

UP-LiNK



W2CRA

THE OFFICIAL PUBLICATION OF THE CHERRYVILLE REPEATER ASSOCIATION II, INC.

"Community Service Through Communication"



September 2001

BOARD MEETING September 12 8:00 PM

CLUB MEETING September 14 7:30 PM

License Course Starts September 11

de W2CGX

A new ham radio license class is set to begin on September 11, 2001 at the Somerset County Technical Institute in Bridgewater. Class will be held on Tuesday evening from 6:30 to 9:30 pm, and will include Morse code and lectures for the Technician class license plus Morse Code. If you have friends who might be interested in obtaining a license, let them know about the course.

When the FCC restructured the amateur license requirements a year or so ago, the Morse code requirement was capped at 5 words per minute for all classes of license (now down to only three classes). Though a Technician license can be granted by passing only element two, new licensees are limited to VHF and UHF frequencies. By passing the code (element 1) and element 2, a new licensee also has privileges on 10 meter phone plus CW on 80, 40 and 15 meters—the old Novice sub bands.

There are still some openings available for teaching segments of the course. All course materials will be provided to instructors and those who have done it before say it's a great experience. If you are interested, contact Barry Campbell, W2CGX at the school during the day – 908-526-8900 ext. 7229, or evenings at 908-788-9153.

Spread the word. Let your friends and neighbors know about the exciting world of ham radio. The cost for the course is \$15 for registration (goes to the school), and \$19 for the Now You're Talking book.

Further information is available on the Cherryville website, <http://www.qsl.net/w2cra> under "Education," and on the Technical Institute website, <http://www.scti.org/> . From there select "Ace courses" then "non-credit courses" and course AR-11 is the license class. You can even find an ACE registration form on either website. Directions area also available on the TI site.

Public Service

de WB2NQV

We had a good turnout for the Bucks County Horse Park the 12th of August and a good time was had by all in spite of a few rain showers. Next on the Public Service agenda is the Skylands Triathlon September 16th. See Barry, W2CGX for more info and to sign-up. barryc@cnjnet.com . You will be able to see exactly where Barry and the lead vehicle is because he will have an APRS unit with him. So bring your receive unit and "street tracker" software. The confirmed dates for the rest of the year are; Bucks County Horse Park October 7 and November 10 and 11, N2VWL Coordinator N2VWL@epix.net, Blackwells Mills November 4th, W2CGX coordinator barryc@cnjnet.com . If you can help with any of these events contact the event coordinator or myself at WB2NQV@arrl.net.

For the latest Public Service dates log on the CRA web site <http://www.qsl.net/w2cra>

Movement started to restore Cherryville's "Voice"

de W2CGX

You may have noticed the reduced signal in a number of areas where you used to be able to hear the .375 machine just fine. Most notably, when one goes over the "Jug" the received signal drops significantly.

The reason for all this is that "Big Bertha," the venerable 300-watt amplifier that has perked along for so long has given up the ghost. Well the vacuum tubes in her have given up anyway. When the tubes were replaced a few months ago we all thought they would last a long time. Unfortunately Murphy found a crack in the door of the transmitter shack and high SWR did them in.

The club has been discussing the purchase of a new amplifier to replace the tired Bertha, but at the last board meeting N2VWL and KC2EBL ("Lady EBL") each put up \$500 to encourage the

immediate purchase of a new solid-state amplifier to replace Bertha. That started the ball rolling.

At the August regular club meeting more donors were announced, and suddenly there was a little over \$1,400 donated. The "Coffee Fund" even contributed \$50 by way of KB2YJX.

Other contributions are being encouraged from other members. One of the advantages of being a 501C3 organization is that donations are tax deductible. If you decide to contribute to the fund, just mark your check "Donation" in the memo line and it is tax deductible. Donations coming in now with that designation will be applied toward the amplifier.

Regular users may or may not know that we are currently on the backup transmitter. If it goes, we're down. We're all anxious to get a strong signal back on the air with a reliable backup at the ready. Donations can be sent directly to Bill, W2NCN, the club's treasurer.

