

AMATEUR RADIO MISSIONARY SERVICE

7135 South Sherman, Littleton CO 80122

Fall, 1989

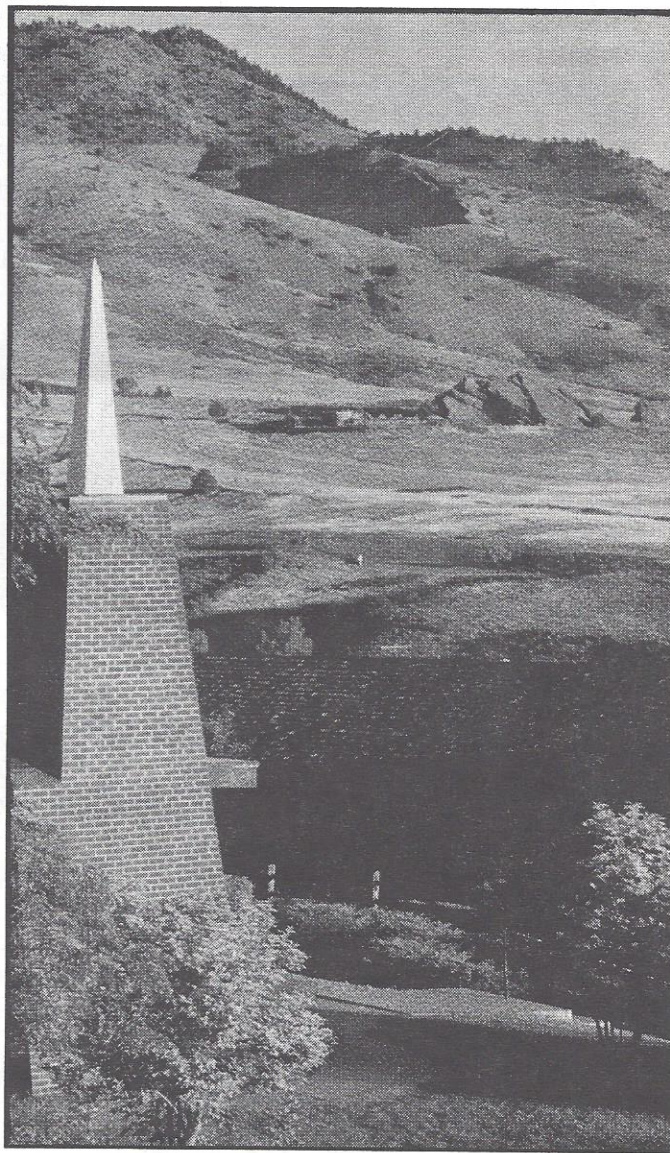
Expanding Our Vision IT WAS WORTHWHILE

It isn't often that we have opportunity to do something worthwhile and enjoyable, with people we respect and admire in a beautiful setting: But as far as I'm concerned, all these things came together during the several months that were spent by members of The Rocky Mountain Section of ARMS in planning and hosting the 1989 ARMS Conference at Foothills Conference Center near Morrison, Colorado.

Just a quick overview of the conference: several of those who arrived early or lived close by took a tour of the WWV facility at Fort Collins and the National Bureau of Standards at Boulder on Thursday, June 22. It was fun on Friday to see old friends and some who had never met greeting one another as they signed in and registered. (The friendly insults between the Registrar Mike Brinks, WB6DAS, and Jay Sudenga, KØGAZ appeared for a time to be leading up to a boxing match or maybe it was wrestling. I would have bet on Jay in that contest!) [Assist Ed note: Not a chance.] Friday afternoon Al Stewart, WAØNRH, provided a tour of Christian radio station KWBI and Christian television Channel 41. After dinner on Friday evening we enjoyed "Tour of Radio Missions" with speakers from some well known Christian Radio Missionary Broadcasters.

Saturday morning, members of the group checked in to the Rocky Mountain ARMS net on 3.907 MHz. and following that, in to the the Transcontinental net on 14.3075 MHz. At 0900 Mike Rafferty, KEØFN, gave a very interesting talk and demonstration on "packet" radio. The business meeting was called to order immediately after Mike's presentation and the ladies moved to the "Lodge" for a study in 1st Corinthians led by Sharane Brockmeyer. There were no scheduled activities in the afternoon so folks could make more Field Day contacts, hike on the "hogback", review past conferences with old friends, check out the missionary displays in the Lodge, take a nap, or whatever. At 6:30 we were served a delicious banquet meal and because another group was scheduled for a late banquet, we moved to the Chapel where George Goolde, Director of Public Ministries with Overseas Christian Servicemen's Centers challenged us to "Expand Our Vision" in preaching the Gospel and in making disciples everywhere we have opportunity.

(Continued on page 9)



View looking Northwest from Foothills Conference Center at the foothills and rock formation just south of Morrison, Colorado and Red Rocks Park. The Chapel is just to the left.

