

RF



ORANGE COUNTY AMATEUR RADIO CLUB, INC.

VOL. LVI NO. 02

P.O. BOX 3454, TUSTIN, CA 92781-3454

February 2015

The Prez Sez.....

by Tim N6TMT



Amateur Radio is an amazing hobby. It touches on so many areas of modern technology. For example, I am working on becoming proficient in CW. As such, I completed an ARRL CW practice file that was text from the January 2014 QST. The practice file included part of an article on technology used to receive signals from aircraft ADSB systems.

ADSB is a means of tracking aircraft by having them broadcast their GPS coordinates, direction and speed data. Currently, Commercial aircraft and soon private will be sending out radio signals on 1090 MHz. With some basic Ham antenna building skills, a USB dongle that can tune the bands, a computer and software you could be receiving and reporting the data on all aircraft in your locale. What fun!

While dreaming of newer and better things is useful, sometimes it is good to take a look back. Our club website is very helpful in that regard because of the archive of past RF newsletters. Looking at some of the recently posted past issues that Bob – AF6C uploaded, I saw in the February 1983 issue that the membership was looking forward to a presentation by Wayne Overbeck- N6NB on “hi tech” computer programs for the ham shack. Also, the FCC was considering issuing a “no code” ham license; however, they knew that it was a very controversial issue within the amateur community and might not happen soon.

Today, we can enjoy a large number of “hi tech” computer programs for even devices such as our cell phones. Who would have imagined back then the plethora of software available for our hobby? Also, our hobby has been richly reenergized with more users than ever due to the dropping of the CW requirements, while at the same time CW is enjoying a renaissance.

I hope you have the best of both worlds in our amazing hobby.

de N6TMT - Tim

Next Meeting

The next [General Meeting](#) of the OCARC will be held Friday, Feb. 20

“DXpedition Doctoring...”

presented by Arnie Shatz, N6HC. Arnie has been a participant in nine major DXpeditions over the past 9 years and has served as an operator and the team doctor on these trips. He will tell us about some of the medical and personal welfare issues that he has had to address on these exotic trips.” Don’t miss this meeting!!

The next general meeting will be on:

**Friday, February 20th, 2015
@ 7:00 PM**

As usual, we will be meeting in the
east Red Cross Building, Room 208.
See you there!

In This Issue:	Page
The Prez Sez	1
Next meeting info	1
CLUB INFORMATION	2
Jan General Meeting Minutes	3
USS Iowa Battleship Tour	5
Membership Survey	7
Heathkit of the Month	11
Yuma Ham Fest	17
ARRL Orange Section Report	18
WARA VE Testing Sessions	19
OCARC Feb Board Meeting Minutes	20
Member Candid's	21
Visalia IDXC Convention Flyer.....	22
Career Opportunity Announcement	22
OCARC Jan Board Meeting Minutes	23
Upcoming Special Event Stations	24
DATV-Express Advert	25

**ORANGE COUNTY
AMATEUR RADIO CLUB**
www.W6ZE.org



2014 Board of Directors:

President:

Tim Millard, N6TMT
(714) 744-8909
N6TMT@w6ze.org

Vice President:

Tom Cowart, W6ETC
(714) 454-0571
W6ETC@w6ze.org

Secretary:

Ken Konechy, W6HHC
(714) 744-0217
W6HHC@w6ze.org

Treasurer:

Greg Bohning, W6ATB
(714) 767-7617
W6ATB@w6ze.org

Membership:

Don Mech, N6XBP
(714) 206-6548
N6XBP@w6ze.org

Activities:

Doug Wood, K6PGH
(714) 501-5527
K6PGH@w6ze.org

Publicity:

Robbie Robinson, KB6CJZ
(714) 478-9713
KB6CJZ@w6ze.org

Technical:

Roland Koluvek, WW6RK
WW6RK@w6ze.org

Directors-At-Large:

Nicholas Haban, AF6CF
(714) 693-9778
AF6CF@w6ze.org

Paul Gussow W6GMU
(714) 624-1717
W6GMU@w6ze.org

2015 Club Appointments:

W6ZE Club License Trustee:

Bob Eckweiler, AF6C
(714) 639-5074
AF6C@w6ze.org

Club Historian:

Bob Evans, WB6IXN
(714) 543-9111
WB6IXN@w6ze.org

RF Editor (rotating):

Doug Britton, W6FKX
(714) 742-2459
W6FKX@w6ze.org

WEB Master:

Ken Konechy, W6HHC
(714) 744-0217
W6HHC@w6ze.org

Assistant WEB Master:

Bob Eckweiler, AF6C
(714) 639-5074
AF6C@w6ze.org

ARRL Awards Appointees:

Arnie Shatz, N6HC
(714) 573-2965
N6HC@aol.com

John Schroeder, N6QQ
(West Orange Co.)
(562) 404-1112
N6QQ@msn.com

OCCARO Delegate:

**OCCARO is
currently INACTIVE**

Contact the Newsletter:

Feedback & Corrections:
RF_feedback@w6ze.org

Submit Articles:

EDITORS@W6ZE.org

Monthly Events:

General Meeting:

Third Friday of the month
at 7:00 PM
American Red Cross
600 Parkcenter Drive
(Near Tustin Ave. & 4th St.)
Santa Ana, CA

Club Breakfast:

Second Saturday - March 14
at 8:00 AM
Jagerhaus Restaurant
2525 E. Ball Road
(Ball exit West off 57-Freeway)
Anaheim, CA

Club Nets (Listen for W6ZE):

28.375 ± MHz SSB
Wed- 7:30 PM - 8:30 PM
Bob AF6C, Net Control

146.55 MHz Simplex FM
Wed- 8:30 PM - 9:30 PM
Bob, WB6IXN, Net Control

7.086 ± MHz CW **OCCWN**
Sun- 9:00 AM – 10 AM
John WA6RND, Net Control

VISIT OUR WEB SITE

<http://www.w6ze.org>

for up-to-the-minute club
information, the latest
membership rosters, special
activities, back issues of RF,
links to ham-related sites,
vendors and manufacturers,
pictures of club events and much
much more.

Club Dues:

Regular Members	...\$20
Family Members*	...\$10
Teenage Members	..\$10
Club Badge**\$3

Dues run from Jan thru Dec and are
prorated for new members.

*Additional members in the family of
a regular member pay the family rate
up to \$30 per family.

**There is a \$1.50 charge if you'd
like to have your badge mailed to
you.

OCARC General Meeting MINUTES 2015-01-16

The OCARC General Meeting was held at the Red Cross Complex on January 16th 2015. The meeting was called to order at 7:03 pm. There were a total of 35 members and visitors in attendance. All of the newly elected club directors were present.

Program on HamNet

The evening's featured program was on

" Broadband-HamNet..."

presented by Don Hill KE6BXT and Joe Ayers AE6XE. Don explained that HamNet is a broadband digital communications network that uses WiFi equipment on the 2.4 GHz and 5 GHz spectrum where it overlaps the ham bands. Much of the equipment is made by Linksys or Ubiquiti.



Fig 01 – Don KE6BXT (R) explains details of HamNet along with Joe AE6XE .

Don and Joe have implemented a “mesh” of access-points in Mission Viejo area that can also reach from San Diego to Los Angeles. For more info on their Mission Viejo HamNet efforts see:

KE6BXT.com/Broadband-Hamnet/pp/BBHN.htm



Fig 02 – An example of equipment used to transmit and receive HamNet



Fig 03 – a lot of HamNet discussions took place during the meeting break

Gen Mtg Minutes – cont'd

Links

- Broadband Hamnet official website
<http://Broadband-Hamnet.org>
- Mission Viejo Mesh Network
<http://ke6bxt.com/Broadband-Hamnet/index.php>
- Heart O' Texas Amateur Radio Club Mesh Network
<http://ac5cv.dyndns.org/links.php>
- Camera on AE6XE-10
<http://68.4.133.158:8088/>
- Camera on MV City Hall Roof
<http://98.189.204.190:8083/login.cgi?uri=/index.cgi>
- Speed Test
<http://www.speedtest.net/>

Fig 04 – Useful URLs covering HamNet

Business

- **Field Day** – Tim N6TMT announced that the OCARC had obtained permission to use the school grounds in Buena Park again for FD and were looking for a Field Day Chair (co-Chairs?).
- **USS IOWA Tour** – Arnie N6HC discussed that Doug W6FKX had organized an excellent tour of the battleship Iowa in San Pedro. The tour included operating the ham station in the Radio Room. [Note – see pictures of tour in this issue on Page 05]
- **February Meeting** – Tom W6ETC announced that at the February meeting. The program speaker would be Arnie N6HC presenting a view of “DXpedition Doctoring”.

