CENTRAL OKLAHOMA RADIO AMATEURS
COLLECTOR AND EMITTER
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INDEX

TELECONFERENCE A HUGE SUCCESS

Edmond Amateur Radio Club's 147.63/.03 repeater took part in an international teleconference on March 3. Over 60 repeaters in the United States and Canada were connected via telephone system teleconference to Mr. Vic Clark, W4KFC, President of the American Radio Relay League. Mr. Clark's topic of conversation was on the future of amateur radio.

Locally, due to efforts by Art Roberts, W1GOM, ARRL's Section Communications Manager for the State of Oklahoma, and Dennis Orcutt, WB5ISN, EARC's Station Trustee, the '03 machine was interconnected by telephone into the teleconference net. Orcutt, Chief Engineer at KOFM Radio in Oklahoma City, availed the station's patch, audio mixing and recording facilities into the spare audio input of the Advanced Computer Control's RC-850 Repeater Controller. Audio quality throughout the teleconference was excellent, due to the audio shaping and enhancement of the studio board and the controller. The repeater's transmitter was disabled throughout the teleconference, since our circuit was a listen-only system.

Eighteen of the teleconference's repeaters were two-way, allowing Mr. Clark to field questions from the amateur public. Many questions were asked in the session, which lasted over two hours.

Ron Cron, WA5EAI, and Art Roberts, W1GOM, provided an extra cooling fan to force air into the '03 transmitter. Rack doors were opened and air was circulated as much as possible to insure trouble-free transmission of the lengthy session. Trustee Orcutt reported the transmitter pumped out a constant one hundred twenty watts into the DB-224 antenna at nine hundred and sixty feet, blanketing central Oklahoma with the largest interconnection of amateur radio in its history. Amateur response was large after the net session, with reports from all over the main coverage area, expressing thanks and also technical appreciation of the tremendous task of assembling such a network.

The Teleconference Net was sponsored by the Honeywell Amateur Radio Club in Minneapolis, Minn. Net Control Operator for the conference was Rick, WØTN, in Minneapolis. Mr. Clark's interconnect was from his home's easy chair. WØTN reported that thanks were due to Republic Airlines in Minneapolis, and the Gerome Connection in Chicago for the multi-point teleconference bridge which made the entire program possible. The Honeywell club has sponsored previous teleconferences in the past, but the W4KFC program is the largest yet undertaken.

President Clark's discussion was divided into three major sections, with time for questions and answers at the end of each session. The topics were: (1) The Institution of Amateur Radio, (2) The Regulations Under Which We Operate, and (3) The Technology of Amateur Radio. Clark's opening statements were primarily public relations for the ARRL, promoting its value as the only organization with amateur radio as its prime responsibility. WARC and IARU responsibility in the world and in our future was mentioned. Clark's main point here was to "work together" in the promotion and participation of amateur radio.

ARRL's Clark said that the FCC's NPRM on the no-code license (See March, '83 QST and Collector and Emitter) has prompted a strong and emotional response from the majority of radio amateurs. Clark said, "We (ARRL) see code proficiency as a valuable demonstration of practical communications ability that serves as a screen or a filter to bar unmotivated and undisciplined individuals from gaining entrance to amateur radio."

Mr. Clark urged amateurs to provide response to the Notice of Proposed Rulemaking through well-reasoned arguments either for or against the proposal. The simple "me-too" response of "I'm for it," or "I'm against it," or a signed petition of many amateurs will not carry as much weight with the Commission or with the ARRL Directors. Whether an amateur is a member of ARRL or not, comments should be filed with the Commission and the Division Director of the League. (Our Division Director is Ray Wangler, W5EDZ).

Other topics along this same line included the FCC's intended implementation of the Volunteer Examiner's Program, whereby testing for all classes of license in the Amateur Service are to be given by FCC approved volunteer examiners. (See past issues of QST for more information on this subject)

W4KFC also touched upon subband allocations for the twenty meter band and future phone allocations in other HF bands which should be implemented in the near future.

Many more topics, questions, and answers were part of the teleconference, and neither time nor space will allow further coverage of this event.

The Edmond Amateur Radio Club, Inc., was proud to present the teleconference, which was arranged at the last minute. Not much time was left to do much publicity about the event. Hopefully, the Club will be able to participate in further gatherings and may have two way facilities in the future. The next teleconference net will be held June 2, and the topic of the discussion will be on antennas.

If there are any suggestions, questions, or recommendations on future hookups, please contact a member of the EARC with your ideas. Let us know if you want another teleconference.

Cassette tapes of the W4KFC Teleconference can be made from our master tape. Please contact Dennis Orcutt, WB5ISN, Trustee, for further details.

Additional infonation on page 25

FLASH! At presstime, club president Mark Northcutt, WD5DYI was about to announce a breakthrough in emergency power for your AC needs. It involves a Handi-talkie wall charger and your trusty talkie. Carefully pry apart your wall charger case and reverse the diodes behind the transformer. Then, plug-in your charger to your talkie. Since the diodes are reversed, power will flow in the opposite direction, giving a small amount of AC. Care must be taken to cover the AC prongs, because with the step-up action of the transformer, dangerous AC voltages will be present on the exposed prongs. Remember, your talkie's battery will drain quickly, so conserve as much AC as possible. This is not reccommended to run major appliances such as ovens, refrigerators, or air conditioners, but small fans, 100 watt SSB rigs, or trouble-lights should work fine. Mark is working on a marketing scheme to sell conversion kits through Heathkit franchises as soon as the device is patented. Good Luck, Mark!

CORA COMMENTS

Ham Holiday 83 is off to a good start. It will be at the Myriad again this year. Don W5SJV and his committee checked a number of places and found that the Myriad is by far the best location. Parking will be the same as last year. Plenty of space below the Myriad at the usual rates and nearby street parking is close by.

On Friday the registration desk will open at 5:00pm. Eyeball QSO s, QLF Contest and QRM Contest will be held in the registration area. Snack bar will be open. Come on out have fun - meet the gang- pick up registration packet so you wont have wait in line Saturday.

On Saturday the flea market will open at 9:00. Those who reserved a table on their preregistration can set up starting at 7:30 if they have their registration badge. The registration desk will open at 7:30.

The Saturday night banquet and dance will be at the Quality Inn, a few blocks east of the Myriad at Eastern and Reno. We feel these facilities will be a lot nicer for the dinner and they have a wood dance floor. Awards and door prize[s] will be presented at the banquet the live band will begin playing at 9:00. plan on an evening of fun. Ice chests not allowed but a ticket bar will be open for refreshments

Sunday will be as last year. Commercial dealers and part of the fleamarket will be open Sunday. Most of the flea market area will be vacated Sunday morning and set up for the main drawing which will be in that area.