THE BEAM
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7135 S. Sherman, Littleton, CO 80122

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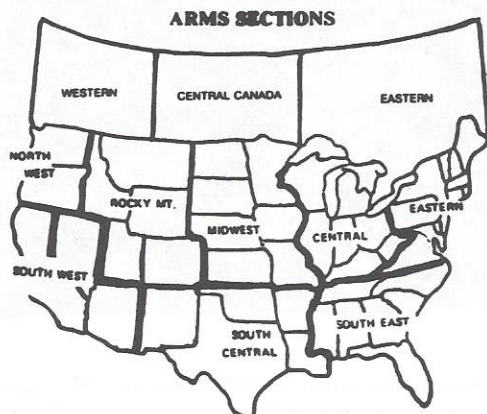
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Southwest Bill Russell, KA7BRU
Central Canada Jim McAuley, VE4ID
Western Canada Gordon Pearce VE7GHP

ARMS Section Nets

Eastern	M, W, F	7:00 a.m.	3.9070
Eastern	Sat.	9:00 a.m.	3.9070
Central	Sat.	8:00 a.m.	3.9220
Midwest	Sat.	8:30 a.m.	3.9070
Northwest	Thur.	7:00 a.m.	3.9840
Rocky Mountain	Sat.	7:45 a.m.	3.9070
South Central	W, F	7:00 a.m.	3.9050
Southeast	Sat.	9:00 a.m.	3.9000
Southwest	—	—	—
Central Canada	—	—	—
Western Canada	—	—	—
Transcontinental	Mon.-Sat.	1545Z ST	14.3075
		1445Z DT	14.3075
Halo	Daily	1800Z	21.3900



THE ARMS MOTTO

*"... let us do good unto all men, especially unto them
who are of the household of faith."*

Galatians 6:10

"Salad Dressing"

I thought the Saturday night banquet meal was really great, but I did have a moment of frustration with the salad dressing. I thought perhaps I was the only one who had the problem, but when I received the pictures taken at the banquet, it was obvious that I was not alone in my frustration.

I have exercised a little editorial license with what was actually taking place to make a story centered around the aforementioned frustration. Beginning on page 10 is a pictorial account of answers to the question, "How did you get to the the Salad Dressing?" I may have stepped on some toes in putting the story together, and if I stepped too hard, I apologize. I have to admit that I chuckled a time or two as I imagined what was going on. I hope you can see a little of the humor that I thought I saw. — • • • —

Chuck, WØETA

Field Day

The national ARMS conference also turned out to be the site of Field Day activities this year. Nearly all the participants at the conference at one time or another braved the dread of night and having to operate by candle light to chock up a total of 213 contacts with 47 states heard from. The Field Day setup was also used to check into the Rocky Mountain Regional Net as well as the Transcontinental ARMS Net.

The rigs used were a Kenwood 440 provided by Mike, KEØFN and a Kenwood 430 provided by Al, WAØNRH. An 80, 40 and 20 meter combination dipole built by Chuck, WØETA was used as well as slopping dipole. A flag pole at the conference center was the main antenna support structure. Power for the rigs was a monstrous set of batteries provided by Tim, WAØMGJ. All operations were conducted out of a tent. Al Stewart's call, WAØNRH, was used throughout the contest.

Although this year we did not seek any contest awards, we did find it to be a worthy venture as it provided a place for a group of ham operators to get together and do what they like to do best, operate! Good fellowship and a few tall tales were shared while sitting around in the candle-lit tent. In fact, several of the local hams attending the conference enjoyed it so much that plans are being made to retreat to the mountains next year and do it again. — • • • —

Al Stewart, WAØNRH

From the President's Shack

Emily and I have just returned from our trip taking us from coast to coast. We had a great time visiting our families, working and meeting ARMS members, and attending the ARMS convention on our way back to Grants Pass. As many of you know we are now city dwellers, having sold our wonderful antenna farm in the country, and trying to get along on a city lot without room for good antennas. In many ways its enjoyable to be in town and not having to make the 25 mile round trip for church and shopping. So as the Bible reminds us, "In whatsoever state we are, be content". So we are praising the Lord as we adjust to changes in our lifestyle.

I was really impressed as we tuned into our Section Nets traveling across the country. We checked into the Rocky Mountain, the Midwest, the Central, and the Eastern Nets. In each section, listening to the good operation and taking part in the fellowship was a pleasing experience. I can report first hand that the activities of ARMS across the country is (are?) doing well.

Along the way we spent a few days with Al and Ester Smith, K2CAC. Visiting Houghton College and Community was an outstanding experience. While we were there Al invited our Vice President Bob Kurtz, WB2CYO, his wife Joan, KA2KJO, and their daughter down for a mini ARMS convention and picnic. We had a great time sharing ideas and suggestions to take back to the ARMS convention at Denver. Al and Ester made it possible for us to take our honeymoon at Niagara Falls, we packed a picnic lunch and had a great time sight-seeing on both sides of the falls. Even though it was 48 years late we were happy we have this dream come true.

While visiting my sister in Pennsylvania, I received a call from Gene Reynolds, W3EAN, offering to pick Emily and me up and go over to New Jersey where we had a most delightful time visiting with Van and Betty Van Saun and Gene.

On our return trip to Denver we were able to spend a day with our secretary NØDRE, John Treanor and his wife Ida. We were able to spend some valuable time making final plans for the ARMS business meeting. Of course having dinner and spending the night made it a wonderful time of fellowship.

About 60 miles east of Denver is Deer Trail, Colorado, the home of WAØNJZ, Don Helling, and his folks, Dick and Mildred. For many years we have made this stop and a visit in the Helling home is a most enjoyable experience providing a wonderful time of sharing and fellowship. We always enjoy sitting around and listening to Mildred and Emily play the organ and piano together.

It was good to be back in the Denver area and visit with our many friends. I want to thank all the folks in the Rocky Mountain Section for all the good planning and hard work it took to make a very successful convention. Special thanks to Chuck, WØETA, his wife Timmie and daughter Sharane for the many long hours spent making everything fall into place, it certainly was a job well done.

After the Sunday morning worship service everyone was invited to Chuck and Timmie's for lunch and a wonderful

time of fellowship and farewells. After spending the night at WØETA's abode, John and Ida, Chuck and Timmy, Emily and I all went out and had breakfast together and left for home.