Respectfully submitted by:
Ken Konechy W6HHC, Secretary



OCARC Members “Out-n-About”

A group of OCARC members, family, and friends toured the Battleship USS Iowa on a drizzly January 10, 2015. The battleship tour was fantastic and is highly recommended. In addition to the “tour,” the club members were escorted by Doug Dowds W6HB, President and Co-founder of the Battleship Iowa Amateur Radio Association (NI6BB) through the ships communications center and amateur radio station. A few of the members operated NI6BB (phone and cw) quickly developing a “pile up” as hams across the US and overseas wanted the “battleship” contact. OCARC members in attendance included Doug Britton W6FKX, Tim Goeppinger N6GP, Robbie Robinson KB6CJZ, Arnold Shatz N6HC, and Dan Violette KI6X. Enjoy the pictures!

“The famed battleship, USS IOWA, was commissioned on Feb. 22, 1943, and served our country for almost 50 years. She was designated the “World’s Greatest Naval Ship” because of her big guns, heavy armor, fast speed, longevity and modernization flexibility, which allowed her to keep pace with technology.

Also known as the Battleship of Presidents, USS IOWA was outfitted in WWII to be the flagship that carried President Franklin Roosevelt across the Atlantic in 1943 for meetings with British Prime Minister Winston Churchill and Soviet Premier Joseph Stalin.”

www.pacificbattleship.com







Important Message from the OCARC Board of Directors

Your Board of Directors is in a planning stage. We are in the process of determining topics scheduling speakers for member meetings for the balance of 2015 and beyond. This survey performs two functions.

1. The survey provides us with valuable insight as to your specific interests of amateur radio topics and desired information. This helps us by providing ideas for future events.
2. It provides your Board of Directors with intelligence on what has worked and didn't work in previous meetings or events and what to potentially focus on and perhaps avoid in the near future.

Please feel assured that your individual response will remain confidential. It will not be sold to third parties and we will not try and sell you one darn thing!

By responding to this survey on the following pages the benefits to you may result in more interesting, engaging and informative topics in future.

Thank you for your support.

Board of Directors
Orange County Amateur Radio Club (OCARC)



OCARC Member's Interest Survey 2015

[Click Here for OCARC 'ONLINE' Survey](#)

(Q1) Name: _____ Callsign: _____ Today's Date: ____/____/2015
eMail: _____ Phone #'s: Hm: (____) _____ Cell: (____) _____

- Which category below would best indicate your age AND your Ham license level (You must provide 2 answers)

(Q2)	<input type="checkbox"/> 17 or younger	<input type="checkbox"/> 18-30	<input type="checkbox"/> 31-39	<input type="checkbox"/> 40-59	<input type="checkbox"/> 60 or older
(Q3)	<input type="checkbox"/> Extra License	<input type="checkbox"/> Advanced	<input type="checkbox"/> General	<input type="checkbox"/> Technician	<input type="checkbox"/> None/Monitoring

(Q4) - Which type of operation best describes your ham radio interest? (check all that apply)

- ☐ VHF FM – ARES, RACES, EMcomm, Repeater use, Weather spotting
☐ VHF SSB/CW for contesting and DXing
☐ HF ☐ ATV – SSTV/DATV/FSTV, _____ microwave ☐ HF for contesting and DX
☐ None – I have no preference Other (please specify) _____

(Q5) - How often do you operate?

- ☐ Every day ☐ Every other day ☐ Twice a week ☐ Weekly
☐ Monthly ☐ Only on special occasions. They are: _____
☐ Other: _____

(Q6) - How long have you been licensed? _____ Years _____ Months

(Q7) - Please rate your interest level of the following Activities by placing an X in the appropriate column

(1=Low, 5=High)

1	2	3	4	5	Item
					Technical, Practical Training and 'Play', e.g. radio programming, circuitry, antenna design & installation – learning about things you can do with radio's
					More programs about: member support network, Mentors/Elmers, questions and answers, technology trends
					Licensing & Upgrading training to increase skills levels or license class
					Membership Communications, e.g. RF newsletter, Nets, etc.
					Club Activities, e.g., Field Day, Contests, Public Service Events participation, HF & DXing
					A broader mixture of programs on VHF, HF and other ham activities
					I would like more information on ARES, EMcomm, RACES, Weather spotting, Skywarn, etc.
					More information on mobile rigs, repeaters, Echolink A , DStar and other forms of mobile communications
					I would like fewer programs and more time to socialization
					Moonbounce EME, Meteor scatter, SporadicE, Traffic Handling, Skywarn
					Hamfests, Conventions

(Q8) - What other meeting topics would you be interested in?

(Q9) - **Radio Bands of Interest**, check all that apply:

- | | | | | |
|---|---|--|---|---|
| <input type="checkbox"/> 160 meters | <input type="checkbox"/> 80 meters | <input type="checkbox"/> 60 meters | <input type="checkbox"/> 40 meters | <input type="checkbox"/> 30 meters |
| <input type="checkbox"/> 20 meters | <input type="checkbox"/> 17 meters | <input type="checkbox"/> 15 meters | <input type="checkbox"/> 12 meters | <input type="checkbox"/> 10 meters |
| <input type="checkbox"/> 6 meters | <input type="checkbox"/> 2 meters | <input type="checkbox"/> 1.25 meters (222-225 MHz) | <input type="checkbox"/> 70 cm (420-450 MHz) | |
| <input type="checkbox"/> 33 Centimeters (902-928 MHz) | <input type="checkbox"/> 23 cm (1.2 GHz) | | <input type="checkbox"/> 13 cm (2.3-2.31 & 2.39-2.45 GHz) | |
| <input type="checkbox"/> 5 cm (5650.0-5670.0 MHz) | <input type="checkbox"/> 3 cm (10.0-10.5 GHz) | | <input type="checkbox"/> Above 10.5 GHz | |
| <input type="checkbox"/> Other _____ | | | | |
| <input type="checkbox"/> VHF | <input type="checkbox"/> UHF | <input type="checkbox"/> HF | <input type="checkbox"/> LF | <input type="checkbox"/> SHF (microwave) |

(Q10) - **Ham Operations Interests:**

- | | | | | |
|--|---|---|---|--|
| <input type="checkbox"/> AM | <input type="checkbox"/> AMTOR | <input type="checkbox"/> Amateur satellites | <input type="checkbox"/> APCO25 | <input type="checkbox"/> APRS |
| <input type="checkbox"/> ATV - SSTV/DATV/FSTV | | <input type="checkbox"/> Clover | <input type="checkbox"/> Coherent CW | <input type="checkbox"/> Contests |
| <input type="checkbox"/> CW | <input type="checkbox"/> Digital modes | <input type="checkbox"/> D-Star | <input type="checkbox"/> DX | <input type="checkbox"/> DXpeditioning |
| <input type="checkbox"/> FlexNet | <input type="checkbox"/> FM | <input type="checkbox"/> G-TOR | | |
| <input type="checkbox"/> High Speed Multi-Media (HSMM) or Broadband-Hamnet | | | <input type="checkbox"/> HF Digital Voice | |
| <input type="checkbox"/> Internet | <input type="checkbox"/> IOTA | <input type="checkbox"/> KISS | <input type="checkbox"/> Lightning protection | |
| <input type="checkbox"/> LOFER | <input type="checkbox"/> Logging programs | | <input type="checkbox"/> Low band DXing | |
| <input type="checkbox"/> Microwave | <input type="checkbox"/> Multimode | <input type="checkbox"/> Packet | <input type="checkbox"/> PACTOR | |
| <input type="checkbox"/> Paperchasing (Certificates) | | <input type="checkbox"/> PSK31 | <input type="checkbox"/> QSLing | |
| <input type="checkbox"/> ROSE | <input type="checkbox"/> RTTY | <input type="checkbox"/> Other: _____ | | |

(Q11) - **Equipment Interests:**

- | | | | |
|---|--|--|---|
| <input type="checkbox"/> Antique radios | <input type="checkbox"/> Amplifiers | <input type="checkbox"/> Batteries | <input type="checkbox"/> Computers |
| <input type="checkbox"/> Equipment restoration / Collecting | <input type="checkbox"/> EMI elimination | <input type="checkbox"/> Filters | <input type="checkbox"/> Gas generators |
| <input type="checkbox"/> Homebrew equipment | <input type="checkbox"/> Keyboard CW | <input type="checkbox"/> Keyers | <input type="checkbox"/> Power Supplies |
| <input type="checkbox"/> Repeaters | <input type="checkbox"/> Solar Power | <input type="checkbox"/> Station accessories | |
| <input type="checkbox"/> Test Equipment | <input type="checkbox"/> Toroids | <input type="checkbox"/> Transceivers | <input type="checkbox"/> Transformers |
| <input type="checkbox"/> Other: _____ | | <input type="checkbox"/> UPS Backup | |

