

# IN-SERVICE



Winter

Volume 99

February 2007

## ASCRA PRESIDENT RESIGNS

On December 17, 2006, Bob Farnham, KGØII, resigned as President and member of the ASCRA Board of Directors. Bob has served as a member of the ASCRA Board of Directors since 1998, and as President since April, 2004. In commenting on his decision to resign, Bob indicated "I have enrolled in the Bioinformatics and Computational Biology PhD program at Iowa State University. Now that I have completed the first semester, I clearly realize that I cannot devote the energy to ASCRA that I have previously, and must consequently refocus and adjust my priorities. I remain committed to ASCRA's mission and the principles of the Amateur Radio Service in service to each other, our communities, and our world. I plan to remain as active as I can be in ASCRA's activities, given the constraints of my academic program. The election of members of the 2007 Board of Directors provided an opportunity for an orderly transition of ASCRA leadership to occur so that I can devote my attention to being a good student."

73 de kgøii  
Bob

## 2007 ASCRA MEMBERSHIP MEETING

The 2007 ASCRA General Membership Meeting will be held on the opening day of the Community of Christ World Conference, Saturday, March 24. At 09:30 CT, we will gather at the Gudgell Park Community of Christ congregation, 500 East Gudgell, Independence, MO (Ph: 816-521-4069). The General meeting will begin at 10:00 CT and should last no more than 2 hours. For those interested we will adjourn for lunch together at Ryan's Family Steak House (buffet), 1511 East 23rd Street (north on Noland Road at Gudgell, then East on 23rd). It has been 3 years since our last General Membership meeting, so we hope to see many of you in attendance this year.

The ASCRA Board of Directors will meet at the Gudgell Park building after lunch. Non-participating observers are welcome at the Board meeting. (ds-wa0emx)

## WORLD CONFERENCE ASCRA OPERATIONS

Members who wish to operate WØSHQ during Conference should contact Exec. Dir. Robin Cross ([rhcross@swbell.net](mailto:rhcross@swbell.net)) or Secretary Doug Shaw ([wa0emx@arrl.net](mailto:wa0emx@arrl.net)). Station access will also be addressed at the General Membership Meeting Saturday, March 24. All ASCRA members are invited to a **World Conference QSO Party (MAR 24-APR 1 UTC)**. "CQ ASCRA" near the following frequencies (MHz): 3.918, 3.946, 7.230, 14.287, 146.13/73; or use EchoLink. Stations reporting contacts' date/time/freq with a SASE to the Secretary by April 21 will be issued a Certificate of Participation to commemorate their activity. (ds-emx)

## ELECTION

Pursuant to the ASCRA Bylaws, at the direction of the Secretary, an election committee met on 17 January 2007, to open and tabulate the ballots for the ASCRA Board of Directors election to the directors class for the 2007-2008 term, commencing at the board meeting scheduled for Saturday, March 24, 2007.

21 ballots were received prior to the published deadline of Saturday, January 6, 2007. 8 ballots were received AFTER the deadline and had to be declared invalid. However the election outcome would not have been affected had the late ballots been included in the tabulation. Five incumbent directors were re-elected. Barbara Redding, W5HKY, joins the board as a new member this year.

The following candidates, listed in alphabetical order, have indicated their willingness to serve and accepted election:

Barbara Redding, W5HKY, West Palm Beach, FL  
Chuck Palmer, NØONN, Independence, MO (current Treasurer)  
Doug Shaw, WAØEMX, Raytown, MO (current Secretary)  
Ernie Miles, WB2UJL, Durham, NC  
Michael Hahn, KGØXU, Independence, MO  
Robin Cross, WØFEN, Kansas City, MO (current Executive Director)

The committee thanks Bob Farnham, KGØII, for his service on the board and as president. Bob withdrew from the election after the ballots were published. Bob confirmed his decision to withdraw again, after the ballots were tabulated. The committee also wishes to thank Jim Fish, K7NCG, for his willingness to serve by accepting nomination for this year's election. Thanks also go to a write-in candidate; Lynda Farnham, KBØUBT; for her willingness to serve.

