

QRZ NEWS

A MONTHLY PUBLICATION OF
SOUTHERN PENNSYLVANIA AMATEUR RADIO CLUB, INC
PO BOX 1033 - LANCASTER, PA 17608-1033

(Founded June 1960)

AN AFFILIATED SPECIAL SERVICE CLUB OF THE ARRL, INC.

"Public Service through Communication"

Website: www.K3IR.org

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Repeaters: 145.230 - 146.715 - 449.975 - Packet 145.030 - ATV 902.145

November 2006

Comments are most welcome.

Membership Meetings

October Meeting;

The meeting was opened by Rick Watson at 19:05. The following members and guests were present:

Dave Sarraf, N3NDJ

Rick Watson, N3SWJ

Grant Beachamp, KB3KIN

E. P. "Max" Peters, KI6NJ

Ted Freedman K3KSA

Mike Warner, N3XPD

Roger Colvin, W3PWH

Gerald Wilson KB3GNR

Dave Payne, N3LOM

The meeting began with a round robin by name and callsign.

Minutes

Minutes from the last meeting were not available. They will be read at next month's meeting.

Treasurer's Report

Grant Beachamp provided a treasurer's report. The checking balance fell due to no payments being made by Armstrong for paper this month. This was discussed at length. Grant presented balance sheets showing all payments and income for the month. He will try to do this each month so they can be included with the minutes as a permanent record. On a motion by Ted Freedman and a second Roger Colvin the minutes were approved as presented pending review by the audit committee. The motion carried with no opposing votes.

Old Business

- The mortgage has been refinanced as discussed previously. The starting balance of the new mortgage was about \$46k. It now runs for 20 years with a monthly payment of \$409 and a balloon payment of about \$35k. That gives us the option of paying more as we are able but without the commitment of having a higher payment. The members present recognized the work involved and congratulated the team that put this package together.
- The web site will be updated. A current roster is needed to update the membership list. Ted Freedman also asked for a current roster.

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- Keys for the gate and the operating building are available. On a motion by Ted Freedman and a second by Max Peters it was agreed to collect a \$5 deposit for each key set. Keys were distributed to all members present. The secretary kept a log of which key number was provided to each member. The treasurer collected the deposit from each member; one member had no cash on hand and needs to pay in arrears.

New Business

- Grant Beachamp is trying to find a high-visibility site for field day such as at a shopping center. He has contacted Park City (?) and, upon the suggestion of some of the members, will consider other shopping centers and one of the County or City parks.
- A spring event was discussed. This could consist of an open house at the repeater site. Best months may be April or May to assure good weather and to allow enough time to get the site ready. One item that will need to be done is to isolate the tower from the public via a fence or some other barrier. We also will need to look carefully at the rest of the site to make sure it presents no other risks.
- Operators will be needed for the Columbia Halloween Parade. Plan to arrive at 5:30 – 6:00 PM on October 26th. The event will start at 7:00 pm. An announcement will be made on the next net.
- Dave Payne noted that he received have a renewal from a lapsed member, Gary Southwick. Gary was not present at the meeting.
- The Armstrong situation was discussed. The company is emerging from bankruptcy. The money we were owed for a check issued several years ago has been paid. Per a prior agreement this needs to be paid to the concern who provided us with our current truck. At least for now the paper situation looks secure. Armstrong is still willing to accept paper from SPARC. Dave presented a log book showing weight slips and cash received every month from 2005 on. Jim Silvius will help with paper at the Masonic Homes this weekend. Dave Payne will be out from next week through December 7th.
- We consume about 435 kWh per month. Dave discussed offsetting some of this cost via a wind turbine. It would need to be up at least 90 feet and the payoff is uncertain due to periodic maintenance.

On a motion made by Grant Beachamp and a second by Roger Colvin the business portion of the meeting was adjourned

Technical Section

- Dave Payne showed a simple go-kit consisting of a 5-gallon pail with a gel cell in the bottom and a radio in the top. A wood divider kept the radio off of the battery. The battery prevented the pail from tipping and the pail was deep enough to catch anything that may have dripped from the battery.
- Max Peters gave a talk on link budgets. He discussed coax quality and how signal loss in the coax was dependent both on frequency and coax quality.

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ARES/RACES

RACES Nets



Lancaster County Net is held on the first Tuesday of the month at 2030 hours local time. Presently being held on the 147.015 MHz repeater with minus offset and 118.8 PL.