No action was taken on next year's convention. Recommendations were made that we look for invitations from the Central or the Eastern sections, so if there is a good facility available and members who are willing to form the convention committee, please let me know and I will present it to the board of directors. ■ • • ■

Charlie, K7AQ

WWV Tour

A group of eight ARMS members were privileged to start the 1989 National Conference one day early with a tour of the WWV National Bureau of Standards transmitting facilities at Fort Collins and the NBS laboratories in Boulder, Colorado.

The WWV shortwave time and frequency service so familiar to most hams was established near Washington, DC, in 1923. After several moves, it was located near Fort Collins in July of 1966. The WWVB 60-KHz station was established at the same Fort Collins site in July of 1956.

For many years, prearranged public tours of the transmitting installation were available. Then, cutbacks in budget and staff resulted in a suspension of such tours about ten years ago. However, through the timely efforts of Rocky Mountain Section member Al Stewart, WAØNRH, Engineer-in-Charge Charles Schneider agreed to personally guide a tour of the facilities for a limited group of interested hams from ARMS on June 22, 1989.

The time and frequency standard for the NBS services is a set of three cesium clocks maintained in an environmentally controlled room at the transmitting installation. These clocks are continuously checked against each other for errors, and they are checked daily against the national atomic clock at the Boulder laboratories through satellite links. The "clean room" also contains the metal-drum audio reproducers that provide the time announcements.

The audio signal is used to modulate a bank of vacuum-tube AM transmitters operating in the range of 5 to 20 kilowatts on the familiar 2.5, 5, 10, 15, and 20 MHz frequencies. The antennas are all half-wave vertical radiators with tuning skirts spread out in the open field surrounding the transmitter building. The installation also includes a high-power standby generator to give essentially uninterrupted broadcasting service.

Perhaps one of the more awesome aspects of the installation was the antenna for the WWVB 60-KHz station. It is a vertical antenna that is top loaded with a "capacity hat" and fed at the base through a tuner. However, at a frequency of 60 KHz, the size of the components was indeed "awesome."

We drove to a small, two-story building in the center of a
(Continued on page 5)

MISSIONARY SCHEDULES AND CONTACTS

The schedules are arranged in the order of the time of day.

All times are UTC, and frequencies are in Megahertz.

Time	Day	Call Sign	Home Contact	Frequency	Notes
0000	Sat	YBØABK, VK4OK VK4AAJ	ZL1UE	14.305	MARF Net
0300	Sun (Sat in USA)	K7AQ	ZL1UE	14.302	
0400	Daily	DDD Net	ZL1UE	14.115	Good for VE7s
0615	Thur	ZL2AYA, ZL1UD, ZL1BTX	ZL1UE	3.690	ARMS
0800	Tues	VK6LU/KHØ, VK4YF, K4EQY/KHØ, VK4AGB, KB5AJC/DU2	ZL1UE	14.315	ARMS Inter-Island Net
1145	Sun, Tues, Thur	PJ4CR	K2KXY, K1GUR, W3EOD, W2RJQ et al	14.340	Divi-Divi Net, Island of Bonaire
1300	Sat	EL8C	KA8CMR	21.400	
1330	Sat	5Z4DL	W7SDS	7.240	DST 1 hr. earlier, WGMARF Net
1400	?	VE7GHP	?	3.900	ARMS Net
1430	Sat	HK3NAG	KA8CMR	21.428	
1700	Daily	OA6AAQ, IA4AHZ LU8DV, PY8ZOA WB2EY/HK3	WAØWYS, N2FCG	21.440	BRAG Net, Except Sun
1800	Daily	5Z4JD	N6JTW	14.311	Except Sundays
1800	Wed	TG8XWI	WB6LOF/4	21.390*	Alternate weeks
1800	Sat	5Z4LH	KA8CMR	21.440	
1800	Sat	5Z4DL	W7SDS	21.370	DST 1 hr. earlier WGMARF Net
1930	Mon, Wed, Fri	OA4BDV	WA4KLQ	21.320	
1930	Sun	TI2RWG/HK4 OA1AAO, PT7ZAE	WAØUMP, VE3CNI, WA2CYO	21.420	Wesleyan Connection
1945	Sun	TU2GC	KA8CMR	21.400	
2000	Sun	EL2ED, EL2AP	KA8CMR	14.313*	
2030	Sun	OA4YS/VE5DD	VE4ID	21.195	2nd Sunday
2030	Mon	HH5MV	VE4ID	14.140	2nd Sunday
2100	Daily	OA6AAQ, OA4AJZ, LU8DV, PY8ZOA, WB2EYL/HK3	WAØWYS, N2FCG	21.440	BRAG Net
2100	Sat	P29NGG, VK4JAG	ZL1UE	21.150	CRMF Net
2130	Sun	HC1RT	KØGAZ	21.390*	
2130	Mon	K7ZX/TI2	W7CVL	14.300	
2200	Fri	AH2AV	KA8CMF	21.440	
2200	Thurs	TU2PT	KEØFN	21.340	Zaire, Ivory Coast
2200	Various	HH6KS	VE5HP	14.313*	
2200	Sat	P29SR	N7JVV	21.300 / 28.600	Papua, New Guinea

*Calling frequency. Contacts are made on these frequencies, and the stations move to another frequency for QSO. The Halo Net meets on 21.390 MHz daily at 1800 UTC followed by the Post Halo Net at 1900 UTC and by the Inter-American Traffic Net at 2000 UTC.

Note that some information is missing from these schedules. If anyone can supply this please contact **R. L. Kurtz, 42 Sunset Trail, Fairport, NY 14450**

(Continued from page 3)

large open field. As we entered, we realized we were literally walking into the antenna tuner. The tuning coils were approximately six to eight feet in diameter and mounted on a large concrete pedestal in the center of the building. A massive ceramic insulator delivered the main conductor through the center of the roof, and a network of ground radials was buried in the entire field. Various environmental factors constantly affect the reactances in the antenna system, so a set of smaller, two-foot coils was constantly being "tweaked" by synchronized control motors to keep the system in tune. From the roof of the building, a vertical radiator comprised of six, quarter-inch cables formed a five-inch "tube" which rose about 250 feet into the blue Colorado sky. At the top, the vertical was connected to its "top hat," a massive grid of interconnected wires that was suspended by cables with large concrete counterweights from four, 250-foot towers at the corners of the open field. Now, that's an antenna!