(Q12) - **Antenna/Propagation Interests:**

- | | | | |
|---|--|--|---|
| <input type="checkbox"/> Antenna tuners | <input type="checkbox"/> Antenna Design | <input type="checkbox"/> Balloon-supported antenna | |
| <input type="checkbox"/> Beam antennas | <input type="checkbox"/> Baluns | <input type="checkbox"/> Coaxial cable | <input type="checkbox"/> Dipole antennas |
| <input type="checkbox"/> Dish antennas | <input type="checkbox"/> Loop antennas | <input type="checkbox"/> Meteor scatter | <input type="checkbox"/> Duplexers |
| <input type="checkbox"/> MININEC | <input type="checkbox"/> NVIS | <input type="checkbox"/> Propagation | <input type="checkbox"/> Mobile antennas |
| <input type="checkbox"/> Quad antennas | <input type="checkbox"/> Rotators | <input type="checkbox"/> Sun spots | <input type="checkbox"/> Multi-band antenna |
| <input type="checkbox"/> Towers | <input type="checkbox"/> Vertical antennas | <input type="checkbox"/> SWR measurement | |
| <input type="checkbox"/> Other: _____ | <input type="checkbox"/> Wattmeters | <input type="checkbox"/> Wire antennas | <input type="checkbox"/> Yagi antennas |

(Q13) - Do you have any Ham Radio related goals or projects planned for this year? ☐ Yes ☐ No – please comment

(Q14) - **Would you like to hear more about (amateur radio) Emergency Communications (EMcomm) or Public Service organization listed below (select all that apply):**

- | | | | | |
|--|----------------------------------|----------------------------------|--|--|
| <input type="checkbox"/> ARES | <input type="checkbox"/> Cal OES | <input type="checkbox"/> CERT | <input type="checkbox"/> MARS | <input type="checkbox"/> National Traffic System (NTS) |
| <input type="checkbox"/> RACES | <input type="checkbox"/> SATERN | <input type="checkbox"/> SKYWARN | <input type="checkbox"/> Other Governmental, County or City agencies | |
| <input type="checkbox"/> Other organizations not yet indicated (please specify location and/or group): _____ | | | | |

(Q15) - Regarding club meetings or activities what have been some of the memorable moments over the last few years? _____

(Q16) - What other topics would you be interested in seeing in future OCARC members meeting?

(Q17) - Would you be interested in offering a presentation at one of OCARC membership meetings? ☐Yes ☐No – If yes - on what topic(s):

(Q18) - Do you belong to other Amateur Radio clubs or organizations other than ARRL? ☐Yes ☐No – Please list:

(Q19) - What are the top reasons why you attend OCARC monthly membership meeting? (You can choose up to 5)

- ☐ It's a great hobby
 - ☐ I enjoy the Camaraderie (Social interaction/Fellowship/Friendships/networking)
 - ☐ I want to learn from more experienced operators
 - ☐ I hope to win the Door prizes
 - ☐ I want to learn the Lingo
 - ☐ Because OCARC is a cool tech place to be on a Friday night
 - ☐ I enjoy the discussions
 - ☐ I'm new to Amateur Radio and want to learn more
 - ☐ Just for fun
 - ☐ Because I have nothing else to do on Friday nights
 - ☐ I look forward to the presentations
 - ☐ For professional development
 - ☐ To learn about Public Service / Emergency communications (EMcomm)
 - ☐ Other (please specify):
-



(Q20) - Would you be willing to consider volunteering for a short term project that the OCARC Board of Directors would need assistance with? ☐Yes ☐No

(Q21) - Please list any additional comments, recommendations, ideas or suggestions:

Thank you for taking part in the 'OCARC Member's Interest Survey.'

Please email your response to SURVEY@W6ZE.org, or take the survey online at: <http://www.surveygizmo.com/s3/2001316/OCARC-Member-s-Interest-Survey-2015> or give the completed survey to Tom W6ETC (2015 club VP) at your clubs next membership meeting.

The OCARC Board of Directors

Unless otherwise advised, we will summarize all responses and publish the findings in a future edition of its RF Newsletter.

Heathkit of the Month #63: by Bob Eckweiler, AF6C



STEREO HI-FI EQUIPMENT Heathkit AJ-14 Solid-State Stereo FM Tuner

Introduction:

Heathkit of the Month #52 covered the AA-32 tube-type stereo amplifier. As I mentioned it was passed on to me by Ken - W6HHC. Ken also passed along an AJ-14 solid-state tuner that had developed a serious problem.

In mid-1965 Heathkit released three related solid-state stereo kits, the AA-14 amplifier, the AJ-14 FM tuner and the AR-14 receiver, all in the same style. One could either purchase the AR-14 receiver which combined the circuitry of the AA-14 and the AJ-14 in one package for \$99.95 or purchase the amplifier and tuner separately for \$59.95 and \$49.95 respectively. These kits came less a cabinet in case the builder planned to install his stereo in a console. Heathkit sold cabinets separately and the builder had a choice of either a "genuine walnut veneer" wood cabinet or a beige metal cabinet. The AA-14 and AJ-14 both measure 12-1/2"W x 3-1/2"H x 9-5/8"D and fit the AE-35 walnut wood cabinet (\$7.95) or the AE-35 metal cabinet (\$3.50). The AR-14 measures 15-1/4"W x 3-7/8"H x 12"D and fits the AE-55 walnut wood cabinet (\$9.95) or the AE-65 metal cabinet (\$3.95).

The AJ-14 Solid-State FM Tuner:

The AJ-14, shown in the AE-35 walnut veneer cabinet in Figure 1, uses 14 transistors and 5 diodes (two are built into the detector transformer and one is in the front-end). The front-end of the tuner comes factory assembled (from Japan I surmise, as it uses Japanese 2SA series transistors), and is sealed in a soldered together metal housing. Providing a factory as-



Figure 1: Heathkit AJ-14 FM Stereo Tuner (top) and AA-14 Stereo Amplifier (bottom).

sembled front-end simplifies assembly, removes some critical assembly steps and allows pre-tuning for simplified alignment.

The front panel is styled in black and silver with an illuminated 1" high plexiglass upper section that extends to within an inch of each side. It includes a 4-1/2" slide rule tuning dial with a blue scale on a black background marking every 1/2 mc and blue numbers marking every 4 mc between 88 and 108 mc. A small red lamp left of the dial indicates that the tuner is receiving a stereo signal. Two slide switches between two controls are located below the slide-rule dial. They are, from left to right, the **PHASING** control, with an **IN/OUT** switch that is activated when the knob is pulled out (more on the PHASING control when the multiplexer section is covered), the **STEREO/MONO** slide switch, the **ON/OFF** slide switch and the **TUNING** knob. The tuning knob features a heavy flywheel for smooth tuning.

Viewing the austere rear panel of the AJ-14 (Figure 2) from left to right is the power cord with strain relief, the **RIGHT OUTPUT** and **LEFT OUTPUT** RCA type audio jacks and the two screw-terminal **ANTENNA** connections. The upper rear of the back is open and prone to collecting dust on the top of the chassis.

Most of the AJ-14 circuit is located on a large printed circuit board. Even the pre-built front-

end mounts on the PC board. This simplifies construction and help assure a well constructed kit.

AJ-14 Specifications:

The AJ-14 tunes from below 88 to 108 mc. with a sensitivity rated at 5 μ V. The antenna input impedance is 300 Ω balanced. The super-heterodyne circuit uses an intermediate frequency (IF) of 10.7 mc. Image rejection is at least 45 dB and IF rejection 80 dB. AFC (Automatic Frequency Control) correction has been incorporated to prevent drifting.

Audio output for each channel is at a common line-level of around a half-volt (20 K Ω) with a frequency response of -3 dB to +0 dB from 30 cps to 15 kc. Harmonic distortion is less than 1% and hum and noise are specified to be more than 50 dB down. Stereo channel separation is greater than 30 dB.

Heathkit AJ-14 Circuitry:

The FM tuner circuit is straightforward with perhaps the stereo demultiplexing section being the exception. The tuner can be divided into five sections: The power supply, the pre-assembled front-end, the IF, the FM detector, and the stereo demultiplexer. Most of these sections will be skimmed over as they have been discussed in previous articles.

Power Supply Section

The AJ-14 requires very little power to operate as opposed to earlier tube FM tuners. Power is

specified at 2.5 watts from the AC line. Over half of that power is used to by the two #47 pilot lamps to illuminate the slide-rule dial. The power supply uses a transformer with a 23 volt center-tapped secondary winding. Half of the winding only powers the two #47 pilot lamps. The other half of the winding is part of a half-wave rectifier circuit, using a silicon diode and a dual can-type 1,000 μ F filter capacitor. A 220 ohm 1/2 watt resistor drops about 5.4 volts between capacitor sections. The first capacitor section produces 13.4 volts which drives the STEREO indicator lamp when receiving stereo. The voltage at the second capacitor section supplies around 8 volts to the remaining circuitry. The whole tuner, less the lamps, draws about 25 mA at 8 volts.