Pennsylvania RACES HF Nets are held at 3993.5 kHz LSB on all Sundays except holidays. The statewide net is on the first Sunday of the month at 0800 hours local time. The Central Area (including Lancaster County) net is at 08:30 local time.

- The following was clipped from the October 5, 2006 ARRL News

NEW LAW FORMALLY MAKES AMATEUR RADIO PART OF EMERGENCY COMMUNICATIONS COMMUNITY

A section of the Department of Homeland Security (DHS) 2007 Appropriations Act, HR 5441 <<http://thomas.loc.gov/cgi-bin/bdquery/z?d109:h.r.05441>>, formally includes Amateur Radio operators as a part of the emergency communications community.

Congress approved the measure before adjourning for its pre-election break.

President George W. Bush signed the bill into law October 4.

Amateur Radio is included within the legislation's Subtitle D, Section 671, known as the "21st Century Emergency Communications Act." Radio amateurs are among the entities with which a Regional Emergency Communications Coordination Working Group (RECC Working Group) must coordinate its activities.

Included within the DHS's Office of Emergency Communications -- which the measure also creates -- RECC Working Groups attached to each regional DHS office will advise federal and state homeland security officials. The final version of the legislation incorporated language from both House and Senate bills and was hammered out in a conference committee. An earlier version of the 21st Century Emergency Communications Act, HR 5852, included Amateur Radio operators as members of the RECC Working Groups.

In addition to Amateur Radio operators, RECC Working Groups also will coordinate with communications equipment manufacturers and vendors -- including broadband data service providers, local exchange carriers, local broadcast media, wireless carriers, satellite communications services, cable operators, hospitals, public utility services, emergency evacuation transit services, ambulance services, and representatives from other private sector

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entities and nongovernmental organizations.

The RECC Working Groups will assess the survivability, sustainability and interoperability of local emergency communication systems to meet the goals of the National Emergency Communications Report. That report would recommend how the US could "accelerate the deployment of interoperable emergency communications nationwide." They also will coordinate the establishment of "effective multi-jurisdictional, multi-agency emergency communications networks" that could be brought into play in an emergency or disaster.

In light of the new legislation, the ARRL plans to follow up to determine how it can interact with the DHS and its Office of Emergency Communications.

- **Lancaster County RACES Drill:**

A drill was conducted on Saturday October 14, 2006.

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- **Tech Section:**

If anyone has anything they would like to contribute to this or a topic they would like to see please let me know.

Capacitance calculations –

Series capacitance

If both of the capacitors are of equal value then it's pretty simple as

$$C_t = C/n$$

Where C_t is the total capacitance and n represents the total number of identical capacitances.

As an example if there are two 10 uF (microfarad) capacitors then the formula solves as,

$$C_t = 10/2$$

$$C_t = 5 \text{ uF.}$$

Or if the capacitors are not of equal value then

One formula for this is the reciprocal of the sum of the reciprocals.

$$C_t = 1/(1/C_1 + 1/C_2 + 1/C_3)$$

If $C_1 = 10 \text{ uF}$, $C_2 = 20 \text{ uF}$ and $C_3 = 50 \text{ uF}$ then

$$C_t = 1/((1/10) + (1/20) + (1/50))$$

$$C_t = 1/(0.1 + 0.05 + 0.02)$$

$$C_t = 1/0.17$$

$$C_t = 5.88 \text{ uF}$$

Or if there are only two capacitors connected in serial than the product over the sum method can be used.

$$C_t = (C_1 \times C_2) / (C_1 + C_2)$$

$$C_t = (10 \times 20) / (10 + 20)$$

$$C_t = 200 / 30$$

$$C_t = 6.67 \text{ uF}$$

Here we have a situation where the total capacitance is less than the value of the lowest capacitor. Or kind of like when resistors are in parallel.

Parallel-connected capacitance.

Capacitance in parallel add as in the formula, $C_t = C_1 + C_2 + C_3$ etc...

Where C_t is the total capacitance.

So if $C_1 = 10 \text{ uF}$ and $C_2 = 20 \text{ uF}$ and $C_3 = 50 \text{ uF}$

Then

$$C_t = 10 + 20 + 50$$

$$C_t = 80 \text{ uF.}$$

Or if all of the capacitors are equal then

$C_t = C_e \times n$. Where C_e = the value of each of the individual capacitors and n is the quantity of them.

So if there are 3 capacitors of 20 uF each then.

