

(Editor's Opinion:) Remember encourage all hams to join the ARRL, it is our best voice to help our existence.

Some may love HF, others DX, some VHF and UHF, some packet, some satellite, some CW, some computers and repeaters; but if we don't work together to preserve our frequencies nobody else is going to do it for us.

There is considerable diversity within Amateur Radio. This is at the same time a great strength and our principal weakness. sometimes it seems as if we're 50 separate interest groups marching in 50 different directions, passing up opportunities for mutual support when it's needed and bumping into one another even when collisions could be avoided. We must work together better, and to do this we need to respect one another more. To do that, we have to understand one another, perhaps even ourselves, a little better .

How do I get a Newsletter?

Did you pay your dues to FVARC, P O Box 7541, Kalispell, MT 59901?

All new licensees and new members in the area will receive the newsletter free for at least two months. All first time licensed amateurs receive the newsletter free for one year. **If you're not getting the newsletter and you should be, or you are getting it and shouldn't, then contact Ed Mahlum at 300 Leisure Drive, Kalispell 755-6673.**

Silent Key

Don Ross will be getting a card for our next meeting so we can all sign it in memory of Carl Stoddard W7EQB. Carl had been hurting the last year or so and many of us had visited him. We will be getting the card off to his nearest family in Spokane. Carl passed away on October 9th around 5:30 PM.

Sick and Hurting:

All seem well. Thanks be to God.

Away and Saying "HI"

LeRoy Gates KC5ICL sent a message via Don Ross KC7AJT, that they had arrived safely in St. George, Utah and that they would be seeing us in the Spring. LeRoy runs a campground up West Glacier way during the summers, and winters in Texas.

Donations:

Rex Keeley has donated about 50 foot of Coax and two RG8 Connectors to the club for use at our club station and other events. It is excellent low loss coax.

Minutes Flathead Valley Amateur Radio Club November 10, 1994.

Called to order 7:35 pm by President KB7IPH.

Discussion on last months word Touch Tone Mic.

Minutes approved as printed in the news letter.

Treasurers Report by Harold Snyder \$260.52 in general fund \$511.43 in repeater fund.

Old Business

Report of the nomination committee...

President	Don Ross	KC7AJT
Vice President	Wayne Ristine	KE9XR
Secretary	Ed Malhum	AA7TN
Treasurer	Barb Magone	KB7YMS
Director	Tracy Robertson	N7SPI

Ducusssion of Diggipeater and use of the repeater fund.

On motion of WA7PHB the motion is tabled.

Word of the month AM FM SSB.

Testing on Nov. 19 1pm Daily Interlake.

Highway cleanup on 12th.

Wayne KE9XR will be gathering information for RACES.

Discussion of starting class...

Dues will come due Jan..

Club Station needs some work to finish.

Ajourned..

20:52

Submit Donald D. Ross Sec. KC7AJT

Introductions:

Mostly skipped this time.

Word of the Month:

Mark KB7IPH lead the discussion of AM, FM, and SSB transmission types.

Old Business:

Don Ross has made arrangements for the club to receive the 1994 1A Montana Field Day trophy.

Nominating Committee:

As specified above there are nominations for each office. If you would like to recommend further nominations please contact Don Ross KC7AJT, or get the information to us at the next club meeting.

Video Presentation:

None presented.

New Business:

Discussion of starting a new class to get more people involved in Amateur Radio. Several will be checking on locations and times.

KAL Packet Repeater:

Carlos KD6WBD and Dick K9RTX are working on getting KAL back on the air, something to do with waiting for EEPROM chips to be burned in and the weather.

Club inventory????

Keep thinking about who, where and what the club might own. Lets get it to our property manager or librarian.

Club Station K7LYY

The club now has a transceiver, tower, rotator, antenna tuner and a dummy load. The club was given the go ahead to purchase 100 feet of coax, some ground wire and two ground rods for the club station setup. As was noted above the coax was donated to the club by Rex Keeley of KAL-COMM. We are putting in our vote to give Rex an honorary membership for the 1995 year.

Gary is our equipment trustee and so this will work out fine. We have our field day signs and other equipment on location at his site.

It was thought that a date would be picked for a Sunday in November or early December to give it a second go around at the club station. All will be invited to attend. Keep listening to the nets.

From our Emergency Coordinator Wayne Ristine KE9XR

Wayne KE9XR will be contacting FVARC and FVRG members in late November or early December to discuss how you can participate in our emergency response efforts.

What is RACES?

The Radio Amateur Civil Emergency Service (RACES) is a part of the Amateur Radio Service that provides communications to local, regional, or national civil preparedness agencies, during periods of local, regional, or national civil emergencies. All of the authorized frequencies and emissions allocated to the Amateur Radio Service are also authorized to RACES on a shared basis. In the event the President invokes his War Emergency Powers, RACES operators using specially authorized frequencies would be the only Amateur Radio operators permitted on the air.