It should be noted that generous donations totaling \$540 were received with this year's ballot mail.

Respectfully submitted,  
ASCRA 2007 Directors Election Committee  
Barbara Chadwick, NØTTP  
Gene Chadwick, KØBKZ  
Doug Shaw, WAØEMX; ASCRA Secretary

## FCC DROPS MORSE CODE REQUIREMENT

Effective 23 February 2007 the Morse Code element will no longer be required for any class Amateur Radio License. More details will be published in the next issue of *IN SERVICE*. No excuse for not upgrading old Novice and Technician licenses. Encourage anyone interested to apply, especially if they were hanging back because of difficulty learning the code. (ds-wa0emx)

## ROTOR PROBLEM

My antenna wouldn't always turn. It acted like it was hanging up or dragging hard, so I rigged an oil can on the end of a long enough pole to reach the top of the tower from the roof of my house. Oiling the pipe above the rotor made it work for a while, but it only lasted a few months. Finally it got to the point where the wind could turn the antenna but it wouldn't respond properly to my control. Sometimes I could turn it part way and other times not at all.

My neighbor said he had a spray can of white grease that might be better than the motor oil I used the first time, so I borrowed it from him. Rigging it on the end of a pole didn't seem very practical, so I lowered the antenna as much as possible (the tower is a 3-section crank-up type). The neighbor came over to help. With him on the roof and me in the house, he said that he could hear the motor running but the antenna wasn't turning unless he helped it by hand. It turned quite easily when the brake was released, but something was slipping in the drive train inside the rotor case.

We were able to reach the rotor mount by setting a step ladder so it straddled the ridge of the roof. We released the u-bolts holding the antenna support, raised it a bit, locked it in place with the built-in setscrew, and removed the rotor from the top of the tower.

Back down on my back porch, we opened the rotor case and satisfied our curiosity regarding how this 1980 vintage CDE CD-45-II rotor works and what was wrong with it. The problem was the ring gear was broken and partly stripped. The broken end probably caught on the casing. That caused a heavy drag and reduced the interlocking of the drive gear, so it broke off the teeth in the part of the circle that I used most.

I wasn't sure about getting parts for a 1980 rotor, and I knew I couldn't get them locally, so I decided to repair what I had. I riveted a sheet-metal patch across the break in the ring gear and that seemed to rigidify it adequately. It had three drive lugs spaced 120° apart, so I rotated it 120° from its normal position, thus placing the stripped part to the north where it wouldn't often be needed. Then I added an extra lug (a piece of a nail) for the stop mechanism that controls how far it can turn.

After cleaning and relubricating the moving parts, I put it back together. It can now rotate about 240° instead of 360°, and it responds to the control. Unfortunately, I didn't get the direction sensor set quite right, so my dial reading is off beyond the range I can calibrate, but at least it is working.

Further checking revealed that rotor parts can be obtained from HY-Gain, 308 Industrial Park Rd, Starkville, MS 39759. I have obtained a ring gear from them, but it is resting in the box because there is snow on the roof right now—hardly ideal weather for working on the rotor.

73  
Fred Troeh  
NØELM

## 20-M NET

These are the check ins recorded (mostly by Terry, W6LMJ) from the 20-M net since the last report in November. Hope they are all here.

Net is held 3:30PM CST, Sundays on 14.287 MHZ.

Ernie, WB2UJL

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NØAIX, Larry Ragan           WØFEN, Robin Cross  
NØELM, Fred Troeh           KBØGR, Dave Bland  
WAØIBS, Andy Ferrar        KGØII, Bob Farnham  
NØIYD, John Chapman      WAØKKC, Richard Mollentine  
KBØLCL, Howard Showalter WAØPCQ, Carl Robinson  
KAØQQA, Barry Allen       KBØQ?L, Bud Nesler  
WØRDF, Robert Fuller      KCØQID, Mike Wright  
KAØVTB, Holly Cross       KCØYVJ, Gary Nelson  
NØWZH, Steven Hampton