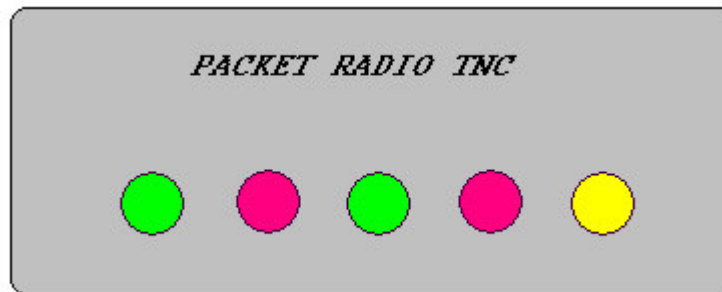
$$C_t = 20 \times 3$$

$$C_t = 60 \text{ uF.}$$

Digital Modes:

If anyone has anything they would like to contribute to this or a topic they would like to see please let me know.

A "bit" about Digital Radio



- The SPARC packet radio sysop continues to work on configuration of the updated club packet BBS system. When implemented this system will give a much larger message storage capacity and will eventually add multi frequency capability.
- A new version of the Outpost packet program has been released. This is available at the Outpost Packet Website.
<http://www.cupertinoares.org/projects/outpost/>
- Roger Colvin – W3PWH reported in a 2-meter packet message that he is active in Navy MARS using the MixW software and MT63 HF digital modes.

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General News:

If anyone has anything they would like to contribute to this or a topic they would like to see please let me know.

In case you haven't already heard, it looks like some significant changes are coming from the FCC. Below is a clip from the ARRL Letter.

==>FCC RELEASES LONG-AWAITED "OMNIBUS" AMATEUR RADIO REPORT AND ORDER

Ending a protracted waiting period, the FCC's Report and Order (R&O) in the so-called "omnibus" Amateur Radio proceeding, WT Docket 04-140, was adopted October 4 and released October 10. In it, the FCC adopted nearly all of the changes it had put forth in its 2004 Notice of Proposed Rulemaking (NPRM) in the proceeding. The R&O the FCC released this week does NOT include action on the Commission's proposal to eliminate the Morse code requirement. A Report and Order in that proceeding, WT Docket 05-235, is pending. ARRL President Joel Harrison, W5ZN, expressed the League's gratitude to the FCC for acting this week in the wide-ranging proceeding.

"On behalf of the ARRL and the Commission's licensees in the Amateur Radio Service I want to express appreciation for your release yesterday of the Report and Order in WT Docket 04-140 (FCC 06-149) amending Part 97 of the Commission's Rules," Harrison wrote October 11. "The Commission's action in clearing this pending proceeding will assist the Amateur Radio Service in meeting its objectives, particularly with regard to providing emergency and public service communications."

The new rules are expected to become effective later this year. Among the highlights in the October 10 Report and Order, the FCC:

- * "refarmed" the current Novice/Tech Plus bands to expand certain phone subbands;
- * agreed to allow Novice and Tech Plus licensees to operate CW in the General class CW subbands on 80, 40, 15 and 10 meters.
- * implemented rules to discourage multiple vanity call sign filings on the same day from the same applicant;
- * permitted auxiliary stations to transmit on portions of the 2 meter band;
- * permitted amateur licensees to designate a specific Amateur Radio club to receive their call sign in memoriam;
- * eliminated certain restrictions governing the manufacture, marketing and sale of external RF power amplifiers intended for Amateur Radio use;
- * clarified that "amateur stations may, at all times and on all frequencies authorized to the control operator, make transmissions necessary to meet essential communication needs and to facilitate relief actions";
- * deleted the requirement to publicly announce Amateur Radio examination

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locations and times, and

* deleted the frequency bands and segments specified for Radio Amateur Civil Emergency Service (RACES) stations.

In response to an ARRL Petition for Rule Making, the Commission agreed to "refarm" the HF segments currently authorized to Novice and Technician Plus licensees. The reallocation will expand the phone subbands for General, Advanced and Amateur Extra licensees, although not all commenters agreed with the idea.

"We are persuaded, however, by ARRL's contention that increasing the amount of spectrum for voice communications will reduce interference among stations using voice communications," the FCC said in its R&O, "thereby benefiting all licensees." The FCC said authorizing more phone spectrum would "more closely reflect licensees' operating preferences" and mean more efficient spectrum use.