Ted WD5JNT

Rain and snow was forcast for the Tuesday meeting of CORA. A pretty good group showed up anyway to see how preparations for Ham Holiday were going. Facilities, Publicity and Ladies committies reported that everything was under control and plans were moving smoothly. The weather probably kept the Program commitee from making it but word was that they were doing fine and had most of the programs planned, "nailed down".

Mac, K2GKK, isn't up on computers, dealers, etc. and needs some help with computer dealers. It was suggested that this would be a good project for COCO!

All pre- and post- registration rules were firmed up and they and a pre-registration form will be found in this issue.

Parking under the Myriad will be $2.00 for each time you enter - if there is an attendant on duty both early and late.

The Buffet/Dance looks like it will be a fun night, good food and a good dance band (live) will back up a Ticket Bar. Some of the awards will be made at the Buffet.

A novel approach to the pre-registration award this year is to offer the awardee his choice of a TRS-80 Color Computer or a Kenwood TR 7950 2 meter mobil rig, thus letting the lucky person to "talk or compute".

If a computer bug ends up with the Grand Award, a Kenwood TS 430-S, we will probably have another ham in the fraternity - they just can't resist.

If you see something on the two page registration form and details that needs correcting let us know so changes can be made.

Joe, WA5ZNF

THESE CORA MEMBER CLUBS PROMOTE AMATEUR RADIO

1 AERONAUTICAL CENTER ARC
MEETS: 8:00pm First Friday. Flight Standards Bldg., FAA, S. Macarthur

PR	K5LDI	Tom Mangham	677-5291
VP	AF5X	Jess McKenzie	329-1543
SE	KA5JCX	John Mooney	794-8519
TR	K5RJR	Larry Norheis	798-9629
EDITOR: John Mooney, KA5JCX			794-8519

2 OKLAHOMA CENTRAL VHF CLUB
MEETS: 10:00am Third Saturday. Red Cross. 10th & Hudson(Back door) Okla City.

PR	WA5HTL	Paul Asplin	787-4286
VP	KD5IS	Jerry Wetmore	524-5080
SE	K5JB	Joe Buswell	732-0676
TR	W5KE	Ellard Foster	789-6702
EDITOR: Joe Buswell, K5JB			732-0676

3 MID-OKLAHOMA REPEATOR, Inc.
MEETS: 8:00pm First Tuesday. Okla City EOC. 1600 N Eastern

PR	N5EVP	Bob Allen	Unlisted
VP	KD5DL	Holly Stewart	
SE	KA5CXW	Fred Taylor	528-1537
TR	N5KOZ	Sid Gerber	737-1050
EDITOR: Susie Atkinson, KA5FED			842-8014

4 OKLAHOMA CITY AUTOPATCH ASSOCIATION
MEETS: 7:30pm Third Tuesday. Okla City Fire Training Center. 800 N Portland

PR	N5IH	Henry Israel	722-3848
VP	K2GKK	D. C. Macdonald	672-4947
SE	WB5NDO	Kathy Whited	799-1427
TR	K5GL	Guy Liebmann	787-9545
EDITOR: "Mac" Macdonald, K2GKK			672-4947

5 OKLAHOMA UNIVERSITY AMATEUR RADIO CLUB
MEETS: 7:00pm Second Tuesday(Sep-May) 119 Wilson Center. 1334 S Jenkins

PR	KE5N	John Wustenberg	325-2262
VP			
S/T	KA5LZN	Greg Smith	325-3218
EDITOR: Greg Smith, KA5LZN			325-3218

6 ALTUS AREA AMATEUR RADIO ASSOCIATION
MEETS: 7:30pm Second Thursday
North Main Fire Station (CD) Altus

PR	KA5MPK	Gary Alexander	482-0857
VP			
S/T	KA6RTX	Bill Flattery	482-1155
EDITOR: Bill Flattery, KA6RTX			482-1155

7 BICENTENNIAL (76ers) ARC
MEETS: 7:00pm Second Tuesday. OG&E Bldg. SE 3rd & E. K. Gaylord Blvd.

PR	N5BFD	Jim Hopkins	947-0043
VP	WD5JNT	Ted Vanlaningham	262-1675
SE	N5AUH	Jerry Sproul	354-2061
TR	WB5VBE	Dale Moore	721-6142
EDITOR: Bruce Goff, KC5CR			751-6276

9 WHEATSTRAW AMATEUR RADIO CLUB
MEETS: 2:30pm Second Sunday. Location varies. See club section.

PR	KA5FUU	Tom Johnson(El Reno)	262-5631
VP	KA5DUO	Leo Peil (Canton)	886-2996
S/T	WA5PFK	Ralph Wilder(Watonga)	623-4521
EDITOR: George Maschino, K5GGL			263-7614

12 SHAWNEE AMATEUR RADIO CLUB
MEETS: 8:00pm Second & Fourth Tuesday
Shawnee City Hall (EOC)

PR	KD5NX	Jay Tingler	273-3033
VP	N5CGZ	David Stanley	273-4226
S/T	W5TQZ	Herbert Holton	598-5934
EDITOR: Earl Couch, WB5ZBA			589-3212

13 KAY COUNTY AMATEUR RADIO CLUB
MEETS: 7:00pm Third Thursday
Ponca City EOC

PR	WA5UBO	Marsh Pronneke	363-2526
VP	WB5NQT	Pat Burnham	765-7229
S/T	WB5YRN	Delbert Foiles	762-4479
EDITOR: Tony Congram, WD5EAA			405-363-2217

14 CIMMARON AMATEUR RADIO ASSOCIATION
MEETS: 7:00pm Second and Fourth Tuesdays. Place varies. See club section.

PR	KI5P	Major Bailey	227-2061
VP	WB5ECM	Dennis Painton	764-3599
S/T	N5FMH	Nadine Painton	764-3599
EDITOR: Jack Day, N5FMQ			

15 SOUTH CANADIAN AMATEUR RADIO SOCIETY
MEETS: 9:30am Second Saturday. Red Cross Bldg., North OU Campus. Norman

PR	K5KDR	Bill Oliver	329-1311
VP	KA5MIZ	Bob Rabin	360-6996
SE	KA5EFJ	Ken Neptune	321-7789
TR	WD5GTC	Gene Johnson	321-6759
EDITOR: Sam Barrett, WA5RPP			321-2601

16 EDMOND AMATEUR RADIO CLUB
MEETS: 7:00pm First Thursday. See club section for location and type.

PR	WD5DYI	Mark Northcutt	755-4672
VP	WB5MLX	Glen Cochran	942-7148
S/T	WB5UIY	Stan Van Nort	Unlisted
EDITOR: Stan Van Nort, WB5UIY			