Our tour of the NBS laboratories in Boulder was the standard, daily tourist presentation, and so we did not hear as much technical discussion as some members might have liked. However, we were shown the nation's atomic clock, which provides one of the half-dozen-or-so standards maintained in Boulder by NBS, which is now called the National Institute for Standards and Technology.

Since the ARMS Conference took place on Field Day weekend, we were especially interested in the Space Environment Services Center in the BNS labs, which issues all sorts of propagation reports. The progress of Sunspot Cycle 22 had produced some conditions that were "awesome" in their own right during June, and we were allowed to discuss those phenomena with one of the SESC technicians ... as well as get his personal forecast for the upcoming Field Day time period.

All in all, it was an inspiring day. As Christian radio operators, our horizons were stretched. We saw the intricate precision of atomic clocks, and we saw antenna components that boggled the mind. We witnessed the effects of a solar cycle that can render our communications efforts either marvelous or useless, completely beyond the control of our best technology. And, through it all, we were reminded that all of our times are in HIS hands! ■ • • ■

Dick Schroeder, KØQBA

Directory Update (1988 Directory)

NEW MEMBERS

6

WB6DZW Alex VonStrade, 309 Horizon Hills Rd., Williams, OR 97544

WB6PDP Joel A. Potts, % HCJB Casilla 691, Quito, Ecuador SA

7

N7LSZ Frederick A. Lundgren, 9141 Ocatillo Drive, Tucson, AZ 85749

8

W8ED Clarence Polmanteer, 14900 West Libra Drive, Eloy, AZ 85231

9

K9WHE Ruel F. Burns, Jr., R.R. 23, Box 297, Terre Haute, IN 47802

Ø

WBØNCN R. Duane Mullet, 7736 Dyer Road, Louisville, CO 80027

KAØQEY JOHN T. MCCALL, RT. 1, BOX 107-A Red Wing, MN 55066

OVERSEAS

P29SC/N9IHJ Stephen A. Clark, S.I.L. Box 426, Ukarumpa, Via LAE, Papua, New Guinea

ADDRESS CHANGES

2

KE2EA John P. Bretz, RFD 3, Box 67, Homell, NY 14843

3

K3QBZ Paul A. Graves, 6321 Lori Terrace, Port Charlotte, FL 33981

4

WB4BON Penny Bonnema, 28710 Sweet Bay Lane, Bonita Springs, FL 33923

K4HRX Paul E. Deason, 4710 Topsail Court, Charlotte, NC 28212

5

Assoc. Alfred M. Miller, Wayside Chapel EFCA, 214 Roletto Drive, San Antonio, TX 78213

KA5HBP John C. Edwards, 6672 Nyman Drive, c/o Linguistics Inst., Dallas, TX 75236

6

W6RSZ Paul Franusich, 10629 Franklin Blvd., Elk Grove, CA 95758

KJ6WU Jim Gustafson, 1011 Xavier Way, Livermore, CA 94550

7

K7AQ Charles W. Cox, 1627 Foothill Blvd., Grants Pass, OR 97526
KA7BRU William C. Russell, HC36 Box 360 Space 1125, Dewey, AZ 86327

NL7GN Jerry W. Crosby, 31000 S.E. Kelso Road, Boring, OR 97009

KA7LPH Lloyd P. Hopkins, PO Box 786, Stanwood, WA 98292

K7MWL Edwin L. Vainio, 1947 McDonald, Missoula, MT 59801

W7MXY Roy M. Buell, 23923 57th Ct. S, Kent, WA 98032

8

WB8UNB Vernon L. Macy, 490 Willits Road, Hastings, MI 49058

Ø

WDØDBE I.J. Tharp, 808 North Tenth Street, Blue Springs, MO 64015

KØSIV Merle Zook, 734 Main Street, Akron, PA 17501

CANADA

VE1IDE (Ex VE1BIG) Jerry F. Everett, 157 Burlington Avenue, Moncton, NB E1E 2A4, Canada

VE5RA Doug A. Renwick, Box 511, Tumbler Ridge, BC, VØC 2WØ, Canada

VE6GE Martin O. Matheson, 9819 181 St., Edmonton, AB, T5T 3H9, Canada

VE7CVO Ronald Parks, PO Box 1094, Princeton, BC VOX 1WØ, Canada

OVERSEAS

AH2X Robert E. Chick, 1868 Halsey Drive, Piti, Guam 96925

3DAØBS/WB7OZJ Ed Stortro, Box 64, Manzini, Swaziland, Africa

A22EE/KA4HBW Dale W. McMinds, Am Embassy - VOA, APO, New York 09155

DU3/KA3JLT Laura Bonney, c/o Send International, P.O. Box 6, Valenzuela, Metro Philippines

HC1BKP/W9BNI Claude Beachy, Casilla 691, Quito, Ecuador, SA

YB8ATI/KJ4DQ, Ex YB/KJ4DQ Wyn D. Laidig, SIL Kotak Pos 51, Ambon, Maluku 97001 Indonesia

CORRECTIONS

OA8YS/VE5DD Name is Donald J. Scarrow

BW21 should be NW2I

VE6/KL7F should be VE6/KL7FNB

KA4LME City should be Lakeland, FL

SILENT KEY

K3EGP Ralph A. Blackmore, Sr., 1611 Park Ave. Apt 412, Quakertown, PA 18951

WØJAQ Eugene R. Iliff, West Union, IA 52175

Tour of Radio Missions

At the Friday evening "Tour of Missions", representatives of several Missionary and Missionary-Radio organizations gave brief informal reports and answered questions.