CRA PROGRAM SCHEDULE

de Denis KA2YYB

SEP 14 " Amateur Radio In The Future"
Mendelsohn W2MF

OCT 12 " Mobile Radio Trunking, Part 2"
Frank Brickle AB2KT

HAMFEST CALENDAR

de George N2VWL

Here is a list of ARRL sanctioned Hamfests in New Jersey, for the current year:

16 Sept. Garden State ARA Tinton Falls –CANCELLED-
23 Sept. Del. Valley RA Robbinsville
6 Oct. Bergen ARA Hackensack

The following are those in nearby PA:

8 Sept. EPARA Bartonsville
15 Sept. Del. Lehigh Schnecksville
15-16 Sept. York Hamfest Foundation York

The following are some in New York:

8 Sept. Saratoga RACES Ballston Spa
9 Sept. Limarc Bethpage

Board Meets in Special Session

de W2CGX

The Board of Trustees met in a special session on August 24, and voted unanimously to authorize the purchase of a new Henry 500-watt amplifier to replace Big Bertha on the .375 repeater. The vote came after extensive discussion covering things

like solid-state vs. tube, whether it is better to re-tube Bertha, and much more. The board agreed that the Henry amp being considered should be purchased.

In separate motions, the board also authorized the purchase of proper grounding materials and lightning protection, and voted to have a thorough inspection of the entire antenna system with replacement of the jumper cables at the antenna and feed end of the hard line.

The bulk of the funding for the purchase of the amplifier comes from the donated funds (see story in this issue) started by N2VWL and KC2EBL at the previous board meeting. Others at the regular club meeting added to the fund, bringing the total pledged so far to over \$1,600.

In addition to installing the new amplifier, the transmitter site will be cleaned up and the cabinet destined for Linvale will be installed there. A separate cabinet will be installed for the new amp. Perhaps we should have a contest to determine the name of the new amp.

Indoor antennas Not only for antenna restricted areas

de WB2AZE

Many members of the club are fortunate enough to be able to put up dipoles, beams, inverted V's, verticals, and other outdoor antennas on their houses and yards. Others who live in antenna-restricted condos and town houses are forced to put up hidden indoor antennas. But there are times when everybody should have an indoor antenna.

Most hams will disconnect their antennas during an electrical storm. But some running Skywarn, Races or Ares nets do not disconnect their VHF antennas. I was reading an article in QST and World Radio about such a person. He had the distinction of having his antenna struck by lightning and having it damage his equipment, and getting shocked as well.

An indoor antenna for VHF could be a spare magnet mount antenna and a metal cooking pan. Simply lay the cookie pan flat and stick the antenna in the middle. Run the coax cable to the rig and operate. Just remember to lower the power output on the radio. (Unlike an outdoor antenna, which is away from your body as you communicate, an indoor antenna is a lot closer.)

Another choice of indoor antenna for a mobile or base rig is a ground plane antenna constructed of 3 pieces of no. 12 solid strand wire, each cut into 24 5/8 inches (for 2 meters). The instructions for building this antenna can be found in the ARRL Handbook or the ARRL New Ham Companion. A third choice is a J-Pole antenna.

For Handheld radios, a 3/8 wave or 1/2 wave telescopic antenna works better than a rubber duck antenna. These antennas are advertised in QST and other Ham radio magazines as well as from companies like Amateur Electronic Supply or Ham Radio Outlet.

FIELD DAY ARISS CONTACT ON THE WEB

de W2CGX

The audio from our W2GD Field Day contact with ARISS is on the internet.

The site is:

<http://www.marexna.org/fileshtml/issaudiofiles.html>. Select the last .wav file, "June 24 15:30 UTC. The contact with W2GD is 6:13 minutes into the file. The tapes were made by Miles Mann, WF1F, who can be heard on the tapes. The recordings aren't great quality, but readable.

ARES/RACES

Membership Meeting September 19, 2001. Location is the Hunterdon County Communications Center on Route 617 in Cherryville. Time is 7:30 PM.

EXTREME HOME BREW

Part 4

The unconstructables: Headsets and Valves. Now the things we couldn't provide, couldn't do. We had to make coils; they were largely trial and error, one could calculate the inductance of these if one had access to some means of measuring the wire gauge and the space between them. So that was largely a trial and error business. The two biggest components, or two biggest requirements, were we needed some headphones and we needed a valve, and I thought that the rest could be made locally with a bit of luck. On the question of the headpiece an outside contact smuggled in one headphone, which was better than no headphone, and a valve - no valve holder but one can't have everything in this life.

Next month: The Race For Power

FOR SALE

3 BEDROOM RANCH CLINTON / ANNANDALE

2200 square foot ranch with partially finished basement. Three bedrooms, 2 baths, eat-in kitchen with sun porch, 865 square foot three-car garage with walk-up attic storage on three-quarters of an acre with pine grove. Oil, hot water heat. Security system. Paved drive. One mile to commuter train, two miles to Interstate 78, three miles to NYC bus. Asking \$224,500. When fixed up and "spiffy" At present property needs some "fixer-upper" work. Price is negotiable.
Respond: E-mail WB2NQV@arrl.net

SLOW SPEED CODE NET

Everyone is welcome! The net operates on the 2nd, 3rd and 4th Wednesdays at 7:00 P.M. (central) (currently 0000 Z), on +/- 7.138 MHz.