18 GREAT PLAINS AMATEUR RADIO CLUB
MEETS: 7:30pm First Tuesday
Civil Defense room, Woodward courthouse.

PR	WBOPGD	Ron Tice	994-2138
VP	KOCIC	Larry Ellis	(316) 582-2889
SE	WBOQGW	Carla Tice	994-2138
TR	NC5C	Gerry Ford	256-5382
EDITOR: Carla Tice, WBOQGW			994-2138

19 SOUTHEAST OKLAHOMA AMATEUR RADIO ASSN.
MEETS: 7:30pm Second Monday. Location varies, contact a club officer.

PR	WB5TTU	Ron Henson	326-5418
VP	WB5ULI	George Weldon	326-5672
S/T	WD5FUE	Orville Kaley	326-3650
EDITOR: Ron Henson, WB5TTU			326-5418

20 ARDMORE AMATEUR RADIO CLUB
MEETS: 8:00pm First Wed. Red Cross Bldg. Informal, 8:00pm other Weds. 221 9th NW

PR	W5HJ	Tom Banks	226-3350
VP	WB5VBK	Fred Innis	223-1709
SE	WA5YOM	Tim Vandagriff	223-3582
TR	W5BLW	Charles Dibrell	226-0589
EDITOR: John Merlyn, WD5FZD			223-9543

CENTRAL OKLAHOMA RADIO AMATEURS, Inc.
MEETS: 7:30pm Fourth Tuesday. OKC Fire Training Center. 800 N Portland

PR	WD5JNT	Ted Vanlaningham	262-1675
VP	K2GKK	D. C. Macdnald	672-4947
SE	N5BEQ	Jim Buswell	236-0368
TR	K5GGL	George Maschino	263-7614

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Q. R. Zedd

ZEDD TO WED TONDELAYO, THE LUCKY GIRL!

In a social announcement that stunned the world and sent Womens Wear Daily into a veritable tizzy, the parents of Tondelayo Schwartz, blonde, nubile, 20-year-old QSL secretary to the great Q. R. Zedd, told the world this week that Tondelayo will marry the great DXer in June.

The wedding is scheduled for Honor Roll ranch, just a hoot and a holler south of Norman, scene of some of Zedd's greatest DXing feats and the recent site of his great showdown with Bill Blast, proprietor of the famed Blast Off DX Net.

The date is June 18, the time 9 a.m.

The announcement, which was played as the lead story on all three major networks' evening news programs, came from Tondelayo's parents in the famous resort city of Moose, Okla.

"We are just so thrilled," Mrs. Schwartz burbled, dabbing at her eyes with a handkerchief. "We always knew Tondelayo would do well, but we never dreamed she would catch the greatest, finest, truest DXer ever lived."

"He's a good old boy," Mr. Schwartz, a retired floppydisk coater, added. "I'm a CBer myself, but I know genius when I see it, and he is IT."

Rumors had flown for months, growing more frequent and insistent as Zedd's DX activities seemed to trail off and he was seen mooning around Tondelayo's electronic keyer and sighing over her logbook entries. Only last month, Zedd's mother, Mrs. Constance Wilhemena Zedd, of Mena, Ark., speculated that things could be getting serious between the pair.

Over the years Zedd's name was linked with many famous and beautiful women, including Theda Bara, the incomparable Mae Bush, Mae West, and Dame May Whittey. It was once reported by an infamous Hollywood scandal sheet that there were more reasons than met the eye for his employment as an electronics consultant for the "Bolero" segments of the motion picture "10." Zedd was said to be the Elmer for Marilyn Monroe when she passed her Novice test in 1955 and an embarrassed FCC promptly gave her a General Class license on the grounds that she was no novice.

Contacted in the jungles of Sumatra, where he was taking a brief DX vacation, Zedd said via high-speed CW, "GLD CNFM RPT ES VY HPPY TO SAY MARRYING TOND IN JN BT BT UR 599 599 JUNGLE CAMP SUMATRA, QSL? BK"

Tondelayo was not available for immediate comment. She was said to be in New York, picking out her trousseau and new rigs for the honeymoon junket.

Blast, famous west coast DXer whom a few fools consider a big dog, commented, "I am glad for old Q. R. I hope she keeps him so busy he misses a few contests. That's off the record."

Boris Badenov, Russian DX star who locked horns with Zedd in the last RadioSport and at Ham Holiday in Oklahoma City, cabled his comments as follows:

IS GOOD THING FOR DX WORLD GET ZEDD MARRIED STOP WILL MAKE HIM HAVE TO WORK FOR LIVING LIKE RUSSIAN SUPERSTARS WHO ARE ALL IN ARMY IN PLACES LIKE AFGHANISTAN MAKING WORLD SAFE FOR COMMUNISM STOP I WILL HONOR THIS WEDDING WITH MY PRESENCE STOP I HOPE HIS HAPPINESS WILL NEVER STOP STOP

IS SIGNING WORLD'S GREATEST DXER BADENOV STOP

PS NATASHA SAYS SHE WILL COME TOO AND IF ANYONE GET SMART STICK THEM WITH HER KNIFE STOP HAVE OREOS AND COORS READY STOP

No word had yet been received by other radio notables such as Dingfod Armstrong and Bill Buckeye.

Reaction elsewhere was staggering. In London, a beautiful stage actress and DXer, Constance LaRance, threw herself from her fortieth floor hotel window and probably would have been seriously hurt had shenot fallen directly on a passing Toyota. In Tokyo, a famous radio company announced a kilowatt transceiver to be sold to commemorate the wedding. It will be called the ZT (for Zedd and Tondelayo) 103. And in Washington, the president said he hopes the couple will be very happy, and stay the nuptial course.

"I'm so thrilled I could just croak," said Zedd's mother, Mrs. C.W. Zedd of Mena, Ark. "That sly devil! I knew they were doing more in that radio room than working BV2A!"

Mrs. Zedd said she would be at the wedding with bells on. She cancelled plans to compete in the world big bike races in Rangoon, and said she would come to Norman from Arkansas on her Kawasaki 1000, rain or shine. "The way I drive it," she joked, "no raindrops could catch me."

Rumors about a preacher for the ceremony were already rampant. It was known that the Zedd family has been in touch with Rev. Billy Graham, and for music the Mormon Tabernacle Choir has already issued a press release saying it is available.

More details were coming forth by the hour, but the demands of pressure journalism, as practiced at the C&E, precluded later deadlines. We can only say editorially that Tondelayo is, of course, a mighty lucky girl. We await honeymoon plans with bated breath.