KD1R, Ralph Stetson

KL2AX, John Larsen           W2TFT, Tom Thatcher  
WB2UJL, Ernie Miles

VK3AQN, Fred Naylor        VA3RZ, Raymond Else  
VE3SCP, Scott Price         NP3XF, Ramsey Lopez-Cabassa

W4CYF, James Bishop        KA4RUR, Frederick Carslick  
W4SS, Palm Beach Club      KE4VXC, Chester Allen  
WA4WVE, Carl Christopher   W4YYV, Yesteryear Club  
W4XJ, Randolph Sly

WD5AKM, Aaron McCarthy   W5ASL, Albert Lawrence, Jr.  
KM5DW, Bill Blackwell      KB5EAG, Terry Redding, Jr.  
N5ECP, Jeff Salmons        W5HKY, Barbara Redding  
KB5HR, Gordon Mansfield   K5ID, Ken Graham  
KE5JRS, Don Hart           WA5LOU, Louis Everett  
W5LSB, Dennis Brown        WA5N?S, Brett  
KD5OBE, Sonny Steward      W5QPT, Ellis Thatcher  
W5WSS, Robert Morris       K5WSX, Edward Garland  
KD5YRR, Denny Findley

KF6ADZ, Robert Angell      WB6AYV, Jean Guilmette  
W6LMJ, Terry Redding       K6RLB, Renee Lambert  
VE6MGM, Earl Milner        KD6QLT, Gary Boskovich  
W6RWH, Hale Collins         KG6TGC, Greg Mahoney  
N6VIA, Bret Hubbs           KG6VKC, Stephen Schumaker

WB7CLR, George Magras      KL7EP, Charles Walmsley  
N7GVH, Melvin Grote        K7NCG, Jim Fish  
WA7TBP, George Needham    KC7TIL, Steve Pearson  
KC7UQ, Joseph Taksony

N8EOD, John Boluyt         KB8HHI, Robert Stansfield  
K8QA, Mike Oiler            W8QF, David Johnson  
W8QK, Muirl Robinson

N9BVX, Samuel Grossner     WA9COP, Frank Burrows  
WD9GNJ, Bradley Peters     KC9JQP, Michael Martin  
WA9LKZ, Ralph Barbakoff    WB9OKC, Michael Green  
WB9SFM, Morris Jones

## AMPLIFIER RAMBLINGS

If you have considered purchasing an amplifier so that you can join the QRO club, then there are several things to consider. I think the first point to consider is new or used. Solid State vs. Tube and power level are also decisions to be made, and finally to build or buy.

New may be better for you if you don't have great technical skills and want some kind of warranty for a period of time to ensure that the amplifier works first time up. A used amplifier can save you hundreds or even thousands of dollars. They still can be expensive. A new amplifier can cost a minimum of \$1,300 list. This is for an Ameritron AL80B which uses one 3-500Z tube. At the other extreme for new amplifiers is an Alpha list priced at nearly \$8,000. They say that you get what you pay for, but there are many good to great amplifiers that cost much less than this, even new.

Used amplifiers can be found on eBay or eHam for as little as \$400. A used amp can be just like a used car. That is: someone else's problems. If you know some repair techniques and are comfortable working with high voltage SAFELY, then this may be the way to go. You may learn something along the way in addition.

If buying a used amp is the method you choose, then it might be a good idea if you buy it from a local Ham who can demonstrate it in operation for you. This is not a bad idea with any used electronic equipment.

Another point to consider is Solid State vs. Tubes. Tube amps have several things going for them. Tubes have been around for many years. They are fairly easily repaired and usually cost less than solid state counterparts. If you like the soft glow of tubes to remind you of yesteryear then these may be very attractive. Tubes must be replaced every so often but if not abused then a set can last for more than 20 or 30 years. You can mistune a Tube amplifier for a short period and it will return to full output when properly retuned. They do have some drawbacks. They cannot be as efficient overall as transistors (bipolar, fet, etc.). The reason is that the filament must be heated. Then there is high voltage. Nothing wrong with it but it does tend to attract dust.

