateur Exams

### **ARRL VEC - March 4th & April 1st (no foolin'!)**

9 a.m. at Bethany United Methodist Church.  
 Room 203/204. \$15 fee. For more info, contact:  
 Joe Makeever, W5HS (512-345-0800)

### **W5YI VEC - March 18th & April 15th**

2 p.m. in **Room 207**, Fleck Hall,  
 St. Edwards University. \$14 fee.  
 Contact Don Dudley  
 AC5YK @ARRL.net  
 for more info. \$14 fee.

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

### **Mar 3-5 Highland Lakes Amateur Radio Club**

3-day Ham Slam Technician Class  
 Marble Falls EMS building—609 Industrial Blvd, Marble Falls TX  
 Register by contacting Riley Carruthers at  
 riley.carruthers @ datavise.net  
<http://hlarc.org/slam2017/hamslam2017.htm>

### **Mar 10-11 Belton Spring Ham Expo**

Bell County Expo Center  
<http://www.hamexpo.org/>

### **Mar 10-11 57th Annual 2017 Acadiana Hamfest**

Rayne Hamfest & Crawfish Boil  
 Rayne Civic Center - 300 Frog Festival Drive, Rayne LA 70578  
 Talk-in: 146.820(103.5 PL) EchoLink Node: 759629  
 Hamfest Committee Mgr- Glen KF5FNP 337-886-2244  
 kf5fnp @ cox.net  
[www.w5ddl.org/hamfest/](http://www.w5ddl.org/hamfest/)  
[www.w5ddl.org/hamfest/Files/AARA%20Hamfest%20Flyer.pdf](http://www.w5ddl.org/hamfest/Files/AARA%20Hamfest%20Flyer.pdf)

### **Mar 18 WCARC Swapfest and License Testing**

San Gabriel Park Community Center, 455 E Morrow Street  
 Georgetown TX 77626 — Seller/Vendor setup @ 7:15am  
 Doors open from 8am to 12-noon. Talk-in 146.64 (PL 162.2)  
 WCARC N5TT Repeater by Williamson County ARC  
<http://wcarc.com/>

### **Mar 24-25 Greater Houston Hamfest**

Fort Bend County Fairgrounds in Rosenberg  
 GPS: 29.5198N 95.8099W  
 GRID SQUARE: EL29cm  
 Talk in 146.94(-)PL167.9 Starting 6AM  
[www.houstonhamfest.org/](http://www.houstonhamfest.org/)

### **Apr 8-9 TX State Parks On The Air**

[www.tspota.org/index.htm](http://www.tspota.org/index.htm)

**More events listed in the SWAPNET Newsletter!**

## Upcoming Meetings...

| Mar | Apr | Austin Meetings/Happenings                    | Time      | Address             |
|-----|-----|-----------------------------------------------|-----------|---------------------|
| 7   | 4   | AARC Meeting @ Applied Research Lab           | 7:00 p.m. | 10000 Burnet Rd     |
| 28  | 25  | Travis County A.R.E.S. @ Applied Rsrch Lab    | 7:00 p.m. | 10000 Burnet Rd     |
| 23  | 27  | CERT Meeting @ CTECC ( <a href="#">Link</a> ) | 7:00 p.m. | 5010 Old Manor Rd   |
| 27  | 24  | CTDXCC Meeting @ Old Quarry Library           | 6:30 p.m. | 7051 Village Ctr Dr |

*If your club is listed here and has incorrect time or dates, please let us know! editor @ austinhams.org*