-- KU5B

Believing that what DX has brought together no person should mess with,

And with faith in true love and an abiding belief in the CW requirement for amateur radio licenses,

Mr. and Mrs. Herman Schwartz, of Moose, Okla., proudly announce the impending wedding of their nubile, 20-year-old daughter,

TONDELAYO SCHWARTZ,

to the right hon. only holder of a modern 1x1 callsign, A5A,

Q. R. ZEDD,

son of the late Zepp Zedd (of DX fame) and Constance Wilhemina Zedd, of Mena, Arkansas,

with holy nuptials to be held

SATURDAY, JUNE 18, 1983,

at 0900 local

at Honor Roll Ranch,

just a hoot and a holler south of town.

You are invited.

RSVP

AERONAUTICAL CENTER AMATEUR RADIO CLUB, INC.

W5PAA

The following are the February minutes of the ACARC that failed to be published in the March C&E due to a mistake on my part. My apologies.

John KA5JCX

February Minutes
ACARC

The February meeting of the ACARC was called to order at 7:30 PM on Friday February 11, 1983 by President Tom Mangham K5LDI. Tom announced that Bob Pace WB5CJG has been appointed Station Manager of W5PAA for the upcoming year and that the March meeting was rescheduled for March 11, 1983 at 8:00.

Donald Rooker K5SJV gave the CORA report consisting of the following information about Ham Holiday:

- This year's banquet and dance will be held at the Quality Inn at Reno and Eastern.
- The Sheraton is going to reserve 50 rooms for Ham Holiday.
- Flea market table rates will be $1.00 for the first table and $5.00 for each additional table with preregistration or $5.00 per table without preregistration.

After the CORA report Tom turned the meeting over to Bill Brodie K3TGY. Bill gave a very informative and interesting presentation on the subject of "Computer Controlled Satellite Tracking". Thanks Bill. Bill completed his presentation at 8:40 PM and as there was no old or new business, the meeting was adjourned for coffee doughnuts and conversation.

John Mooney KA5JCX
Secretary ACARC

March Minutes
ACARC

The March meeting of the ACARC was called to order by President Thomas Mangham K5LDI on March 11,1983 at 8:00 PM.

After introductions, Donald Rooker K5SJV gave the CORA report. John Mooney KA5JCX read the minutes of the February meeting which were voted approved as read and Larry Vorheis K5RJR gave the Treasurer's report which was also approved. Bob Pace WB5CJG then made a status report on the new repeater.

It was announced that the Lawton Hamfest would be held on the 16th and 17th of April at the Montego Bay Motel in Lawton and that the Pawhuska Hamclub was going to have a Hamfest on April 2nd (Pawhuska repeater I/O is 146.985/.385).

President Thomas Mangham K5LDI then announced the rescheduling of the April meeting for Friday April 8, 1983 at 8:00 PM. It was explained that this was done to avoid conflict with the Easter weekend religious observances.

The meeting was then turned over to Jerry Sparks N5AVO and Craig Burson PLATO who gave the evening program on PLATO Computer Based Instruction. The program was greatly enjoyed by all.

At 9:30 PM, the meeting was adjourned for coffee and doughnuts.

John R. Mooney KA5JCX
Secretary ACARC

W5PAA NOTES

I heard some fellow trying to make a patch on the repeater the other day. The patch was unsuccessful. Another patron of the repeater offerred to help with the call, and the ensuing conversation was rather interesting. It seems the amateur trying to make the call couldn't understand why he failed. He was in a moving automobile using a handheld with rubber ducky antenna, he was located on Meridian North, in a low area, and he was on low power because his batteries were margiral (he thought) and didn't want to overtax them. Oh yes, he also mentioned in passing that he was behind a building which might have some effect on his signals.

This is a true story. I wrote down all the reasons listed above just as he gave them on the air to the other station.

Almost every day there are attempts made to use the phone patch that don't work out. There is a lot of discussion concerning whether or not tones are right, and modulation values correct, etc. There is no doubt that some elements of those problems enter in to the situation. We especially know that since making the move. "Ma" Bell's decoders were off, and our on-the-ball technical group caught it. However, most of our patch problems are a direct function of signal strength. There is no reliable way for an operator to gauge his own signal quality into the repeater. However, it should be obvious that if you aren't hearing the repeater absoultely full quieting, then you probably aren't getting back into it any better. After all, the repeater sits out here running 40 or 50 watts to a 6db gain antenna at about 90 feet AGL. If you can't hear that signal clearly, then how do you expect the repeater to hear you with a unity gain antenna running a couple of watts against a marginal (if any) ground plane. VHF propagation is such that a signal can go from full quieting into the repeater to no-signal almost instantaneously when the signal is radiating from a moving platform. That's is so even in prime signal areas; especially when the transmitted signal is in the milliwatt range.

So, when you are out there, using a handheld, trying to access the W5PAA/R patch, and get rejected, it may not always be the equipment...It might be a little "Operator Problem" as well.

\+ + + +

Speaking of operator problems, it probably won't hurt to restate a couple of procedural conventions with respect to W5PAA/R. First, when accessing the patch identification with W5PAA/R needs to be made at the beginning, and at the end of the patch using the calling stations sign. Secondly, it is still a pretty good operating convention to report on to the repeater, or into an on-going conversation with your call-sign instead of the word "BREAK" which should be reserved (ON-FM VHF) for urgent traffic.

73- Rob AAØO

GIVE AWAY

Tom Mangham K5LDI has a 6 foot equipment rack that he will give to the first person to call him. His phone number is 677-5291.

I'm currently in the process of verifying my records and would appreciate it if you would fill out the below questionaire and either mail it to me or forward it by whatever means available to you (except carrier pigeon).

Thanks

John KA5JCX

NAME _____ CALL _____
STREET _____
CITY _____ STATE ___ ZIP ____
ARRL MEMBER? _____
FULL/ASSOC MEMBER? _____
TYPE LICENSE _____

MAIL TO:

ACARC
Postal Station 18
Oklahoma City
Okla. 73169

THE BIG SIGNAL NEWS

OKLAHOMA CITY AUTOPATCH ASSOCIATION, INC.

NEXT MEETING:

(3rd Tuesday)

19 April 1983

The April OCAPA meeting on 19 April will actually be two separate meetings. Both will be held at the OKC Fire Department Training Center on Portland Avenue between NW 10th Street and Reno Avenue.

The first session will start about 1800 and will be for setting deviation and microphone gain on your FM transceiver. You MUST bring your own manual and tools needed to open your equipment up for adjustment. This special session can only be held if the weather is good. The test equipment for these tests and adjustments is extremely expensive and does not take kindly to rain.