Philip, K9PL is net control. Listen for CQ MAC and just send your call sign. The net will QRS to the slowest op. No special net protocol is followed to keep it simple.

Although this net was developed to help Chicago area hams, they regularly have out of state check-ins. If you are a FISTS member, feel free to exchange your numbers with other participants.

The "sponsor is: Metro Amateur Radio Club (MAC) web site. ARRL Club #1257 and a member of the Illinois Repeater Association:

<http://www.qsl.net/mac/>

FCC ACCEPTING REALLOCATION COMMENTS

The FCC is accepting comments on its proposals to reallocate some spectrum in the 2390 to 2400 MHz amateur segment as well as in the non-amateur 1.9 and 2.1 GHz bands for unspecified mobile and fixed services. The 2390-2400 MHz band is a primary Amateur Service allocation. The FCC has proposed including the band and others to support the introduction of advanced wireless services, including third-generation (3G) mobile systems.

The FCC approved its Memorandum Opinion and Order and Further Notice of Proposed Rulemaking August 9. Interested parties may comment on the proposal via the Internet or e-mail using the FCC's Electronic Comment Filing System (ECFS) <<http://www.fcc.gov/e-file/ecfs.html>>. The FCC says that Electronic Comment Filing System users must submit a separate filing for each proceeding listed--in this case ET 00-258, ET 95-18 and IB 99-81. The filings may be identical.

In the case of 2390-2400 MHz, the FCC notes that, while unlicensed Part 15 devices already share the band with hams, the band has been kept free of services that might be incompatible with amateur use. The FCC now wants to know if these sharing concerns still hold and if they would preclude allocating the band for advanced wireless services.

Noting that Amateur Radio previously shared the band with the federal government, the FCC invited comment on reinstating such a sharing arrangement. The FCC hinted that it might consider again lumping relocated federal government users with amateurs on 2390-2400 MHz, should it reallocate 1755-1850 MHz.

FCC INVITES 60-METER PETITION COMMENTS

The FCC is accepting comments on the ARRL's petition seeking the allocation of 5.250 to 5.400 MHz to the Amateur Service on a domestic (US-only), secondary basis. The Commission put the proposal on public notice this week and assigned a rulemaking number, RM-10209, to the proceeding. Comments are due by September 12, 2001.

Interested parties may comment on the proposal using the FCC's Electronic Comment Filing System (ECFS) <<http://www.fcc.gov/e-file/ecfs.html>>. Commenters should reference "RM-10209" in their postings. Even if the FCC eventually okays the petition, it's likely to be several years before the new band actually becomes available.

In its petition, the ARRL told the FCC that the new band would aid emergency communication activities by filling a "propagation gap" between 80 and 40 meters, particularly for emergency communications during hurricanes and severe weather emergencies. The ARRL also said a new 150-kHz allocation at 5 MHz also could relieve substantial overcrowding that periodically occurs on 80 and 40.

A copy of the ARRL petition is available on the ARRL Web site, <<http://www.arrl.org/announce/regulatory/5MHz>>.

BECOME A POWER SUPPLY EXPERT

de N5RA

Detailed information on power supplies, including theory and schematics is available at the following web address:

<http://www.epanorama.net/psu.html>

NEW 160 BAND PLAN VOTED BY ARRL

If you operate 160 meters you will be interested in the new 160 Meter band plan. Mr. Roderick, as Chairman, presented the report and recommendations of the 160 Meters Band Plan Ad Hoc Committee.

A recommended band plan was created based upon the heavy input of Amateurs responding to the Committee's request. On a motion by Mr. Roderick, seconded by Mr. Frenaye, it was VOTED that the following 160 Meters band plan revisions developed by the 160 meters band plan committee after input from hundreds of 160 meters band users be adopted:

Recommended ARRL 160 Meters Band Plan (1.8 - 2.0 MHz)

1.800 - 1.810 Digital modes

1.810 CW QRP

1.800 - 2.000 CW

1.843 - 2.000 SSB SSTV and other wideband modes

1.910 SSB QRP

1.995 - 2.000 Experimental

1.999 - 2.000 Beacons

Please note the committee recommended that the DX window be eliminated as they felt it was not working.

SATELLITE NEWS

Kodiak Star Amateur Radio payloads get new launch date. Bob Bruninga, WB4APR, has announced a new launch date of September 17 for the Kodiak Star launch carrying the PCSat, Starshine 3 and Sapphire satellites. All three carry ham radio payloads. They had been set to launch on or about September first.