The primary side of the power transformer is fused with a 1/4 amp pigtail fuse that is soldered to a terminal strip under the chassis.

AJ-14 Front-End Section

The front-end uses three germanium (GE) PNP transistors designed for high frequency operation. The RF amplifier is a common base circuit with the input and output tuned by a three-section main tuning capacitor. AGC (automatic gain control) voltage is applied to the base to limit gain on strong signals. The RF is then coupled to the mixer section as is a signal from the local oscillator. This oscillator operates 10.7 mc above the desired signal and is controlled by the third section of the main tuning capaci-

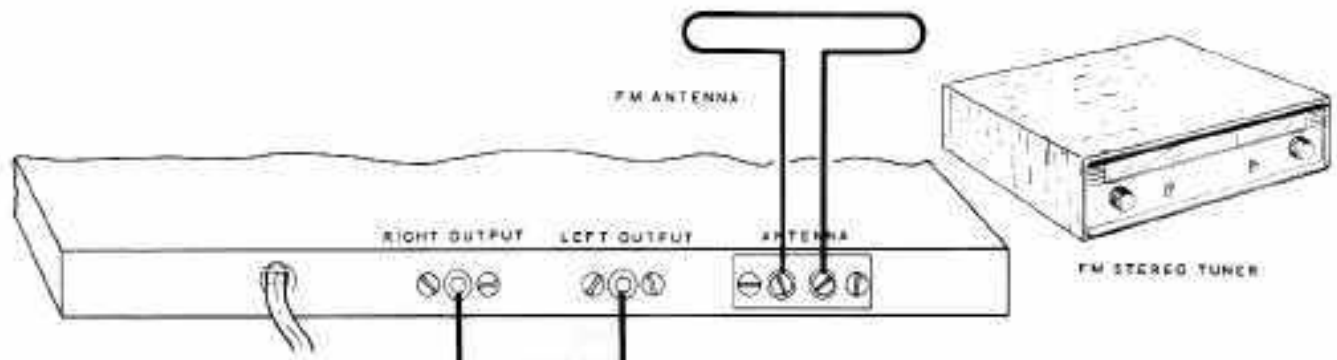


Figure 2: Heathkit AJ-14 Rear Panel Connections Drawing - Right out of the Heathkit Manual.

tor. The 10.7 mc. mixer difference signal is fed to the IF amplifier stages.

AJ-14 IF Section

Four stages of IF amplify the output of the mixer. These all use 2N2654 GE PNP transistors. Output from the third stage is rectified and used to develop the AGC voltage which is fed back to the first IF. A lower impedance version of the AGC signal is coupled off the first IF emitter to control the RF amplifier. The IF is designed to provide amplitude limiting on the signal. Limiting occurs when the signal is strong enough that any amplitude modulation on the FM carrier is removed by the stage going into saturation. The stronger the signal the earlier the IF stage where limiting begins.

AJ-14 Ratio Detector Section

The AJ-14 utilizes a ratio detector which produces an output voltage proportional to the deviation of the incoming signal from the 10.7 mc IF center frequency. The frequency of the detected signal is determined by the amount of times the signal deviates from the center frequency. Variations in the amplitude of the IF signal reaching the detector are noise and most is removed by the limiting capabilities of the IF stage(s). The ratio detector further rejects IF amplitude variations by its design. Earlier FM discriminator detectors had to rely more on the limiter stages to reject IF amplitude changes.

Referring to figure 3, the heart of a ratio detector is its transformer. This transformer has four windings, a tuned primary L_P , a loosely coupled and tuned secondary winding that is center-tapped L_1 and L_2 (considered separate windings), and a fourth tertiary winding L_T that is untuned and coupled tightly to the base of the primary winding. The primary is tuned by C_P and the secondary by C_S to the IF center frequency. Energy transferred to the secondary

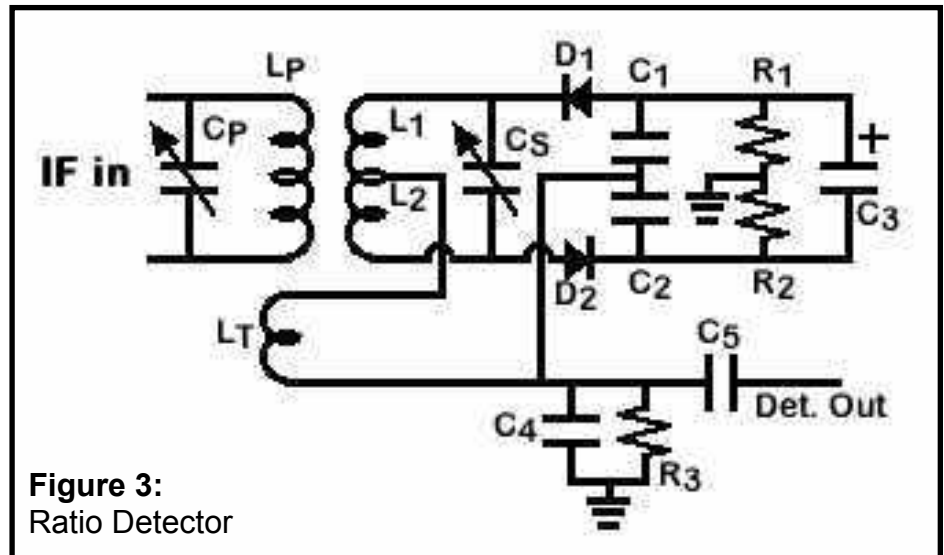
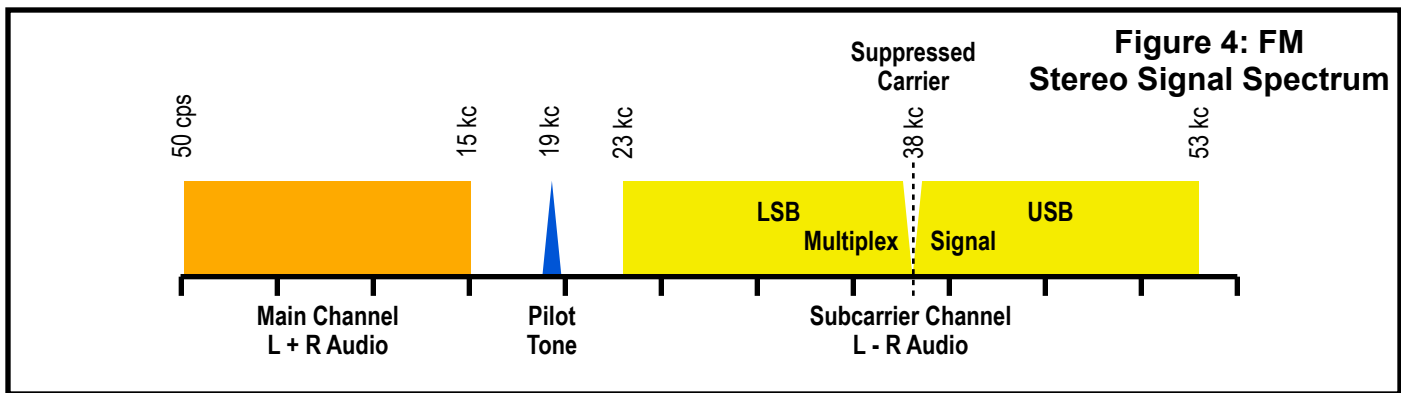


Figure 3:
Ratio Detector

windings L_1 and L_2 each travel in separate detector loops. The first loop is made up of L_1 , L_T , R_3 , R_1 and D_1 , and is filtered by C_1 . The second detector loop is made up of L_2 , D_2 , R_2 , R_3 and L_T , and is filtered by C_2 . Note that the current from each loop flows through L_T and R_3 in opposite directions. When the IF frequency is at the center frequency, the loop currents are identical and the voltage across L_T and R_3 sum to zero.

Since the current through R_1 and R_2 are identical at the center frequency, so are the voltages across C_1 and C_2 which are in series. A large electrolytic capacitor (C_3) is across these capacitors and tends to keep the sum of the voltages across C_1 and C_2 constant, further rejecting any IF amplitude variations.

Due to the way L_T is coupled to the primary, the signal induced in it is in phase with the primary. However, the signals in the two lightly coupled secondary windings are out of phase with the primary by 90° at the center frequency. When the input IF frequency moves from the center frequency, the phase shift between the primary and secondaries change. Since the phase in L_T remains the same it aids the signal in one loop and bucks it in the other loop causing a voltage to appear across R_3 . Any remaining 10.7 mc signal is removed by C_4 and the detected signal is coupled through C_5 to the next stage.