The second session will be the regular meeting and will start at 1930. A program will be presented on the trials and tribulations of the Navassa Island DXpedition.

Our March meeting had its program scrubbed at the last minute. Art Roberts (W1GOM) the new ARRL Section Manager for Oklahoma was to have briefed us on the new ARRL Field Organization structures and functions. The program will be rescheduled. Our deepest sympathies are extended to Art and Jane Roberts on the passing of Jane's father.

This item is probably too much of a late-breaker for timely publication but here it is; past or future. The National Weather Service at Will Rogers Airport has scheduled an Open House for area radio amateurs on the 28th of March. Hours for the Open House are 1300-1500 and 1900-2100. Any changes will be (will have been) passed on 82,21, and other area repeaters.

Speaking of weather, a new service to area hams is now in operation. For the rest of the "Storm Season" Frank McCollum (N5FM) or an alternate will obtain a daily condition report from NWS at about 1400. Frank will transmit this information as a bulletin on 146.82 and then on 147.21. Frank often gets a later update later in the day which he announces around 1600 or so. A National Weather Service Forecast Office letter from Meteorologist-in-Charge (MIC) Ken Crawford to his staff is re-printed with permission elsewhere in this issue. The bulletins will be announced at about 1400 through the "Storm Season" unless public media reports make it obvious that severe weather is unlikely.

"Official" sessions of the Central Oklahoma Severe Storms Warning Net will be recorded for later review if necessary and these recordings will be filed.

The Oklahoma City Autopatch Association is proud to announce the establishment of an annual Public Service Recognition Award. There are still a few details to be finalized but the basic structure for the award has been set. This award, to be presented at Ham Holiday, will be for contributions to the Public Interest, Convenience, Or Necessity (PICON) within the State of Oklahoma. The act(s) MUST be directly related to amateur radio activities and should not be of a compensated nature. Membership in OCAPA is not required of the nominees or the nominators. Nominations should be addressed to the OCAPA Secretary and should contain full justification for the nomination. The OCAPA Executive Board will be the sole judge of the merits of all nominations and may, if it chooses, reject any or all of the nominations in a given year if the service(s) cited do not meet the board's judgment for adequacy. Members of the OCAPA Executive Board are ineligible for this award. If you have a nominee in mind, please submit your nomination by 1 July. The initial award will be given in 1983 at Ham Holiday if it is justified.

OCAPA welcomes the following new or re-activated members to our club:

N 5BUH	Jay Watkins
KA5ETA	Bob Moore
W 3HPW	John Harlin
KA5NAV	Linda Moore
WA5REC	Mark Adams

AUCTION TIME: Last year's auction was so well received, we are going to do it again at the May meeting. Everyone is invited to attend. The rules remain just about the same as before. The seller will pay a 10% commission on the actual auction sale price. Seller must pay the commission in cash (please try to have the change). The seller may specify a minimum acceptable bid. If the bidding does not reach this minimum, the seller will pay a commission of 5% of the specified minimum bid. Payment for all items sold at auction is to be arranged between buyer and seller. OCAPA assumes no responsibility for condition or performance of any item sold at auction, regardless of source. All items to be auctioned must be registered with the auction committee and labelled by owners before 1900 according to committee rules. Put masking tape on cabinets, cord, box, bag, etc. All unsold items must be removed by the owners after the auction is completed. OCAPA will accept donations of items for auction until 1900. The auction committee reserves the right to accept or deny the offer of any item offered by donation. As some amateurs will not sell amateur transmitting equipment without proof of valid licens, it might be advisable to have yours with you.

Field Day is not as far off as you may think. Are any members interested in a Field Day effort this year? OCAPA has an Emergency Communications Trailer which has not been baptized yet. If an emergency requiring the use of this equipment arose, we have virtually nobody that knows how to use the equipment. We desperately need preparation and training. 1983 Field Day would be a good opportunity for a trial run (if it's not already too late by then. Let your officers know if you are interested.

Are there any other activities in which you would like to participate with your club? These could be ham or non-ham doings and would not necessarily be in conjunction with the regular club meeting. Picnics, pizza parties, hidden transmitter hunts, a Saturday or Sunday convoy to an out-of-town rib joint, Mexican/Chinese/Japanese/Whatever restaraunt, expedition to some town or county in Oklahoma with few or no hams? Let's have some ideas and get some action!!!!

We are looking forward to seeing you (or meeting you) at future meetings. We have some good programs coming up and we try to keep the business portion of meetings to a minimum. Even if you are not a member, you are invited to attend. Our meetings are open to anyone who is genuinely interested in amateur radio.

Best regards until next time,

K2GKK/5

FOR SALE: ICOM IC-730 HF/SSB Transceiver. ICOM AH-1 HF Mobile Bandswitching Antenna. Yaesu FT-625RD 6 Mtr. ICOM IC-4AT UHF Talkie. Yaesu FT-404R UHF Talkie. Phone: 691-1070. Reuben. Wd5FTF.

WANTED: EIMAC 8877/3CX1500 tube. Prefer new but will consider used. Must be reasonably priced. K2GKK/5, Mac, Phone 405-672-4947.

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL WEATHER SERVICE - Forecast Office
P.O. Box 59997
Oklahoma City, OK 73159

March 16, 1983

TO: Staff, WSFQ OKC

FROM: Ken Crawford, MIC

SUBJECT: Daily Weather Briefings for the Oklahoma Amateur Radio Network

During the past several weeks I have interacted with our Amateur Radio friends in an attempt to know them better and to streamline their operations within our office. A first step toward this spring's operations will involve a daily meteorological briefing. Here are the details:

(1) Frank McCollom will call our office each day around 2 p.m.

(2) He (or his alternate) will identify himself as the "Amateur Emergency Coordinator" and will ask the public forecaster for a brief synopsis.

(3) I would like for each of you to provide a reasonably detailed briefing lasting between 30 seconds and 2 minutes. You may be somewhat technical in your discussion. A briefing might go something like this:

> Dpng sfc low nw CDS with dry line extndg swd into w TX and stnry fntl bndry xtndg newd acrs nwrn OK. Sfc low xpctd to mov enewd acrs srn OK durg the eve in response to stg upr lvl impulse ovr cntrl NM. Sfc low and dry line shud interact with moist unstbl ams to the east with tstms dvlpg swrn OK and likely bcmg svr over s cntrl OK arnd snst. Accordingly, we would like the Amateurs to set up operations by 4:30 p.m.