New Jobs:

Wayne Ristine KE9XR will be emergency coordinator for our club. His retirement is not lasting long. He is also providing coffee and cookies after our regular ham meetings. Thanks Wayne.

Gary Ax KB7KXE has assumed the position of club property master. He has good space and will be storing our antenna's, tower, rotator, and what not out at his place. Now is a good time to take an inventory and anyone who has any of the club's stuff, let's get a hold of Gary or a club officer. We should have pictures, history, and other stuff. Maybe now is the time to get it all over to Gary.

Roger Swearngen N7EYU is still receiving one tape a month from the ARRL. He copies these and then Ed AA7TN has been storing them for a rainy club night. Roger needs to get us a recap of his expenses so we can reimburse him.

Mark Skeels KB7IPH has become club librarian. Let's get him all of our extra magazines, books, history stuff, etc. Thanks a lot Mark.

Board of Director's Meeting

December 3, 1994
1:00PM at Finnigans

Present: Mark Skeels KB7IPH, Don Ross KC7AJT, and Ed Mahlum AA7TN.

1. It was agreed to reimburse Ed Mahlum for newsletter expenses.
2. We will meet the 2nd Thursday of the month at 7:30PM for our December club meeting but return to the 4th Thursday of the month in January.
3. Mark Skeels has looked at the language of the by-laws and will be making some recommendations for changes that may free ourselves up a bit from any bureaucracy and have more fun.
4. Club history, where are the records? Club inventory, who has the files? Bring any history you might have to club meetings. It will be a riot going through that stuff and it will help us get it altogether too.
5. Agenda developed for Club Meeting. Presentation.
6. Should the club buy a new set of books for the library? Outdated material is on hand their for licensing.
7. Discussion of Digipeater.

Highway Cleanup

Last one of the year took place Saturday, November 12,1994. Folks met at Corner Kitchen for Breakfast around 10 AM and then hit the ditches. Thanks to all who helped out and gave our standing in the community a boost.

Form 610:

Ed Mahlum (AA7TN) has new form 610 with expiration date of 8/31/96 via the W5YI VEC testing team here in the Valley headed up by Darryl Christopherson KG7MO. They will not process the old forms any longer.

Montana Callbooks:

The new 1994 Montana Callbooks are available at the meetings for \$5.00 each. If you missed your chance to get one contact FVRG PO Box 808, Bigfork, MT 59911. \$8.00 includes shipping and handling.

Ham Exams:

According to Darrel, KG7MO, the next exams will be held January 22nd, 1995 at 1PM at the Daily Interlake Building in Kalispell.

Bring a copy of your license for upgrading, a current photo id, \$5.75, and some pencils. If you have any questions about time and place call Darrel 756-8633 or Ed AA7TN at 755-6673.

The last testing session was November 19th. Carlos Aberra KD6WBD passed his 5 wpm code test and is now a tech plus. There was one other applicant who passed the Novice written exam element 2A.

For Sale or Trade:

Feel free to bring stuff to the Club Meetings that you would like to sell or trade.

Frank Maycumber (son of Guy, who passed away two years ago) has been sorting out some of his Guy's gear. Frank has come up with a lot (I think hundreds) of tubes. Some tubes are from the 1920s. He has also got a nice handheld and brand new digital controller. If you are interested in giving him a call and helping him figure out what some of this stuff is he can be reached at 752-0554.

Ed Mahlum AA7TN 755-6673 is looking for a buyer for his Hustler 4BTV vertical antenna for \$80. He also has a new Kenwood PB-8 battery for \$35, a PB-6 for \$20 with BC-6 charger.

Bill Brady AA7HM 257-2297 has a Cushcraft AOP-1 OSCAR Satellite antenna system. It contains the 416TB uplink, the A144-20T downlink, the A14T-MB mounting boom, and all necessary hardware. He is looking for about \$150.00.

QST DIGEST

_Title: Schematics at Your Fingertips

Author: Schofield, Ken - W1RIL

Source: QST Oct 93, pp. 39-40

Many hams now have, or are buying, IBM-compatible computers that use an operating environment called WINDOWS. It comes equipped with a sub-program called PAIN'TBRUSH. Using PAIN'TBRUSH, one can draw lines, circles, or any other shape, in full color, on the computer screen.

Mr. Schofield, using WINDOWS PAIN'TBRUSH, prepared a complete set of electronic circuit symbols, and has them stored in his computer. Using the symbols plus the line-drawing ability of PAIN'TBRUSH, he can draw electronic circuit diagrams of almost any complexity on his screen. Once it is on the screen, with a dot-matrix- or laser-printer, he can print it on paper. In the article, he explains how he made the symbols and how he uses them to draw diagrams.

The author has made his file of predrawn symbols available for the asking. Anyone with a computer plus modem can call the ARRL telephone Bulletin Board System (BBS) at (203) 666-0578 and download the file into their own computer. Alternatively, send a blank floppy disk (either a 5-1/4" 1.2 MB. disk, or a 3-1/2" disk of either 720 KB. or 1.44 MB. size) in a suitable disk mailer, and enclose return postage, and the file will be mailed.