Bob Springer, KHØAF, Chief Engineer for Far East Broadcasting Company on Saipan described the facilities there. He said that on occasion when FEBC schedules do not require the use of the broadband 4 x 4 curtain antennas, some of the hams at the station have connected their rig to the antenna. How would you like to hook your HF rig to an antenna with 20 dB gain over a dipole? Bob also gave a first hand account of the 1986 typhoon that wrecked all the antennas on the island. He expressed appreciation for the help of the Trans World Radio crews from Guam in getting Saipan back on the air. Bob is also active on the Pacific Inter Island Net and knows Roger Van Haitisma who was featured in the Spring 1989 issue of the BEAM.

Sudan Interior Mission with radio station ELWA in Monrovia, Liberia was represented by Rev. Ted Veers. Ted reported that ELWA has identified a number of new language groups in need of a Gospel voice. Radio programs are being developed to fill these needs. ELWA has also been expanding its ministry into several South American countries.

Trans World Radio area representative, Rev. Norman Sullivan who has recently visited the facilities and missionaryes on Bonaire described his experiences in a first-hand observation of operations. He brought greetings from PJ4CR, Chuck Roswell and spoke of some of the future plans of TWR.

HCJB had no official representative at the conference, but WAØLUV, Dan Nordell, reported on the visit he had recently made to Crown International HCJB Engineering Center in Elkhart, Indiana. He reported on progress in development and construction of new high power transmitters being developed there. He spoke of the new high-efficiency digital modulation scheme invented by engineers at the HCJB center.

A common predominant theme with all of the missionary radio speakers was the cooperation among the four largest Missionary Radio Organizations: FEBC, TWR, HCJB and ELWA. This was especially brought out in connection with the joint effort in "The World By 2000".

Wycliffe Bible Translators / JAARS representative Bob Donahue reported on progress in producing written languages for groups with only verbal languages. Wycliffe missionaries study these verbal languages, develop an alphabet and written language and translate the Bible into that language. The statistics for completion of Bible translations are impressive, but the statistics on how many languages are still not covered show the great need still existing in this endeavor.

OCSC (Overseas Christian Servicemen's Centers) headquartered here in Englewood, Colorado was represented by Sharane Brockmeyer who led the ladies meeting Saturday morning and by George Goolde who was the banquet speaker Saturday evening.

The Handiham organization whose purpose is to assist handicapped persons to obtain amateur licenses and special operating equipment was represented by KØUED, Jack Huey.

We are grateful to these organizations and their representatives for their efforts in bringing us their reports, their displays and their challenges. ■ ● ● ● ■

Walter Guderian, NØICT

Packet Radio

Hams talking with hams on their home computers. Does it sound like a highly technical, too complicated mode to get involved in? It really is not! This writer can testify that a person does not have to know how to write computer programs, analyze detailed schematics, or have years of training to get into this new mode of communication.

I have been playing with packet radio for the last 1-1/2 years and have found it to be much fun. I have to tell you there were times of frustration as I sat at the terminal trying to figure what I should do next. There are many people now who have experience with the mode and are able (and willing) to help newcomers get off the ground.

We are all familiar with the phone and CW modes. One aspect of packet that makes it different is its ability to transfer messages error-free. (except for those you type into the message!) Everything you send is received correctly, right down to the last comma and period. Also, many stations can use the same frequency at the same time, however the message you are sending is delivered only to those whom you have addressed. You can set up your screen to monitor only those "packets" of information that have been addressed to you or you can monitor all traffic on the frequency. Of course, packeteering on VHF frequencies is limited to line-of-sight so there are times you can not "see" the station you would like to work. By specifying an intermediate digital repeater, (digipeater) in your connect request, you can make contact. Someone can specify my station, KEØFN, as the digipeater they need to establish contact. Incidentally, my station on packet is often the Kenwood TR-2500 hand held. I can continue to operate on packet with others even while some are using my HT as a digipeater for their communications! We can both be in contact with different stations without interruption. Fancy eh?

For example, if I want to establish contact with KØRZ in Boulder, but cannot hit him directly, I request a relay through KQØJ. I type on my screen: C KØRZ V KQØJ. Translated, this means: Connect KØRZ Via KQØJ. At the speed of light, my request goes to KQØJ and is relayed to KØRZ. Almost instantly there appears on my screen: ***CONNECTED TO KØRZ VIA KQØJ***. I have connected with KØRZ using KQØJ as a digipeater. KQØJ probably was not even in the shack when I used his station for the relay. (For that matter, KØRZ probably was out as well.) By the way, the FCC has given approval to unattended 3rd party traffic

using packet on VHF. Not the case on HF packet. Once contact has been made, I can talk with KØRZ, if he is at the station or I can leave a message for him to read later, when he returns to the rig. I have talked with my Dad, WA7ZOO, in Missoula, Montana using the HT and specifying digipeaters from Denver along a route through Wyoming up to Montana. ie. C WA7ZOO V KQØJ, WØHJG, W7TJU, K7MM, W7PO, W7YB, W7DVK. This method of communications, using several "digs", works well if there is not too much other activity on the frequency. The busier the frequency is, the longer it takes to make the connection. I am looking forward to making the connections with DAD on an HF frequency so we can go direct instead of digipeating on VHF.