AJ-14 De-Multiplexer Section

If this was a monaural FM tuner the signal from the ratio detector would be filtered, amplified and sent to the tuner output jack. More processing is needed to recover the two stereo channels. We'll revisit this section after a brief discussion of how FM stereo is broadcast.

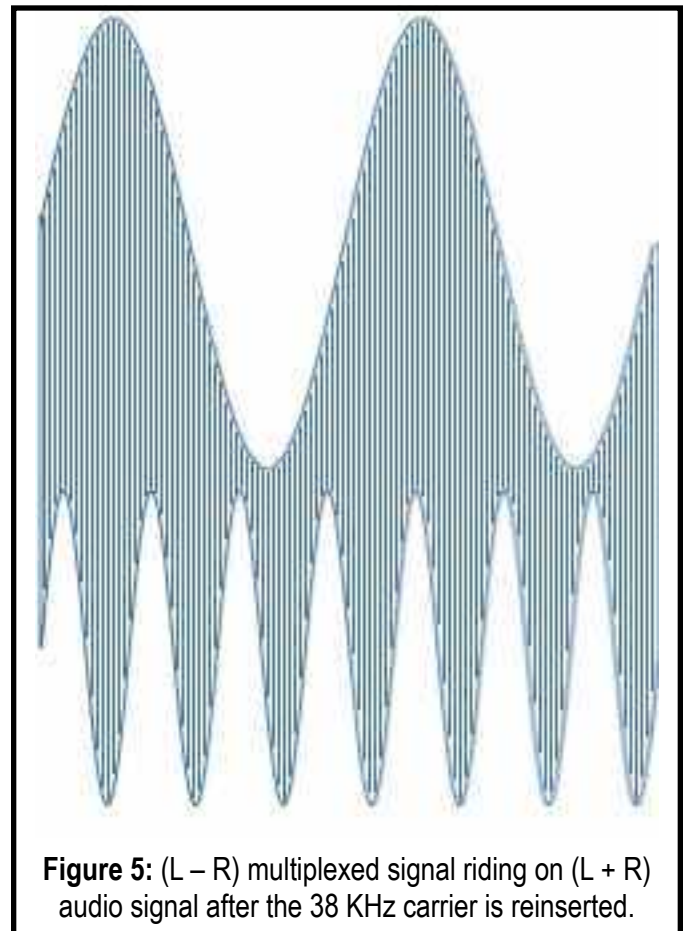
FM Stereo Transmission:

I had planned to discuss in detail how FM stereo is transmitted. However, it got too deep and detailed for a Heathkit article, So here I will just touch on the basics and will go into the real details in a future Bob's Tech Talk article (hopefully next month). It really is clever how it is transmitted and recovered. Adding a second channel is not that simple; if you transmit, say the left channel on the main audio channel and the right channel as a multiplexed signal, then people with monaural radios will only hear the left channel, which means they will miss information, especially when the station is broadcasting highly separated stereo.

The solution used broadcasts the left and right channels combined (L + R) as the main audio signal and the difference between the two channels (L - R) as a multiplexed signal. Thus those listening in monaural will hear the full (L + R) content, though not in stereo. The multiplexed (L - R) signal is transmitted as a double sideband suppressed carrier (DSB) signal on a frequency of 38 kc. A pilot tone of 19 kc is also transmitted; it is in phase and exactly one-half the frequency of the 38 kc carrier used to develop the 38 kc DSB signal. This is all shown in figure 4. The orange is the L + R main audio

signal, the blue is the pilot tone and the yellow is the DSB 38 KHz multiplexed (L - R) signal.

In the receiver, the 19 kc pilot tone is used to accurately recreate the original 38 KHz carrier in frequency and phase. At the same time the the 19 kc pilot tone and any other information not required for stereo FM reception is removed from the detected signal. These include SCA and RBDS channels that are sometimes broadcast for special users (We'll discuss these other multiplexed signals in the upcoming article.)



The remaining signal, which is the (L + R) audio with the 38 KHz DSB multiplexed signal, modulated by (L - R), riding on top of it has an interesting waveform. When the 38 kc carrier is reinserted, the top edge of the waveform represents one of the channels, and the bottom of the waveform represents the other channel. This is shown in Figure 5, in which two cycles of a 200 Hz. sine wave, representing the left channel, is the upper edge, and seven cycles of a smaller amplitude 700 Hz. sine wave, representing the right channel, is the lower edge. These two signals are recovered in the de-multiplexer section of the AJ-14.

AJ-14 De-Multiplexer Section Revisited

The multiplexer section is shown in Figure 6. It uses seven silicon NPN transistors; all are NPN silicon type 2N2712. The signal from the ratio detector, after being stripped of any SCA data by L6, C201 and C202, is amplified by transistor Q8 and fed to transistor Q9 which performs two functions. Its collector is tuned to 19 kc extracting the pilot tone, while the remaining (L + R) and DSB (L - R) signals are recovered

from the emitter of Q8, which also acts like an emitter follower for these signals.

The 19 kc pilot tone is fed through a phasing circuit controlled by the front panel PHASING potentiometer. It is then fed as a sync-signal to transistor Q10 which operates as a free running 38 kc oscillator. The pilot signal thus locks the 38 kc oscillator to the correct frequency and corrected phase of the oscillator that created the multiplexed subcarrier.

A small amount of the 19 kc signal also is coupled to the transistor Q13. Each positive cycle of the 19 kc tone turns the amplifier Q13 on for a short period determined by an RC time constant or C221 and R219. The output drives a second transistor Q14 that pulses on and off the STEREO indicator lamp on the front panel. Since the 19 kc pilot tone is only present on stereo transmissions, the lamp indicates stereo reception.

The signal leaving the emitter of the transistor Q9 is the main (L + R) signal with the 38 kc DSB (L - R) signal riding on it. If, at this point the 38 kc carrier were reintroduced the wave