(4) This briefing will be patched onto the Amateur Radio Network of central Oklahoma. As such, we should find ourselves briefing much of the Amateur and spotter networks in our area with this one call. Hopefully, this call will save many and set the stage for operations by assisting the Amateurs with their own plans and employment demands.

(5) The Amateurs would like our best judgement: do we need them that day or not? If so, about when? By telling them of a 20% chance of thunderstorms I think places an unfair burden on their shoulders. Their social and worklives revolve a great deal around service to us. Lets help minimize any stress on our Amateurs by assisting them with this decision.

(6) If severe weather is expected before this 2 p.m. briefing, our Amateurs can be alerted by a call to the Amateur on standby. A list of Amateurs and phone numbers by day of the week will be posted soon.

I know you realize how valuable our Amateur friends are in service to the NWS. They are a dedicated bunch who deserve our support. Lets give it to them.

Of course if any problems develop, please do not hesitate to pass them on. An FIC/Supervisor's meeting will be held on the morning of April 5. If fine tuning is needed, that meeting would be a forum to iron out problems that arise.

cc: DMIC
WPM

+ +

+ +

Kay COUNTY ARC

EDITOR; Tony Congram, WD5EAA

Greetings from Kay County, and from your new acting editor. The proverbial "freight train" moved through last meeting and caught me unaware; so here I am. Maybe I shouldn't have asked Marsh to place those ads for me.

A good crowd was on hand for our last meeting on March 17th. Several new faces were on hand, as well as a number of fellows that we hadn't seen in a while. Rick Long, WD4CEP, presented a very informative program on various communication decoder devices. I'm sure that his information and handouts will open the door to some exciting and useful projects for us all. Thanks Rick.

New Novices & Upgrades --
Wow, no shortage of new novices and upgrades lately. New novices we've gotten wind of recently include Chuck Bell - KA5PYR, Dr. Paul David KA5PYG, and John Reed KA5QEP. In February, five of our club members accepted the challenge of the FCC tests and won! Yes, 100% success. Those upgrading included Bob - KA5PTP, Curtis - KA5PWM, Dave - WN5LUI, Glen - KA5PUB, and Vernon - N5ANV.
Our hearty congratulations to all. Let's all make a special effort to get to know these folks and invite them to become an active part of our club.

HAPPENINGS:
Wednesday, March 30, 7 p.m. - Neil Marchbanks presents the annual Kay County SKYWARN meeting in Ponca City.

April Meeting - Thursday, the 21st, 7 p.m. at Pioneer Motor Bank. Be on hand for this exciting meeting which will present our local ham-computer enthusiasts, demonstrating their wares and capabilities. Whether it's your bag or not, computers promise to be the most noteworthy force in ham radio in the years ahead. Let's all see what they're doing now.

May is election month in Kay County - mark your calendar now for the 3rd Thursday so that you can make sure you will be there to defend yourself!

WORK PARTIES - Keep your ears open. Weather permitting Marsh - WA5UBO, will be mustering forces for work on the club truck. Also, we are trying to round up a tower for installation at Western Kay County Red Cross Hdqs. in Blackwell.

SPRING WX NOTES:
Well, it looks like we got through the winter without any severe blizzards, and spring is finally on the way. As usual, the weathermen, soothsayers, moon gazers, almanac readers, and wooly-worm watchers are all coming up with different predictions for the severity of this year's weather.

Regardless of forecasts, this is the high-potential time of year for severe weather, and we hams have a responsibility to be ready to respond effectively. A few areas we have been working on lately include:

1. More reliable links with the NWS in OkC (or Wichita?) during severe WX in North Central OK.
2. Improved relations with C.D. and Public Safety Officials throughout the county.
3. Improved contacts with local Red Cross officials.
4. Outfitting and equipping a donated 4WD truck to serve as a mobile A.R.E.S. command post.

The local Blackwell "Moon-Maid" is saying a quiet Spring ahead - I hope she is right.

73 de WD5EAA

ALTUS AREA AMATEUR RADIO ASSOCIATION

On an evening almost too cold for thunderstorms, Altus area hams and members of Altus and surrounding communities gathered inside the Altus Municipal Auditorium for a Weather Watch Seminar. Mr. Neil Marchbanks of the National Weather Service (Oklahoma City) made an outstanding presentation which lasted a long two and a half hours. I noticed the Girl Scouts gave up about 9 PM. This presentation took the place of the regularly scheduled meeting which would have been at 1930hrs, 10 March 1983.

I would guess there were about 200 citizens who turned out. About 50 were amateur radio operators and their families. One thing I have noticed, the local hams like to eat ice cream and hamburgers twice a year and they like to talk about the weather.

A few announcements were made by the club secretary afterwards. Other than that, no other noteworthy things have happened, that I am aware of. Again, thanks to the Jackson County Civil Defense and the Altus EOC Director. I do hope that information is correct.

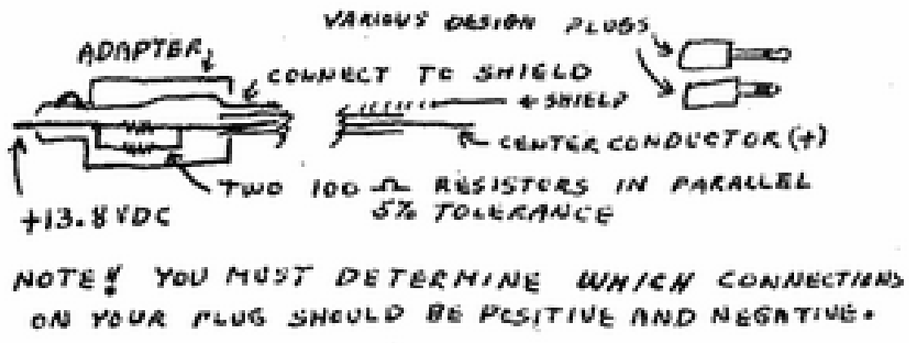
All of you folks who venture out to watch the weather, please be careful. We hope to see you next month, 14 April 1983, North Main Fire Station, Altus, Oklahoma.

This month's article is quite short, so I thought a handy tip might be helpful to you. Most of the handie talkies have a small jack that is used for external charging, of the nicad batteries. For those of you who use your HT for mobile operation, and have no means for recharging your batteries, than this is for you. The nicad standard cell voltage is 1.2vdc. When the cell is fully charged, this voltage is 1.4 to 1.45vdc. What I am about to describe is a small trickle charger that will actually allow you to use your radio for continuous receive and moderate periods of transmission.