What equipment do I need for packet operation? (This is the question Jay, KØGAZ, wants answered!) Enough of this other stuff! Well, if you have a 2 meter radio, and a computer, (any brand will do), you are 2/3 the way to being a packeteer. The unit that connects the radio to the computer is called the TNC. (Terminal node controller for those who pay attention to this sort of thing.) Of course connectors are necessary to hook everything up. Have you seen those little floppy disks computer wizards put in their computer to run a program? A program is needed for the computer to do the communicating you desire. There are many low/no cost communication programs available from individual hams or the normal outlets around the country. With that floppy disk in hand, you approach the computer with a determined glare in your eye, turn on the computer, radio and the TNC. Insert the disk and start typing in the commands that the program understands. (This is where you yell "HELP!") The veteran who tricked (encouraged) you into getting on packet gives you a hand on how to go about using the software you are using. Believe me, it is not an impossible thing to do. (The check's in the mail?) In a matter of minutes you are on the air with all the rest of us crazies. Oh yes... typing skills are not required. The hunt and peck technique works just fine. If you only knew how long it took me to type this article!

I can sit here at the computer, like I am at this moment, typing away in this word processor and my trusty 2 meter radio and TNC are sitting here doing packet duty. The TNC is storing all activity on the frequency, including any messages being dropped into my "mailbox." When I am through here, I will pop back to the packet program and take a look at what's been happening.

Many hams have set up bulletin boards for packet use. Bulletins of general or special interest are on these boards for us to read. We can also leave messages for other stations on these boards and retrieve messages left for us. Also, we can leave a message on the board for a station in another city. The operator of the bulletin board will automatically forward the message. (If handling instructions are known) There are hundreds of other facets of this activity, some of which you will never use but many you will.

Do you remember the big fires in Yellowstone Park last summer? Several of the Montana guys had an 80 meter net in operation during most of the ordeal; a net control usually in Helena, where Forest Service personnel were coordinating

efforts, and stations all over Montana and Wyoming. Cooke City and Silver Gate were two towns that suffered effects from the devastation. I monitored much of the activity and on one evening, I heard net control calling for any Billings station for assistance regarding equipment needed in Cooke City. No one responded. I fired up the packet station and digipeated my way up to Billings; putting out a general call for any Billings ham. One of the locals responded and I asked him to get somebody activated on 80 meters. Less than a minute later, I heard a Billings ham come up on 80 and was able to care for the matter. Hmmm... packet was able to be used for something useful. I believe packet (and AMTOR) can be used for the handling of messages of missionaries in distant lands on the HF frequencies. There are international groups on HF daily working each other. I have monitored some of the activity. Ecuador talking with Germany. Brazil working Great Britain... all the expected DXing but without error and without accent. Packet will not take the place of the other modes but can enhance the reliable handling of traffic world-wide.

If you would like to get an idea what a "packet" sounds like, tune your 2 meter rig to 145.01. A little of this noise goes a long way so do not expect to listen too long.

The demonstration given at the conference was well attended and, for me, very enjoyable. The site was situated behind some hills so an action-filled demonstration was not possible due to line-of-sight limitations. We were able to get a glance at some activity on a 70 cm frequency where some message forwarding takes place. The station I assembled for the ARMS group was the Kaypro computer, ICOM IC-3200, and the Kantronics KPC-2 TNC. Admittedly the 1/4 wave mag mount antenna left a lot to be desired but.....

Packet has been enjoyable the last couple years and I expect the future will be also. I look forward to seeing some of you on the screen.

Mike Rafferty, KEØFN

DISCONNECTED

Following are excerpts from a letter from the Director of the HCJB Engineering Center, Elkhart, Indiana

HCJB Engineering Center

Greetings from the HCJB Engineering Center in Elkhart, Indiana. A beautiful promise of God states:

*As long as the earth endures, seedtime and harvest,
cold and heat, summer and winter,
day and night will never cease. (Genesis 8:22).*

And we have sensed His presence, guidance, patience and strength in our lives through each day.

It has been many months since you have heard from us, but we have continued to thank God for you, your faithful prayers and financial support for the transmitter project and for the engineering team.

Testing individual transmitter components began in May,
(Continued on page 9)

Minutes of the Business Meeting AMATEUR RADIO MISSIONARY SERVICE

June 24, 1989

Charlie Cox, K7AQ, Chairman

The business meeting of the 1989 Convention was called to order by the Chairman at 10:23 a.m., Mountain Day Light Time in Classroom "E" of the Foothills Conference Center at Morrison, Colorado. Garold Van Engen, KAØFZG, led the group in opening prayer. Seventeen ARMS members were present to sign the roster.

The minutes of the meeting of June 25, 1988 were read and approved.

The Treasurer's Report submitted by Harry M. Campbell, KK4CB, was read. It was moved, seconded and carried to approve the report.

The Chairman commended the members of the Rocky Mountain Section for diligence in the preparation of the plans and the ironing out of the details, and for the leadership that made the Convention a delightful success.

The Chairman also brought a report on the vacation trip that he and wife, Emily, had just finished, indicating that he had opportunity for eyeball contact with a number of Section Directors and some of the officers of ARMS. He had opportunities to observe some of the Section Nets in action, and he feels that the Amateur Radio Missionary Service is healthy and is operating well. He also had an opportunity to visit with Leonard Van Saun, K2RJQ, one of the former officers of ARMS who is now retired. This was a rewarding experience. Also, there were opportunities to visit with a couple of the other officers of ARMS.

It appears that good communication has been established between the mission fields and the U.S. homeland. The Halo Net and the I.M.R.A. net are examples.

It was reported that Gordon Pearce, VE7GHP, has some health problems. This should be a matter of our prayer concern.

It was noted that individuals become ARMS members and then become inactive in a short time and that some missionaries returning from the field drop their membership upon their arrival at home.