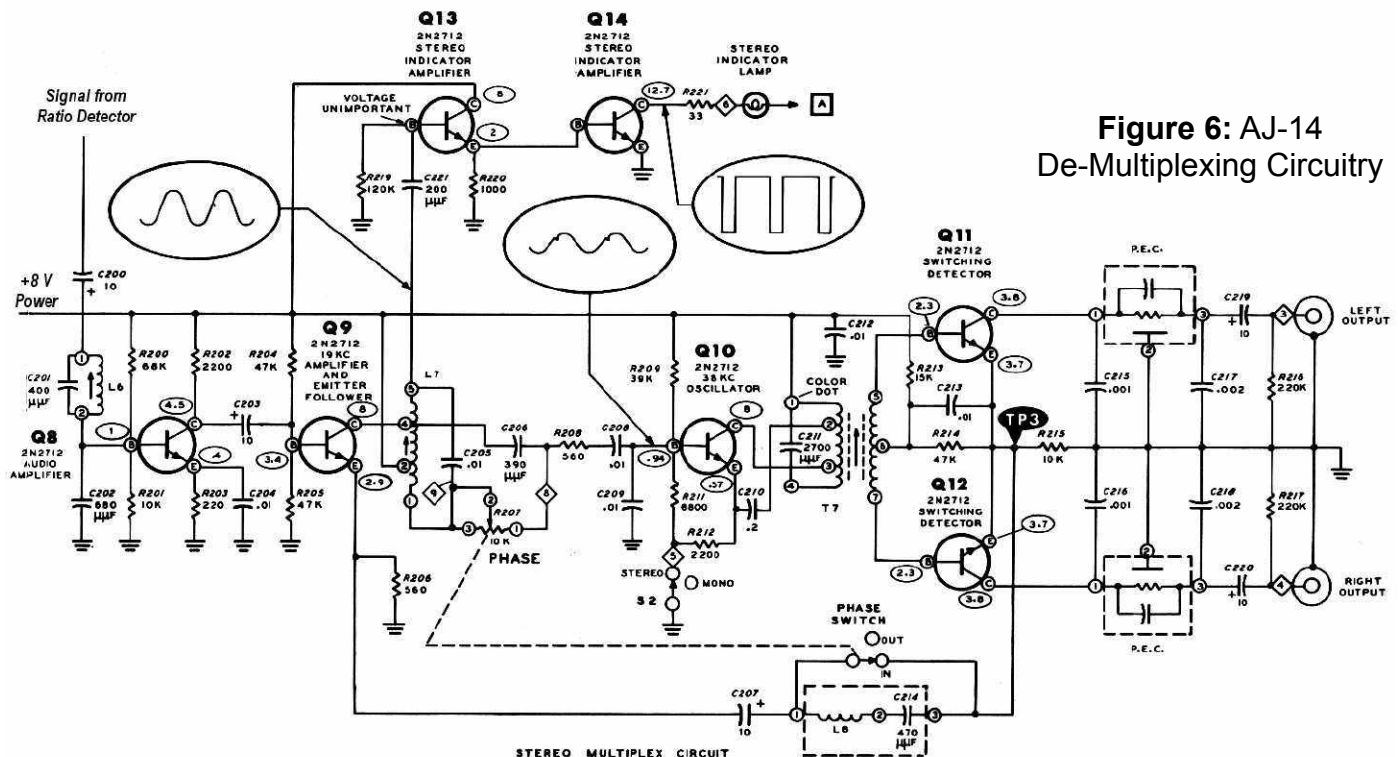


Figure 6: AJ-14 De-Multiplexing Circuitry

form of figure 5 would appear. However, it is not really necessary to actually re-introduce the carrier. Instead T7 alternately turns on Q11 momentarily at the $+90^\circ$ point of each cycle of the 38 kc oscillator (Q10) charging C215 to that voltage, and Q12 momentarily at the -90° point of each cycle charging C216. (The $+90^\circ$ point is when the waveform is at its most positive point and the -90° point it is at its most negative point). Thus the voltage across C215 follows the left channel signal and the voltage across C216 follows the right channel. These two signals are filtered to remove any residual 38 kc noise and de-emphasized. (De-emphasis will be discussed in the next article). The audio is then presented to the output jacks to be sent to the stereo amplifier.

Stereo - Monaural Switching:

When receiving monaural broadcasts the 38 kc oscillator is disabled by the STEREO MONO switch on the front panel. This disables the 38 kc oscillator and Q11 and Q12 then operate as simple emitter followers sending the monaural signal to both the left and right output jacks.

Phase Control:

For best channel separation it is important for the phase of the 38 kc oscillator in the receiver be the same as the oscillator generating the original DSB signal. In early FM stereo tuners a phase control was sometimes included to allow the user to correct for any phase errors on received signals. When the PHASE control is pulled out the PHASE SWITCH opens inserting a filter, composed of L8 and C214, between the output of Q9 and the emitters of Q11 and Q12. This filter only allows the 38 kc (L - R) signal to pass. The PHASE potentiometer provides a way to manually shift the phase of the pilot tone, hence adjusting the phase of the 38 kc oscillator. The PHASE control is adjusted for the strongest audio output with the PHASE control pulled out to assure the best channel separation. the PHASE control is then pushed in removing the filter for normal listening. In later stereo tuners this adjustment has been automated.

Summary:

The AJ-14 tuner and AA-14 amplifier, as well as the combined AR-14 receivers were very popular Heathkits. They remained in production until 1975 when ICs began to replace discrete components for IF circuitry and de-multiplexing.

So what was the problem with the AJ-14 that Ken passed on to me? Well the problem was simple, the solution was not! The problem was that the whole FM band had suddenly compressed and now tuned over about one-half inch on the big 4-1/2" dial. Looking over the kit, which was well built, I concluded the problem had to be in the factory assembled tuner. Disassembling the tuner front-end required removing it from the circuit board and unsoldering its metal covers without destroying it. I did this with much trepidation. If the kit had been returned to Heathkit for repair, I imagine they would have just replaced the whole front-end assembly.

Once the assembly came apart the problem was located after some investigation; it was a cold soldered joint that had developed an obvious crack. A few minutes with a soldering iron solved that. Putting the front-end back together was a lot easier than taking it apart. After firing it up and touching up the alignment, it played like it should, and still sits on my bedroom bookshelf and is often put to use. I find I rarely have to adjust the PHASE control from station to station.

73, from AF6C



This article is Copyright 2015 R. Eckweiler and The OCARC Inc.

Remember, if you are getting rid of any old Heathkit Manuals or Catalogs, please pass them along to me for my research.

Thanks - AF6C

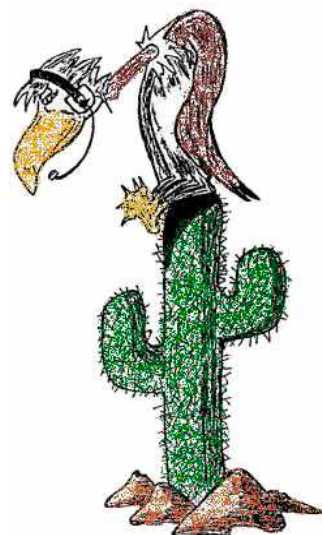
2015 Arizona Section Convention

Yuma Hamfest

Yuma, Arizona

Feb. 20 & 21, 2015

Yuma County Fairgrounds
2520 East 32nd Street, Yuma, Arizona



www.yumahamfest.org

Check the Website for Additional Information

Gates Open for Camping Thursday, 2 pm Vendor Setup Friday, 7 am - Noon	Event Hours Friday, Noon - 5 pm Saturday, 8 am - 5 pm	Hamfest Dinner & Grand Prize Drawing Saturday Night 6:00 - 8:00 pm
---	---	---

**Vendors & Exhibitors
Consignment Sales
License Testing
Hourly Door Prizes
On-site RV Camping
Hamfest Dinner
ARRL Speaker
Transmitter Hunt
\$5.00 Admission**

**Tailgating (Swap Meet)
Full Seminar Schedule
DXCC Card Checking
Incredible Grand Prizes
Emergency Preparedness
Admission Prize
Hospitality Area
Near Space Balloon Launch
Antenna Clinic**

Hamfest Talk-In Frequency: 146.840 (–) PL 88.5 Hz

Email Contact: ***info@yumahamfest.org***



We are proud to have the Amateur Radio Council of Arizona (ARCA) as a sponsor of our event.

The Yuma Hamfest is an American Radio Relay League (ARRL) sanctioned event.



Presented by the Yuma Amateur Radio Hamfest Organization



Orange Section News

by Carl (WU6D)

Section Manager

January 2015



Volume 15 Issue 1

Leadership Lessons For a New Year

I must confess that I am not a veteran. I am just an admiring citizen. Many of my family members are veterans. My dad served in the Navy in the South Pacific during WWII.

He told me to always thank a veteran that you meet on the street and, if you can afford it, never let a vet pay for a cup of coffee, a meal or a drink.

I strive to live up to that advice every single day. One other thing my dad instilled in me was that when a veteran spoke on a serious subject I should "damn well listen" because they earned the right to be heard.

So, when Staff Sergeant Thomas delivered the keynote address at an I.T. conference I knew what I needed to do.

Let me start by giving you some background on the Staff Sergeant. In the summer of 1993, Thomas was deployed to Mogadishu, Somalia, with the 3rd Ranger Battalion as part of an elite special operations package called Task Force Ranger.

Their mission was to capture a criminal warlord named Mohammed Farrah Aideed. On the 3rd of October, Thomas and his fellow Rangers were caught in an 18 hour fire-fight that would later be recounted in the movie Blackhawk Down. Nineteen Americans gave their lives and 78 were wounded in the worst combat seen by US troops since World War II.

During the hour long presentation, Thomas walked us through the harrowing 18 hours while dispensing the leadership lessons he discovered on the battlefield.

1. If you fail to make a great plan, you can plan on failing.

The mission to capture Aideed came together quickly. Within ten minutes of confirming his location the Army had put together a plan to capture the suspect. Thomas went from having a relaxing day off, to being mission ready in a fraction of time, but he said training takes over in these seemingly chaotic situations.

"We do the planning in advance. We come up with what ifs, the contingencies and the contingencies for the contingencies. When you are given a mission, you already have a plan in place. You implement your practice. You train as you fight and fight as you plan," said Thomas. "You can not phone in the practice. No coach has ever talked in a press conference about participation ribbons, they talk about how hard the team has practiced. How the team is ready to compete. Sometimes when a mission comes along you might only get a circle and square and you have to rely on your training to figure out the rest."

2. Leadership is not about rank, it is about inspiring the people beside you.

Every time a soldier goes up a rank they are sent to leadership training.

This article continues on page twenty-six.

Why not like us on Facebook?
Click the Facebook logo below to head that direction.



This newsletter was produced by: AE7QU@HamRadioWebsites.Net 503-717-3484



Western Amateur Radio Association

NOW OFFERING AMATEUR RADIO VE TESTING SESSIONS

Contact V.E. George T. Jacob Jr. N6VNI

Phone Numbers: Home Phone: 562/691-7898 Cell Phone: 562/544-7373

Email: jac2247@gmail.com Or N6VNI@arri.net

**Sponsoring Club: N6ME Western Amateur Radio Association, Fullerton, Ca.
"WARA"**

Test site location:

La Habra Community Center.

101 W. La Habra Blvd., La Habra, CA 90631

Date and Times - Third Thursday of every month, @ 6 P.M. unless otherwise noted. Pre-Registration is requested and preferred. Walk-ins are welcome.