Here is how to do it. Assume a battery pack rated 9.6vdc. Divide by 1.2vdc and you find you have eight cells. Multiply this by 1.45vdc and you will get 11.6vdc. The nicad float charge is about 10% of the battery amp hour rating. In this case, 450 to 500milliamp hours is standard. Therefore, your charge current should be about 50ma at 11.6vdc. Your automobile is normally 13.8vdc when charging. This leaves 2.2vdc difference. You now have two constants: 2.2vdc and 50ma. Using Ohm's law, E/I = R, R = 44ohms. E X I = P = 0.1w. Next, you will need a cigarette lighter adapter, two 100ohm 1/4watt resistors, a plug to fit your radio jack, and a small length of single conductor, shielded audio cable(outside insulated). Find a large enough adapter so the resistors will fit inside and then drill some air holes so they can "breathe".

Put all this together and you will have your own mobile HT charger. Please note that I substituted 100 ohm resistors for 90 ohms as the 100's are easier to get. It is better to have a little more resistance than not enough. When you begin to transmit, the battery voltage will drop some. When that happens, the charging current will increase to help replenish what has been used. As the battery is recharged, the charge rate will once again taper off to about 50 ma. I cannot assume any responsibility for any mishap that might occur while using this apparatus, however, I have used it on several long trips and it has worked very well. Until next month, 73's.

Bill KA6RTX



Club
NEWS

MINUTES OF MARCH MEETING

Meeting was called to order by President Paul, WA5HTL, with 13 members and guests present.

Ellard, W5KE, gave Treasurer's report and CORA report, the latter with some help from Joe, WA5ZNF, who just got through typesetting the details.

Meeting ajourned at 10:23 (15 minute meeting) and we got on with the Amateur Radio Technique workshop, coffee and donuts. Joe, K5JB Sec'y

WHERE IS CHARLIE'S POST HOLE DIGGER?

Po old Charlie, WA5JGU, Good hearted, generous and forgetful...

He asked that a question be put in the C&E asking whoever borrowed his post hole digger, if they would try and remember who they are and bring it back to Charlie. K5JB

A.R.T. WORKSHOP

The first Amateur radio Technique workshop was a lot of fun. Several members and guests showed up after the business meeting and participated in the thing. I neglected to count noses but we had a fairly good number and excellent quality in the group. The first A.R.T. workshop was on HF wire antennas. Since the weather was kinda lousy, we didn't go out on the roof but made the blackboard serve as a substitute.

The next workshop will be on power supplies. The question asked was regarding high power switching with triacs (like in light dimmers). I have no experience with the things, but may be able to find someone by next meeting to give us some insight into the things. We will be able to cover most other regulated power supplies and maybe some of the switching type with no sweat. Maybe we can talk C.Y. into covering automobile batteries.

We will be covering antennas many more times. (We didn't even mention Krause's book, much less read the introduction...) K5JB

RTTY - A MODERN APPROACH

Thanks to Bob, WB5NSV, I finally started on an idea that I got several years ago while working on Happy Flyers' direction finders. A little IC used in the things, EXAR XR2211, is intended to be a demodulator for frequency shifted keying, like in teleprinting. As a convenience for area amateurs, Bob obtained some circuit boards for the circuit published in July 1981 ham radio by WA3PLC. I got one of the boards from Bob and literally threw one together in an hour and had it on the air. My rig already has TTL compatible FSK circuit on the transmit side so I didn't put the modulator together. I guess the purpose of this article is to review the earlier article and compare the performance with my lod TU which is and old discriminator design using 88 mH toroids and a bunch of transistors.

The basic demodulator circuit shown in figure 1 is part of the circuit in the hr article, with some additions provided with the board. Bob had some documention with the boards but he decided to see how I would go at it blind and he gave me some clues to the changes from the magazine article. Since there are two circuit diagrams floating around, I will be fair and use a third one, with component designations from the XR2211 application note.

The original circuit was designed to operate with a receiver having a cw filter and the audio center frequency of 750 Hz. The circuit performed as advertised on that frequency but I had two problems using it there. I wanted to be able to copy the commercials using 850 Hz shift and my best transceiver has a RTTY filter with audio response up in the 2100 to 2900 Hz range. I made a few modifications to have my cake and eat it too.

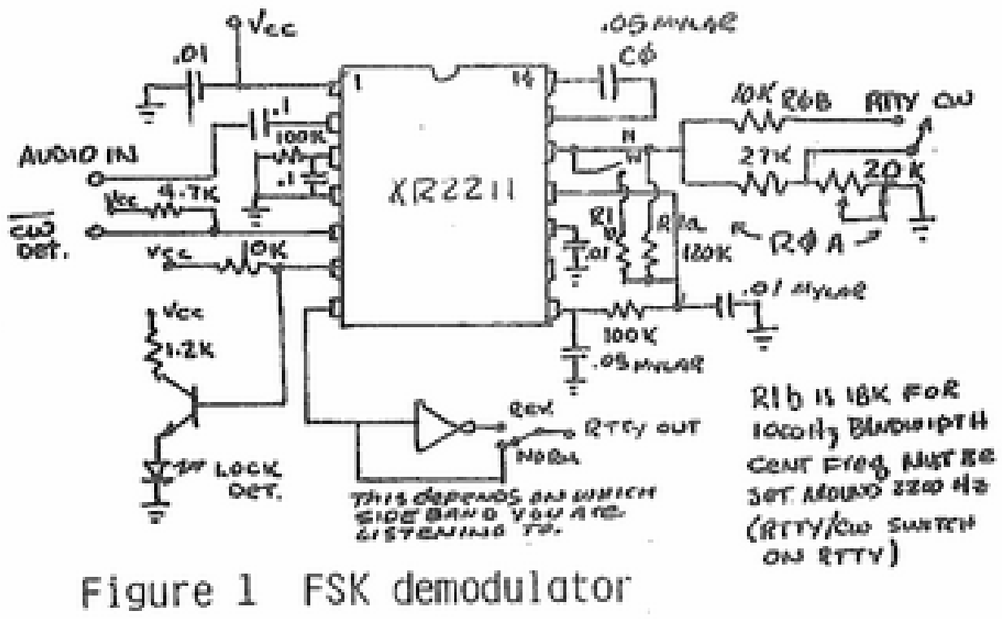


Figure 1 FSK demodulator

I discovered that the little circuit makes a pretty good CW detector also if the lock detector pins are pressed into use. One of them is being used as a tuning diode driver, and I used the other one as a TTL CW detector. For this application, the 750 Hz filter center frequency is a good idea so I left R0a in the circuit and added the switch and R0b. R1a is the original resistor that establishes the bandwidth (lock range) at approximately 170 Hz.