Our purpose is to provide communication for the missionaries and others to and from the various mission fields; and since this is being accomplished, the nets have become a tool primarily for fellowship. While this is good, we do need to look for ways to be helpful to missionaries by supplying technology and moral support whenever it is possible. Also, there is need for equipment and materials on the mission fields. Financial support is easy to handle and transmit to the fields, while it is more difficult to acquire and deliver radio equipment to missionaries servicing overseas.

It was also mentioned that people in our churches need to be challenged by our enthusiasm. It is a real treat for a missionary on the field to get a contact with relatives at home, and we need to be ready to help.



Attendees at the Business Meeting L-R Front - K7AQ, WB6DAS, KEØFN. Back KØGAZ, KØUED, WØETA, KØQBA, KØOAV, WAØLUV, WØQCB, NØICT, NØDRE, WBØNCN

It was suggested that it might be well for ARMS to again carry an advertisement in Worldradio at an estimated cost of \$12.00 per year. No action was taken at this point.

SECTION REPORTS

Eastern Section - Charlie Cox, K7AQ. The Eastern Section is well and prospering. We had an opportunity to check in while visiting that area.

Central Section - Charlie Cox. The Central Section is active and enthusiastic. We checked in on this one also.

Midwest Section - Jay Sudenga, KØGAZ, and Dan Nordell, WAØLUV. There are about a dozen active members checking in weekly.

Northwest Section - Charlie Cox. Moving slowly, but active.

Rocky Mountain Section - Chuck Brockmeyer, WØETA. This section was inactive for some time, but is trying to get back to regular activity. They have a few new members. An amateur radio class was conducted, and they are excited.

Reports were not received from the Southeast, South Central, and Southwest Sections or from Canada.

It was suggested that we use 3.907 MHz as the ARMS frequency when making 75-meter contacts.

Chuck Brockmeyer, BEAM Editor, pointed out the need for articles for the BEAM. As a matter of uniformity, information lists will appear in the BEAM on Page 2; Missionary Schedules and Contacts on Page 4; and the Directory Update on Page 5. The BEAM is the glue that holds our group together. Send whatever material you have to the Editor.

It was suggested that we may be able to support a specific project with ARMS funds with an amount up to \$2,000.00. A specific project was not mentioned. It was moved and seconded to approve the support of a project during the current year in the amount of \$2,000.00 with funds from the ARMS Treasury. Motion Carried.

Continued on next page

It was moved and seconded to thank and commend the members of the Rocky Mountain Section for the capable preparation and direction of the 1989 convention. Motion carried by unanimous vote.

After some discussion it was suggested that the members of the Eastern Section should be encouraged to host the 1990 convention. A convention at Elkhart, Indiana was also suggested; however, this would involve the Central Section.

Meeting adjourned.

John Z. Treanor – NØDRE, Secretary

(Continued from page 1)

Expanding Our Vision

George has had some very interesting experiences and is very knowledgeable of the ins and outs of amateur radio. He was licensed as WV2NIX when he was in high school and joined the Navy in 1962 at age 17. He took training at Great Lakes as a fire control technician. Some of the churches which were located close to the training facilities had developed a program called "weekend at home" where some of the families would invite Navy trainees to spend a weekend with them and attend services in their church. George spent some weekends in one of the homes and as a result of hearing the word of God preached, he became a Christian in 1963. He was assigned to duty in San Diego and became part of a group known as Servicemen for Christ from 1965 until his tour of duty was completed in 1968.

George enrolled at Dallas Bible College in 1969 where he met Kay. He attended San Francisco Baptist Seminary in 1970 and he and Kay were married in 1971. They worked for several years in Christian Servicemen's work and were instrumental in establishing two churches in San Diego. They adopted their son, Ben, in 1976.

On Sunday morning Pastor Ted Veers reminded us that we are in a spiritual war. He warned us that our country and our society has taken to a peacetime mentality. Ted compared our time to the time of the Judges, the last half of the last verse; "every man did that which was right in his own eyes." He also referred to the words of Stephen, just before he was stoned to death.

We were reminded that prayer is a weapon of war and we should ask ourselves, "Who is my commander?"

The conference ended on this note and the attendees helped take down the Field Day station and then packed up their belongings and proceeded on to visit friends, enjoy God's beautiful creation and return home. We thank God for the opportunity to learn of these missionary challenges and to "Expand Our Vision" in terms of prayer, service and dedication for the tasks Christ has given each one of us.

Chuck, WØETA



L to R seated – Roe Huey, Timmie Brockmeyer, Mary Rafferty, Dottie Sudenga, and Ruth Van Engen. Standing Barbara Berggren, Emily Cox and Sharane Brockmeyer at the Ladies meeting in the Lodge. (Ida Treanor took the picture.)

(Continued from page 7)

and the audio amplifier (modulator) tested in July at reduced power, using a tape of Chuck Swindoll's gospel message as program material. The project team was thrilled with the loud, clear signal. Early in September the radio frequency power amplifier was tested and operated at 25,000 watts without problems. Very encouraged and thankful with the good operation, the staff has moved ahead with more tests, increasing the power to the 100,000-watt goal.

It is wonderful to see something you have worked on for almost two and a half years coming to completion. It took more than a thousand drawings (we used to call them blue-prints) done on a computer, and the more complex designs are done in seven colors so one can keep overlapping parts separate.

There are three computers in the transmitter itself. One of these is the heart and brain of the transmitter, controlling all of its various functions. It turns it on, turns it off, and tunes various electronic circuits within the transmitter to keep the best possible signal going out to the listener. It continually logs the different meter readings and interprets them. If it sees something change, it alerts the operator to the problem that is developing.

A spiderweb of sensors reaching different areas of the transmitter is similar to the nervous system in the human body. These sensors see, hear, and smell problems that can cause serious damage to very costly components and put us off the air for many hours if the problem is not detected quickly.