2015 TESTING SESSIONS

~~Thursday, January 15th, 2015 6 p.m.~~

~~Thursday, February 19th, 2015 6 p.m.~~

~~Thursday, March 19th, 2015 6 p.m.~~

~~Thursday, April 16th, 2015 6 p.m.~~ **NOTE: Location change –this date only**

(Home of George N6VNI, 1901 W. El Portal Drive, La Habra, CA 90631)

~~Thursday, May 21st, 2015 6 p.m.~~ **NOTE: Location change – this date only**

(Home of George N6VNI, 1901 W. El Portal Drive, La Habra, CA 90631)

~~Thursday, June 18th, 2015 6 p.m.~~

~~Thursday, July 16th, 2015 6 p.m.~~

~~Thursday, August 20th, 2015 6 p.m.~~

Thursday, Sept 17th, 2015 6 p.m.

Thursday, October 15th, 2015 6 p.m.

Thursday, Nov 19th, 2015 6 p.m.

On Exam Day Bring the Following Items

- A legal photo ID (driver's license, passport) or Two forms of non-photo ID; e.g., birth certificate, social security card, library card, utility bill or other business correspondence with name of the examinee as it appears on the Form 605 and current mailing address.
- Your Social Security Number (SSN) or FCC-issued Federal Registration Number (FRN).
- If applicable, the original and a photocopy of your current Amateur Radio license and any Certificates of Successful Completion of Examination (CSCE) you may have from previous exam session. (Photocopies will not be returned.)
- Two number two pencils with erasers, and a pen.
- Test Fee: \$15.00 (cash or check).

If you fail an element and wish to retake it, we are required to charge an additional test fee. If you pass an element, we typically offer and encourage you to take the next element. We do not charge an additional test fee for this and it gives you the opportunity to see what the next exam element is like!

OCARC BOARD MEETING MINUTES 2015-02-07

The OCARC Board meeting was held at the Marie Callender's Restaurant on Grand Ave in Santa Ana on February 07 and called to order at 8:20 AM. There were a total of 9 directors and members attending. There was a quorum of Directors with only Robbie KB6CJZ and Roland WW6RK absent.

DIRECTOR REPORTS:

- **Treasurer** – Greg W6ATB reported that he now able to deposit monies into the Credit Union. Also he was able to install Quicken 2015 on his Mac and has imported the Windows OCARC financial database from 2014 and earlier into his Mac Quicken,
- **Activities** – Doug K6PGH will miss the next meeting. Door prizes have been purchased already and Don N6XBP will take care of the distributing prizes and tickets at the meeting.

OLD BIZ:

- **Newsletter Editors**
 - March – Paul W6GMU
 - Apr – Ken W6HHC
 - May – Greg W6ATB
- **Presenters for Club Meetings**
VP Tom W6ETC announced:
 - February program will be on "DXpedition Doctoring" by N6HC
 - March Program will be "Meteor Shower QSOs"
- **Field Day 2015**
Don N6XBP and Paul W6GMU agreed to be co-Chairs for the OCARC Field Day in 2015. The board discussed the objectives this year should be to focus on the fun-of-FD and camaraderie...not shooting for the highest point total.



• Membership Survey –

Tom W6ETC discussed the current draft of the 2015 skills-and-interest survey of club membership. Tom will make a few more tweaks and then (1) send it to membership by e-mail before the meeting, (2) include in the RF Newsletter, and (3) have it available as a handout at club meeting. This survey may also be incorporated to some degree into the clubs membership application giving the BOD more insight into the skills and interest of its members.

• Q&A session at meetings for "Ask Elmers"

Tom N6TMT confirmed that that we will set aside about 10 minutes at each General Meeting to allow newer hams to ask 1-or-2 questions about "how to do" an aspect of ham radio or "what to do about a problem" they have.

NEW BIZ:

Next December Dinner Party

The Board agreed to hold the OCARC Christmas Dinner at the same Marie Callender's Restaurant on Imperial Hwy as last year. Tim N6TMT will attempt to make the reservations.

March Board Meeting Location

Next month's March breakfast/board meeting will be held again on the second Saturday, March 14 again at Jagerhaus. Probably the April breakfast/board meeting will return to Marie Callender's Restaurant at 1821 N. Grand Avenue, in Santa Ana (North of 17th Street) on the first Saturday, April 04. Paul W6GMU will inform Jaegerhaus of our plans for February and March.

Bank Charges for OCARC

Nicholas AF6CF brought up possibly changing to a non-fee bank account (He suggested Wells Fargo). Greg W6ATB is somewhat hesitant as he is still on a learning curve and doesn't want to add more complexity to the process at this time. However, in the interest of saving the club any unnecessary banking fees, Greg will take the action to look at other banking possibilities after he gets settled.

**OCARC
BOARD MEETING MINUTES,
Cont'd.****2015-02-07**

- **WEB SITE Help**

The need for more help for maintaining the website was brought up by Tom W6ETC. Don N6XBT would like to build a "shadow" website to experiment with some web development programs and methods to make posting to the OCARC easier in the future, Don he has a Mac and seems to know a program that is available on Mac and PC platforms.

GOOD OF CLUB:

- **More Photos on WEB Site**

Doug K6PGH commented that we need to improve our Photo Gallery. The only pictures seem to be Field Day, and rarely other events. (No recent Xmas parties or meeting photos - etc.) AF6C commented that these pictures are contained within RF Newsletter, but Doug pointed out that people visiting the site would be more inclined to look over the "Photo Gallery" instead of looking through our newsletters. The board generally agreed that we have quite a good website compared to most other clubs. Don N6XBP and Bob AF6CF will look into this.

- **Amplifier for QRP**

Nicholas AF6CF told the breakfast attendees of his search for an amplifier for his QRP rig. He wanted about 100W, but the Elecraft RF amp was too expensive. He has chosen another 50W RF amp, the Hardrock 50 kit. The performance of the unit is unsatisfactory at the moment and he plans to send it to the manufacturer for either review/repairs.

Respectfully submitted by:

Ken Konechy W6HHC, Secretary

Candid!



Visalia IDXC 2015 CONVENTION

April 17-19 2015

2015 will be the 66th consecutive year for the International DX Convention. The meeting, sponsored by the Northern California DX Club, will be held at the beautiful Visalia Convention Center in downtown Visalia, CA. IDXC, the premier DX Convention in the United States, is attended by over 800 serious DX'ers and contesters looking to improve their skills, their stations and see the latest equipment.

Convention Highlights:

Full day of training on Friday, April 17, 2015: Contesting and DXing Techniques

Friday Evening Dinner Options: TopBand, IOTA, and Contesting

Open DX Forum

15-20 DX & Technical Seminars

35-40 Exhibitors in large Exhibit Hall

QSL Card Checking

Great Raffle Prizes

Eyeball QSOs w/DX

Friends

Excellent Keynote Speakers and access to great California vacation destinations

Registration Starts: 12-08-2014

We intend to make IDXC 2015 the best DX Convention ever, and hope you'll be able to join us.

Sincerely,

John Miller (K6MM),

Kevin Rowett (K6TD),

Rich Seifert, (KE1B)

IDXC 2015 Co-Chairmen

<http://dxconvention.com/>



HAM JOB OPPORTUNITY

Hello!

My name is Mike Page.

I am the Service Manager for PCI Race Radios, located in Signal Hill. We have an immediate need for a helmet radio technician.

There are 3 licensed ham operators who work here and I like the radio specific skill sets that they bring.

We can teach the specifics to someone with good electrical component/soldering skills.

Here is the link for our current opening:

<http://losangeles.craigslist.org/lgb/mnu/4874730898.html>

We will have other positions open in the near future.

Kindly share this open position to your members.



Thanks,
Regards,

Mike Page
Service Manager
PCI Race Radios, Inc.
2888 Gundry Avenue
Signal Hill, CA 90755
(562) 427-8177
www.pciraceradios.com

OCARC BOARD MEETING MINUTES 2015-01-10

The OCARC Board meeting was held at the JägerHaus Restaurant, 2525 East Ball Road, Anaheim, on Jan 10 and called to order at 8:15 AM. There were a total of 11 members and visitors attending. There was a quorum of Directors with only Robbie KB6CJZ absent.

DIRECTOR REPORTS:

- **President** – Reviewed duties of the new officers for 2015.
- **Treasurer** – Doug W6ATB discussed the Audit Report for 2014 (published in January RF Newsletter). A motion was made and passed to accept the Audit Report.