Following a brief commissioning period, pcSaT will operate on both VHF and UHF. PCSat will augment the existing Amateur Radio Automatic Position Reporting System (APRS) by providing links to the 90 percent of Earth's surface not covered by the terrestrial network. PCSat was designed and assembled by midshipmen at the Naval Academy in Annapolis, Maryland, to gain practical hands-on experience in support of their aerospace curriculum. The students worked under the guidance of Academy Senior Project Engineer Bob Bruninga, WB4APR--the "father of APRS." "We hope that PCSat will be a new direction for amateur satellites by serving the communications needs of travelers with only mobile and hand-held radios anywhere on Earth," Bruninga said.

PCSat will be the first satellite to report its exact position directly to users via its onboard GPS. Bruninga said the satellite will demonstrate vehicle tracking and communication for GPS-equipped remote travelers--including Naval Academy vessels at sea, cross-country travelers, expeditions or anyone far from the existing APRS terrestrial tracking infrastructure. In addition to its APRS capabilities, the satellite will offer 1200 and 9600-baud packet operation on VHF (145.825 MHz) and UHF (435.250 MHz). For APRS digipeating, the satellite will use the recognized North American APRS frequency of 144.39 MHz. Bruninga said that PCSat should make a great classroom tool, since its telemetry can be received by any hand-held packet radio for display to students on their PCs.

Starshine 3 is a mirrored ball with AX.25 9600-baud telemetry on 145.825 MHz. Sapphire has 1200-baud AX.25 telemetry and a

voice replay on 437.1 MHz. Bruninga notes that Starshine 3 will be visible to the naked eye and will give thousands of students the opportunity to participate in its primary mission of satellite tracking. For more information, visit the PCSat Web site <<http://www.ew.usna.edu/~bruninga/pcsat.html>>, the Sapphire Web site <http://ssdl.stanford.edu/aa/projects/squirt1/sapphire_overview.html> and the Starshine Web site <<http://www.azinet.com/starshine/update012201.html>>.

The Athena I launch will be the first planned orbital mission from the Kodiak Launch Complex in Alaska.

AO-40 S-1 Transmitter Quits During orbit 362 while AO-40 was in view of most of the Eastern Hemisphere, the S-1 transmitter abruptly stopped transmitting. Telemetry readings up until the moment of cessation (voltages, currents, temperatures, etc.) were completely normal. No ground control or experimentation was being done at the time. The scheduler switched the S-2 transmitter on at the appropriate time. An initial attempt to manually switch the S-1 transmitter back on did not appear successful. RUDAK testing continued on orbit 349 and orbit 354. Testing during these two orbits was very successful. Brief RUDAK updates are available via the Internet at: <http://www.amsat.org/amsat/sats/ao40/rudak/ALON/ALAT>.

JAMSAT informed ANS that it was pleased to announce the SCOPE camera on AO-40 successfully captured its first image in orbit. The image is available for viewing on the JAMSAT SCOPE home page at: http://www.jamsat.or.jp/scope/index_e.htmlThe image shows a beautiful, crescent blue Earth and suggests the possibilities of AO-40's SCOPE cameras!

Attitude Control System Appears Functional The commissioning of the AO-40 satellite took another giant step forward as ground controllers reported success in testing the spacecraft's attitude control system--the momentum wheels. AO-40 controllers hope to use the momentum--or "reaction"--wheels to aim the satellite's antennas and, eventually, its solar panels. The testing paves the way for possible deployment of the solar array and better signals on the ground. "We can say with some caution that we have a working three-axis control system!!!" enthused AMSAT-DL President and AO-40 team member Peter Guelzow, DB2OS, in a posting to the AMSAT bulletin board. Until now, AO-40's attitude has been under "spin control." The three-axis control offered by the momentum wheels will mean much more positive attitude control from the ground anywhere in the satellite's orbit. After preliminary tests to energize the momentum wheels ground controllers Stacey Mills, W4SM, and James Miller, G3RUH, ran them up to more than 100 RPM Aug 16 during orbit 365 and left them at this speed for about a half-hour. Telemetry before and after the spin-up, once the solar sensors re-locked, showed that the system appeared to be working properly. The momentum wheels are designed to run at a nominal operating speed of 1000 RPM.