Title: The Earth Detunes My Antenna

Author: Hall, Jerry - K1TD

Source: QST Oct 93, pp. 41-44

Abstract: Report of a study of the effects of various types of ground on the resonant frequency of dipoles.

Most hams realize that the earth has a major influence on the radiation pattern of an antenna, but we tend to forget that its presence also affects the resonant frequency, as well. Mr. Hall has studied the effects of the ground on a half-wave dipole antenna using NEC2, a method-of-moments computer program. This article contains some of his findings.

Antenna reference books, such as the ARRL Antenna Book, tell us that the end effects in a wire dipole cause a "half-wave" antenna to be physically about 5 percent shorter than a free-space half-wavelength. Thus the common formula usually given for calculating the length of wire is to divide 468 by the frequency in MHz. to get the answer in feet. The author finds that, when modeling a 3.75 MHz. dipole in free space with a length calculated by the formula, the impedance at the center would be 67.5-41.8 ohms. But this is not resonant since, by definition, at resonance the impedance will be a pure resistance. For resonance, the antenna must be lengthened by about 2.5 percent so the formula becomes 479.6 divided by the frequency in MHz. The center resistance of the antenna at resonance is 72.2 ohms.

The author now brings the earth back into the calculation and models the dipole at 50-feet (15-meters) height over "perfect ground", meaning the approximate equivalent of seawater or an infinite copper plate.

The antenna must be shortened so that the proper factor is 469.5 divided by frequency. Shortening the antenna lowers the radiation resistance, which is now 59.6 ohms.

"Real ground", meaning dry land, varies substantially in its characteristics as measured by dielectric constant and conductivity. What is defined, for radio purposes, as "very good land" is the rich soil typical of the area from Dallas, TX to Lincoln, NE; very poor to extremely poor is in the middle of cities, with heavy industrial areas or high buildings.

Analysis of the antenna at 50-feet (15-meters) over soil at the two extremes indicates that for very good ground the factor in the formula should be 470.8, and for poor earth it should be 473.9. For the 80-meter antenna with a total length of about 125 feet (38 meters), the range of differences is only about 10-inches (25 cm.), but that represents the same difference in length as would be caused by a change of frequency of about 25 KHz.

The author goes on to explore the effects at different heights and also studies the effect of ground conditions on the radiation patterns in the elevation plane. In his summary, he acknowledges that his work has simply verified what all hams have known from the beginning, that is that the only way to obtain a resonant antenna is to prune it on-site. But his work does give the reader a better idea of what specific effects are at work.

PRODUCT REVIEW (PR)

AEA PK-900 Multimode Communications Processor
Ford, Steve - WB8IMY

Source>QST Oct 93, pp. 71-73

Abstract>Specifications and operational review of AEA's PK-900 Communications Processor. Performance on VHF Packet is little changed from that of earlier models; but on HF modes, performance is distinctly better.

AEA, the manufacturer of the Model PK-232, one of the most widely-used multimode communications processors (MCPs), has recently begun to broaden its line with more sophisticated (and expensive) models. Their "high-end" models DSP-2232 and DSP-1232 feature digital signal-processing and a number of other advanced features. The model PK-900 is intermediate with performance features broader than the PK-232, but not up to the high-end models. Its most substantial addition over the PK-232 is the availability of two independent radio ports. One is designed specifically for packet operation while the other supports all the HF digital modes as well as 1200-bit/s VHF packet.

Another major difference is that the PK-900 does not use LED indicators on the front panel. Instead, it has a large, amber liquid-crystal display that reports operating conditions in plain-English words.

The lower part of the rectangular display is a 20-bar tuning indicator which can be changed by software commands to several different modes of display. As an optional feature, a 9600-bit/s modem can be added. This allows communications with certain satellites that operate at that data rate.

The author used the PK-900 in all of its different modes and reports that in VHF packet, it is comparable to that of all other modern MCPs that he has used. But on HF digital modes, including packet, AMTOR, PACTOR, RTTY, and CW, its performance is distinctly superior to older models. He gives a number of illustrations of this that he determined by rapidly changing from the PK-900 to his other (unidentified) MCP when operating on HF digital modes under difficult operating conditions of QRM, weak signals, and QRN. In each case, he found the information throughput using the PK-900 to be distinctly faster than with the older model. He attributes some of this improved performance to the 8-pole Chebyshev band-pass filter in the PK-900.

Like the other AEA MCPs, the PK-900 includes the Signal Identification and Acquisition mode (SIAM). Operating in that mode, the unit will automatically identify a signal, if it corresponds to any of the types that have been included in the unit's software. When it does, it will switch its mode to correspond to that of the received signal.

The author reports in his final summary that, for the advanced digital-mode enthusiast, the PK-900's extensive standard-feature set and optional support of 9600-bit/s operation raise its value, but it is overkill for more pedestrian applications.

Q5R9
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