NEW BIZ:

- **Newsletter Editors**
 - Feb – Doug W6FKX
 - Mar – Paul W6GMU
 - Apr – maybe Tim N6GP?
- **Door Prizes at General Meeting**
The board agreed to continue the current plans for offering a \$50 door prize at each general meeting for the first three months. The topic will be reviewed again at the April Board meeting.
- **Field Day 2015**
Tim N6TMT reported that the field day site at Walter Knott Education Center had been reserved for OCARC. The board is searching for a FD Chair (or co-Chairs).
- **Presenters for Club General Mtgs**
VP Tom W6ETC announced:
 - January program will be on HamNET
 - February program will be on DXpedition “doctoring” by N6HC
 - March will be Meteor Scatter

- Other programs being considered include EmComm (like Red Cross and Satarn) and “advances in digital-ATV”

- **Membership Survey** – Tom W6ETC presented a draft of a survey form he had prepared to determine club membership interests and skills and equipment. The board members will review and mark-up the draft survey for Tom.
- **Q&A session at mtgs for “Ask Elmers”**
Tom asked that we set aside about 10 minutes at each General Meeting to allow newer hams to ask 1-or-2 questions about how to do an aspect of ham radio or “what to do about a problem” they have.
- **Publishing new members**
In addition to introducing new members at the General Meetings, The membership chair will submit a list of all new members for the month to the next Newsletter Editor.

GOOD OF CLUB:

- **February Board meeting**
The board agreed that the date and location of the next club Breakfast/Board-meeting will be held on the “first-Saturday” February 07. The location of this February meeting will be at the Marie Callender’s Restaurant at 1821 N. Grand Avenue, in Santa Ana (North of 17th Street). Because of conflicts on even-numbered months, after February, the club will consider additional breakfasts to be held at Marie Callender’s

Respectfully submitted by:
Ken Konechy W6HHC, Secretary

Selected Upcoming Special Event Stations (Source: www.arrl.org)

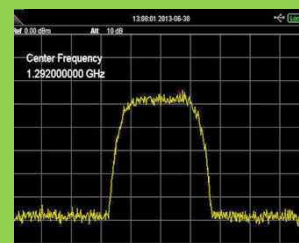
- **02/14/2015 | George Washington Birthday**
Feb 14-Feb 15, 1500Z-1700Z, K4US, Alexandria, VA. Mount Vernon Amateur Radio Club. 14.250 7.250 7.036. Certificate. MVARC, PO Box 7234, Alexandria, VA 22307. MVARC.org
- **03/07/2015 | W1BSA from the USS Massachusetts**
Mar 7, 1700Z-2100Z, W1BSA, Fall River, MA. Massasoit Amateur Radio Association. 14.259 7.259. Certificate & QSL. Rick Emord, KB1TEE, 135 Wareham St, Middleboro, MA 02346. We are doing a presentation of amateur radio for the public from the Ward Room on board the ship. Scouts will be staying on the ship over night we are hoping to get them interested in radio communications.
- **03/14/2015 | Launching of USS Midway (CV-41) Celebration Special Event**
Mar 14, 1700Z-2359Z, NI6IW, San Diego, CA. USS Midway Museum Ship. 14.320 7.250; PSK31 on 14.070; D-STAR REF 1c. QSL. USS Midway Museum Ship Radio Room, 910 N Harbor Dr, San Diego, CA 92101.
- **03/22/2015 | Remembering The Battle for the Bulge**
Mar 22, 0900Z-1700Z, OT70BULGE, Houmont Belgian Ardennes, BELGIUM. VERON. 28.00 to 29.70; 14.00 to 14.35; 7.00 to 7.20; 3.50 to 3.80. QSL. Joe Somers, PA0SOM, Prinsenlaan 59, Maasmechelen Belgium 3630, BELGIUM. The station will commemorate the 70th anniversary of the Battle for the Bulge and will work in SSB and CW. All contacts will be confirmed with a special QSL-card. pa0som@veron.nl
- **05/06/2015 | Grand Prix of Indianapolis**
May 6-May 9, 2200Z-2200Z, W9IMS, Indianapolis, IN. Indianapolis Motor Speedway ARC. 3.840 7.240 14.245 21.350. Certificate & QSL. Indianapolis Motor Speedway ARC, PO Box 30954, Indianapolis, IN 46230. www.qrz.com/db/w9ims
- **05/14/2015 | Overland Expo West 2015**
May 14-May 18, 0000Z-2359Z, W7E, Mormon Lake, AZ. Coconino Amateur Radio Club/Northern Arizona DX Club. 3.990 146.48. QSL. Scott Martin, 8620 Marys Drive, Flagstaff, AZ 86004. Radio Demonstrations for Wolrd Wide Offroad Expo.
- **05/18/2015 | Indy 500 Special Event**
May 18-May 24, 2200Z-2200Z, W9IMS, Indianapolis, IN. Indianapolis Motor Speedway ARC. 3.840 7.240 14.245 21.350. Certificate & QSL. Indianapolis Motor Speedway ARC, PO Box 30954, Indianapolis, IN 46230. www.qrz.com/db/w9ims
- **06/27/2015 | Field Day 2015 & Commemorating the Lives of President & Mrs Ronald Reagan**
Jun 27-Jun 28, 1800Z-1900Z, N6R, Simi Valley, CA. Ventura Co. Amateur Radio Society (VCARS) & joined by Simi Settlers ARC (SSARC). 28.400 21.320 14.255 7.260. QSL. VCARS "N6R": c/o Peter Heins, N6ZE, 1559 Norwich Ave, Thousand Oaks, CA 91360. This will be the 15th consecutive Field Day for VCARS to activate "N6R" from the Grounds of The Ronald Reagan Presidential Library & Museum www.qrz.com/db/n6r



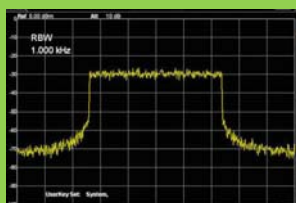
Digital Amateur TeleVision Exciter/Transmitter

now available from

DATV-Express



- A more affordable DATV exciter can now be ordered
- Fully assembled and tested PCBA
- DVB-S protocol for DATV (using QPSK modulation)
- Can operate all ham bands from 70 MHz-to-2450 MHz
- RF output level up to 10 dBm (min) all bands (DVB-S)
- Software Defined Radio (SDR) architecture allows many variations of IQ modulations
- “Software-Defined” allows new features to be added over the next few years, without changing the hardware board
- As extra bonus, the team has been able to get the board to transmit DVB-T 2K mode, however we cannot guarantee the performance of that protocol. Caveat Emptor!
- Requires PC or ODRROID running Ubuntu linux (see User Guide)
- Price is US\$300 + shipping – order using PayPal



For more details and ordering
www.DATV-Express.com

register on the web site
 to be able to see
 the PURCHASE page



Leadership Lessons From Page 18



But Staff Sergeant Thomas discovered in those trainings that leadership has nothing to do with rank, “Leadership is about inspiring the person to your left and your right.

In the military and in life there is no job that is not dependent upon someone else.

If you have a weak player on your team that person is the single most important piece of the puzzle. Why? He has a job to do. You can not do it all – if he is a weak the squad is a little bit weak – if the squad is weak do not go out on a mission (or take on a project) because it will inevitability fail. You have to train and empower your people because it is the only way to succeed.

3. When things go wrong, don't stand around.

When something goes wrong the natural tendency is to panic. When the Blackhawk went down in Mogadishu stranding more than 100 soldiers, Thomas admitted he wanted to throw his hands up and say this is not my job, but true leaders do not let panic take over.

Panic makes you want to save yourself, but saving yourself leaves other people hanging,” said Thomas. “Leadership is a choice we make on a daily basis to do the right thing. You can't stall and hope things work themselves out. You have to be proactive. Leadership is a responsibility. It is your job as a leader to make sure that the people to your left and right get out, that they are protected.”

4. Believe in yourself and your team.

During the battle, Staff Sergeant Thomas' commander was injured. It was up to Thomas to assume not only a more senior leadership role in the midst of an ongoing conflict, but to also instill in his men a faith in his capabilities.

“You need to remember, you didn't get your job because you suck. You got the job because you have a set of skills that are needed to get the job done. You are exceptional at what you do or you would not be in this position. You need to believe in yourself and trust your capabilities. If you do not have faith in your deci-

sions, no one else will,” said Thomas. “You can make your job easier by making sure your staff is trained and can follow SOP (Standard Operating Procedures) effectively. You can not always be there to look over your peoples shoulder, you have to trust them to do the job when you are not there.”

5. Make a difference.

If all else fails, Staff Sergeant Thomas encouraged us to remember, “You make the biggest difference when you focus on the person to your left and your right. You might think you are changing the world, but if you focus on those closest to you, you will make the biggest difference.”

Thomas is the author of a great new book, *Get It On!: What It Means to Lead the Way*.

Another great read on the subject of the battle itself and written by one of my favorite authors is *Blackhawk Down: A Story of Modern War* by Mark Bowden and published in paperback by Grove Press.