Photodetectors are the sensors that see minute flashes of invisible or visible light like lightning flashes when something goes wrong. The ones that we say hear are called inductive pickup coils that sense the heard and unheard noise that high voltage breakdown makes. The ones that smell are heat and smoke sensors. If temperatures rise above a certain point or smoke or fire is evident, they send signals to the computer which tell the transmitter to shut down.

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Jack, KØUED and Roe Huey, Duane, WBØNCN, and Jan Mullet and Dan Nordell, WAØLUV. Have you ever tried to get salad dressing out of one of those perma-seal packages? Watch how Jan does it!



Success! She turned the problem over to Duane!



Roe and Jack each take up the salad dressing challenge.



Here we catch Van and Ruth Van Engen fighting to see who is going to open that package of salad dressing. Sharane Brockmeyer and Jay Sudenga, KØGAZ, have either solved the problem or have not yet begun.



Ida Treanor injured her thumb on the first try, but is now ready to try with the other hand. John, NØDRE, hasn't decided if he wants salad dressing and Walt Guderian, NØICT has solved the problem by not having salad!



Karen and Mike, WB6DAS, Brinks appear to know something the rest of us are not aware of. They are not even aware of salad dressing.



Malinda and Ted Veer appear to remember a similar situation from previous activities and are deciding whether to play the game or cancel out.



Al, WAØNRH, and Ellen Stewart appear to have figured it all out or were perhaps in on the plot. They are enjoying the activities.



Barb and Don Berggren have a firm grip on the silverware just in case they have to resort to puncturing that salad dressing container with a fork or a knife! If the dressing ever shows!



George Goolde and Timmie Brockmeyer watch with amusement as others try to get to the salad dressing. Chuck Brockmeyer, WØETA, appears to be in conversation with a cucumber.

(Continued from page 9)

When any of these systems cause the transmitter to shut down, the computer indicates exactly where the problem is so a technician can easily make repairs.

We still need about two months to test the transmitter on all the different operating frequencies, simulate problems to verify that all the protective sensors work properly, measure its efficiency, and fine tune the adjustments for smooth operation. The mechanical and electrical drawings need to be updated, and the operation and maintenance manuals completed.

Far Eastern Broadcasting Company (FEBC) missionaries Dean and Bev Brubaker joined the HCJB engineering staff in August, and Cal and T.J. Donner, missionaries with Trans World Radio, have moved to Elkhart to work with the project team as well. Another TWR couple will arrive in 1990. We thank God for the cooperation between Christian international broadcasters, joining forces to more effectively and efficiently

reach the world with the gospel via shortwave radio.

Work on welding the frames, fabricating parts and ordering special items for five more 100,000-watt transmitters has begun. These will be built simultaneously and designed for use by HCJB, FEBC and TWR.

Several prayer requests are urgent! As a Canadian citizen, I need to have my working visa renewed before January 26, 1990. We are applying for immigrant status in order to avoid this pressure every so often. Please pray that this procedure would move quickly with as little stress as possible.

God has brought a terrific group of people here to function in the design and construction of these innovative transmitters. A few of the missionaries are lacking in their monthly support and are operating with deficit accounts. This not only concerns the individual missionaries, but it affects the mission also.

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Thank you for praying with us in these matters, and thank you again for your faithful giving to bring others to the Lord by means of international shortwave radio outreach. May you know God's blessing and care in these days.

Serving to the glory of God, David Pasechnik, Director,
HCJB Engineering Center. ■ • • ■

**If you think I'm slow,
look behind me!**

Recently seen Bumper Sticker

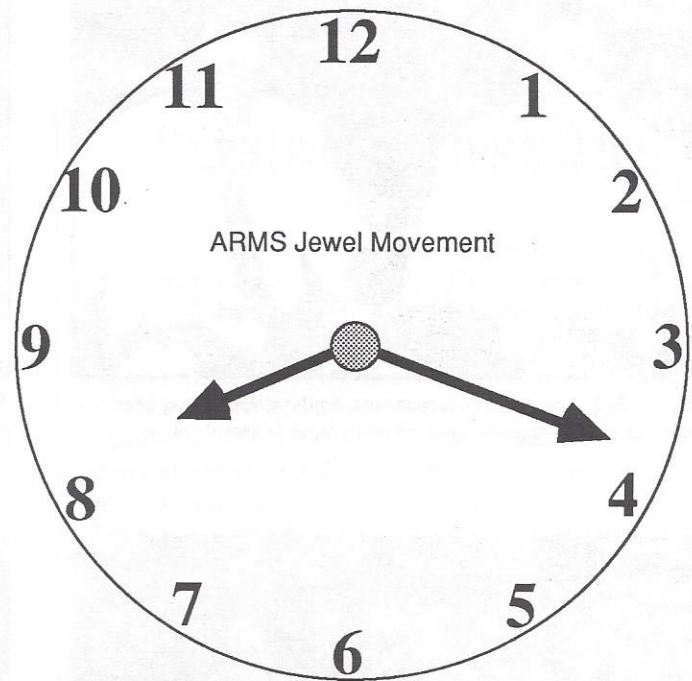
Mama Mouse and Baby Mouse are out for a walk and are cornered by a huge cat. Mama pushes Baby behind her, looks the cat squarely in the eye and barks, "Woof! Woof! Woof!" The cat turns and scampers off. Mama turns to Baby and says: "Now you see why I keep telling you to learn a second language."

AMATEUR RADIO MISSIONARY SERVICE

7135 South Sherman
Littleton, CO 80122

ORA P. GIFFORD KE7BF
708 HILLCREST
GRANDVIEW , WA 98930

Time Clock



What other kind is there?