CRA II CLUB INFORMATION

The Cherryville Repeater Association II, Inc. is a non-profit New Jersey Corporation dedicated to Community Service Through Communication. **Meetings** are held on the second Friday of each month at **7:30 PM** at the **Flemington Baptist Church** unless otherwise announced. Visitors are always welcome! Also, everyone is welcome on the Thursday Night Traffic Net, at 8 PM every Thursday, followed at 9:30 by the Swap-Net, and the ARES-RACES net at 8:30 PM on the first Thursday each month (immediately following the traffic net), all on the 147.375 repeater.

UPLINK

A CRA II Publication

Editors

Articles & Info:

WA2EPY, Bruce Cunningham – bcc@interpow.net

KA2YYB, Denis Albisser – KA2YYB@arrl.net

Interviews:

K2PA, Roberto Matos – K2PA@arrl.net

Roster & Mailing:

W2CG, Marty Grozinski – W2CG@arrl.net

Many thanks to all those who have contributed articles or information for this publication, including: WB2NQV, N2VWL, N5RA, WB2AZE, KA2YYB, W2CGX, the ARRL, The Center for the History of Defense Electronics Museum, The Hudson Loop and all not mentioned for their help.

This newsletter is an open forum for the Cherryville Repeater Association, II Inc. and its members, of general interest Club and ham radio related interest items. The opinions contained herein are those of the authors who have contributed their work. The officers and members of the CRA II Inc. are not liable for its contents.

Articles and information are always welcome, and may sometimes be edited for content, punctuation, grammar, and newsletter space.

Deadline for submission for all issues is two weeks prior to the Board meetings.

"Imagination is the only weapon in the war against reality," said Jules de Gautier. Go fight the good fight.

THE CHERRYVILLE REPEATER ASSOCIATION II

CLUB INFO:

Club Info Line	Website	Packet
(908) 788-4080	www.qsl.net/w2cra	W2CRA 145.51

EXECUTIVE BOARD:

Pres	N3QDC	Rob France	(215) 766-8066	n3qdc@att.net
VP	KD2EL	Pete Russo	(908) 832-5798	kd2el@att.net
Sec	K2YSY	Pete Sneed	(908) 369-5095	k2ysy@arrl.net
Treas	W2NCN	Bill Greenhalgh	(908) 369-3191	greenhalgh@rcn.com

MEMBERS AT LARGE:

	W2CGX	Barry Campbell	(908) 725-0478	barryc@cnjnet.com
	N2ZVY	Patrick Mauro	(908) 470-6346	n2zvy@att.net
	W2XT	Derry Galbreath	(908) 369-7245	galbreat@eclipse.net
	AB2DW	Tom Deegan	(908) 236-0698	
	N2QOR	Justin Marchetta	(908) 439-3094	

COMMITTEE CHAIRPEOPLE:

Public service	WB2NQV		wb2nqv@arrl.net
Technical	N3MSK	(610) 252-6193	n3msk@amsat.org
Emergency Mgmt/ RACES	KC2CMC K2PA	(908) 806-3998 (908) 788-8253	varas@earthlink.net k2pa@arrl.net
Education	W2CGX	(908) 725-0478	barryc@cnjnet.com
VE Testing	W2CG	(908) 788-2644	mjgrozi@postoffice.ptd.net
Field Day	N3QDC	(215) 766-8066	n3qdc@worldnet.att.net
Holiday Party	KB2RWY	(908) 253-8783	
Merchandise	N2VWL	(908) 475-4716	n2vwl@juno.com
Traffic net	N2MIF	(908) 638-6172	
Programs	KA2YYB	(908) 537-2501	ka2yyb@arrl.net
Refreshment	KB2YJX	(908) 725-0478	
Roster	W2CG	(908) 788-2644	mjgrozi@postoffice.ptd.net
Scholarship	N2ZVY	(908) 479-6346	kc2boh@worldnet.att.net
SkyWarn	N2VWL	(908) 475-4716	n2vwl@juno.com

NET SCHEDULE:

Hunterdon County Traffic and Emergency Net	Thursday, 8:00 PM	147.375
Races Net	1st Thursday, 8:30 PM	147.375
SkyWarn Net	Thursday 9:00 PM	147.015
Swap Net	Thursday, 9:30 PM	147.375
Complex Repeater Net	Sunday, 7:30 PM	147.015

MAJOR EVENTS:

W2CRA Hamfest	March 16, 2002	Talk-in 147.375
W2CRA Field Day	June 23, 2001	147.375

147.375 + WB2NQV	147.015 + (SZ) WB2NQV	224.120 - K2PM	444.850 + W2CRA	446.475 - W2CRA
---------------------	-----------------------------	-------------------	--------------------	--------------------

UP-LINK
CHERRYVILLE REPEATER ASSOCIATION II, Inc.
 P.O. BOX 308
 Quakertown, NJ 08868