On 75 meters, the FCC went well beyond the modest expansion the ARRL had proposed and the FCC had tentatively adopted in its 2004 NPRM. Generals will be able to operate on phone from 3800 to 4000 kHz, Advanced class licensees from 3700 to 4000, and Amateur Extras from 3600 to 4000 kHz -- greatly reducing the amount of 80-meter spectrum available for RTTY and data (the only segment where automatically controlled digital stations may operate on 80 meters is 3620 to 3635 kHz).

The FCC said the amateur community wanted as much phone spectrum as possible. "Indeed, a number of commenters argue that the NPRM proposal to increase the amount of spectrum permitted for voice communications would still not meet the demand for voice communication spectrum in the HF bands, particularly in the 80 meter band," the FCC said.

On 40 meters, Advanced and Extra Class licensees will be able to operate phone from 7125 to 7300 kHz, and Generals from 7175 to 7300 kHz. On 15 meters, General class operators may operate phone from 21,275 to 21,450 kHz.

The FCC affirmed its intention to permit Novice and Tech Plus (or Technician with Element 1 credit) licensees to operate CW in the current General exclusive-CW allocations on 80, 40 and 15 meters and CW/data on 10 meters, where the FCC provided an additional 100 kHz for Novice/Tech Plus licensees. Novice/Tech Plus licensees still may run no more than 200 W PEP, but the Commission has done away with Novice band power limitations for higher-class licensees.

The FCC revised its vanity call sign rules to discourage the filing of multiple applications for the same call sign on the same day, and many commenters supported this concept. As implemented in §97.19(d)(1), if the FCC receives more than one application requesting a vanity call sign from a single applicant on the same receipt day, it will process only the first application entered into the Universal Licensing System. "Subsequent vanity call sign applications from that applicant with the same receipt date will not be accepted," the rule concludes.

"We are persuaded that we should adopt rule amendments to discourage multiple vanity call sign applications," the FCC said in the R&O, "and we

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believe that a one-application-per-day-per-applicant rule, as requested by ARRL and others, will eliminate multiple applications requesting the same assignable call sign on the same day." The FCC concedes that its one-application-per-day rule "will not prevent an individual from requesting multiple vanity call signs per se," because an applicant may request up to 25 call signs at a time.

When the FCC receives multiple valid applications from several individuals requesting the same vanity call sign as a first choice on the same day, it uses a lottery system to decide which application to process first.

The R&O also affirms changes to Part 2 and Part 97 rules the FCC had proposed regarding the manufacture, marketing and sale of external RF power amplifiers. Current FCC rules prohibit commercial manufacturers from marketing RF power amplifiers capable of transmitting on the 12 and 10 meter bands. The rules were put in place as a way to prevent use of such amplifiers by CBers.

"We agree with ARRL that the requirements imposed on Amateur Radio operators by the current rule are unnecessary because, under the present rules, 'the equipment, once authorized, can be modified to transmit on all amateur service frequency allocations,' and that revising the rule 'will enhance use of the 12 and 10 meter amateur bands,'" the FCC said.

To prevent the use of Amateur Radio amplifiers by CBers, the FCC says manufacturers of Amateur Radio amplifiers must design their products to avoid operation between 26 MHz and 28 MHz. They also must certify that amplifiers are not easily modifiable to operate between 26 MHz and 28 MHz prior to a grant of equipment certification.

The various rule changes become effective 30 days after their publication in the Federal Register

More information is available at the ARRL's website.
<http://www.arrl.org>

Hamfests this month:

None that I know of.

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2006 OFFICERS

President: Dave Payne, N3LOM

Vice President: Rick Watson, N3SWJ

Secretary: Dave Sarraf, N3NDJ

Treasurer: Grant Beauchamp, KB3KIN

Directors: Harry Bauder, WA3FFK. Mike Warner N3XPD

APPOINTMENTS

Web site

Dave Sarraf N3NDJ; Rick Watson, N3SWJ; Mike Warner, N3XPD

Training Committee

Max Peters, KI6NJ; Dave Payne, N3LOM; Jim Ibaugh, AA3C; Yogi Bear, WB3FQY.

Tech Committee

Dave Payne, N3LOM; Mike Warner, N3XPD; Harry Bauder, WA3FFK

Newsletter:

Mike Warner, N3XPD

Email: n3xpd@comcast.net

SPARC Nets

SPARC holds nets on the 2nd, 3rd, 4th, and 5th Tuesday (every Tuesday except the first) at 2030 local time on 145.230 MHz minus offset and a PL of 118.8.

That's all for now,

Hope to hear you all on the air and see you at a meeting or club event.

73,

Mike Warner, N3XPD