Solid state amplifiers are usually quieter than their tube cousins. Tubes need air flowing over the tube to cool themselves. Solid state may not even have a fan. That said, some tube amps are much quieter than others. They usually do not need tuning. You just set it to the correct band and talk. SS amps may never need to have the FETs changed. It is not a job for the untrained. Someone with good soldering skills and mechanical aptitude may be able to replace the active components in an amplifier. With the guidance of another Ham who is knowledgeable, this may be a great learning experience.

The desired power level may also enter into the selection process. The Ameritron first mentioned will "only" put out about 1 KW of power. It seems all Alphas will put out "legal limit plus." The tube(s) in an amp determine the power that an amp is capable of and cannot be easily changed. One 3-500Z

tube has 500 watts of plate dissipation. This means that it can put out about 1000 Watts (2 X plate dissipation) without damage to the tube. 1, 2, 3, or even 4 tubes are used in amplifiers. If an amp has more than 4 tubes, it was probably intended for the illegal CB amplifier trade and should be avoided.

If you build it they will hear you. You may decide to build an amplifier. There are many good articles and resources that will help you achieve your goal. A variation of this is to modify an existing amplifier. Some tubes, particularly TV "sweep" tubes, are becoming hard to find or expensive. At one time all TV sets used tubes in the sweep or horizontal output circuit that moved the electron beam across the picture tube. Most of the TVs are gone and the tubes were once common and cheap are disappearing. There are several Russian tubes, mostly from Svetlana, that can replace sweep tubes in older amplifiers. The advantage here is that nearly all the parts already exist and are in place.

Here is where a word of caution MUST be added. Older amplifiers had voltages on the keying contacts that WILL DAMAGE modern solid state transceivers. The most notable are the Heathkit series. Almost any of them have over 100 Volts DC that your transceiver must short out to put the Amplifier into transmit mode. There are several ways around this. One way is to insert an interface between the transceiver and the amp. A simple relay that you can build can do this. Or, MFJ makes an interface for exactly this purpose. Another novel method is to use the foot switch made by Heil of microphone fame. This particular footswitch has two cables that go to the amp and transceiver. The nice thing about this is if it is installed correctly it keys the amp before the transceiver. This means that the amp can never be switched with incoming power from the transceiver applied. Oh there is one other method and that is to modify the amplifier so that any transceiver will key it without danger. I chose this approach. Any of these methods will work. I suggest measuring the keying voltage at the jack on the amplifier with a voltmeter.

My method would be to dive into a study of all amplifiers. A good place to start is the Reviews section of eHam.net. Another good place would be the ARRL Handbook, any edition. This would explain the operation of an amplifier from the 1950s to the present.

So, if you have considered stepping up to an amplifier, there are many things to think about. If you are a first-time amp purchaser on a budget, maybe the best solution would be to purchase an amp from a reputable dealer or a local Ham. Either way you may get some "novice" questions easily answered. Is there really this much to think about? Well yes, but you shouldn't lose sleep over it either.

(to be continued in the next issue)

Robin Cross  
wøfen

You can find information about ASCRA on our web page at [www.ascra.org](http://www.ascra.org), including previous issues of the IN-SERVICE newsletter.

## SPECIAL EVENT CALL SIGNS

The already distinctive WØSHQ call sign will be used instead of 1x1 Special Event call letters during World Conference. Individual members may apply for their own 1x1 Special Event Call Signs at the National Conference of Volunteer Examiners website, <http://www.ncvec.org>. We suggest you describe your event as commemorating the Community of Christ World Conference & Special Event Station WØSHQ.

At a minimum, schedule your call sign for March 24-25 if not the entire Conference week, MAR 24-APR 1. Anyone who obtains such a call sign should contact the Secretary. Reported special event call signs will be posted on the ASCRA website, <http://www.ascra.org/>, with your name, primary call sign and location. There is no fee for obtaining a special event call sign. (ds-emx)

## IN-SERVICE

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## EDITOR IS MOVING

Fred and Zahra Troeh are moving to Arizona where Zahra has accepted a position at the USDA Agricultural Research Service station at Maricopa (about 25 miles south of Phoenix). Please use e-mail to contact Fred about ASCRA matters such as this newsletter or the membership roster until such time as he has a new mailing address. (Fred, n0elm)

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