The thing works on a phase locked loop principle. When a signal in its capture range is detected, it puts its internal oscillator in lock step with the incoming signal. If the incoming signal changes frequency, the internal phase comparator detects this change, moves the local oscillator as necessary to keep it in step, and internal logic circuits create an output signal that can be fed serially to the printer or serial device. In my earlier experiments with RTTY I thought a phase lock loop circuit like a 567 would make a cute tuning indicator but, in my interpretation of the data sheet, I didn't think it would achieve lock quick enough to do a reliable decoding job. There is no question about the lock speed of the XR2211. I copied some code in the 50 wpm range with it and the lock indicator wasn't having any trouble following the dots at that speed, which must be about 25 ms per dot, or in the order of 45 baud baudot code (22 ms elements). I played around until I found some operators sending 110 baud ASCII and the little bugger tripped along at that speed without at hit. That's 9 ms per code element, and that ain't bad folks. Actually, on FSK, the 2211 stays in lock, particularly if the sending station is sending coherent code and it is a whole different ball game than when a signal is first received and the PLL has to make a giant leap to get in lock with the incoming signal.

Another problem I expected failed to materialize. I figured that if the XR2211 was subjected to typical HF radio noise conditions it would go bonkers. The filtering in the receiver took care of most of the out-of-band noise and only when signals took a fade did I have any trouble decoding. Sometimes, I could still hear the signal faintly and the decoder was baffled. I thought I remembered the old TU copying right down into the noise. To refresh my memory, I fired up the thing and found it wasn't as good as I remembered, maybe because it hasn't been used in maybe 3 or 4 years. Actually, I think the old mechanical machines are probably a little better than the computers at decoding the serial data because a noise spike has to have enough duration to pull in a magnet. In the software I am using on the computer, it is only looking for a tiny bit of time for the presence of a signal and if a noise spike is there at that instant, the speedy computer runs with it.

The old discriminator type TU still has a lot of merit so I thought this would be a good time to discuss one a little. The circuit diagram below shows the L/C parts of the circuit I have used, and a little bit, in concept, of the detector which would follow it.

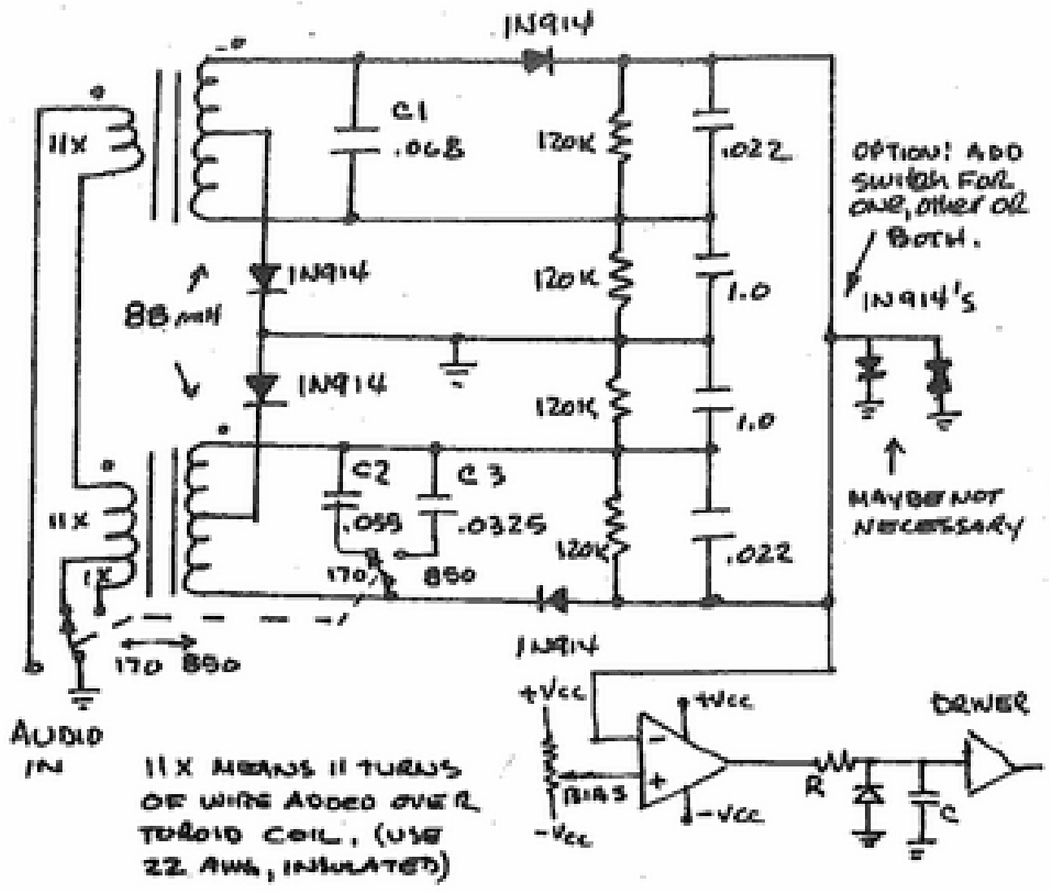


Fig. 2. Discriminator Type Demodulator

The two transformers are 88 mH toroids with primary turns added to provide a low impedance for receiver audio. The tapped turns and switch connections on the lower transformer are to provide better balance between high and low tones. (Sense is important in both primary and secondary windings; they must be series aiding. Don't work? Try reversing one of the winding's connections.) With this type of discriminator, signals are fed into the tuned circuit without limiting. The bandwidths of each tuned circuits does not have to be too terribly narrow because the detector is comparing the relative strengths of the signals resonating each filter.

The capacitors, C1, C2, and C3, have to be experimentally selected. The values shown are good for starters. They must be mylar, or other stable types. In circuits like this, it is sometimes necessary to pick capacitors slightly high in value and remove turns from the coils, as necessary, to bring the tuned circuits into resonance. I wasn't too careful in the one I built and it seemed to work fine. (There was a time or two that the old TU was used to copy RTTY art, requiring copy to be perfect for as long as two hours.) The only adjustment that would need to be made to this version of the circuit is the adjustment of the op-amp bias control. That could be done by feeding a weak signal into the thing by adjusting the receiver volume control until the output of the detector is delivering valid data. The bias control should be set just high enough that with no signal, background noise is not doing a lot of triggering of the second op-amp output.

Some buffering might be desirable to get a better quality TTL signal. I haven't built this thing but for our kind of RTTY, I would start by adding an RC time constant of around 2 or 3 ms between this detector and a TTL driver to take out some of the spikes that might occur from noise bursts.

Right now I am wondering why I am bothering to describe an updated, but old fashioned L/C RTTY demodulator when the XR2211 seems to be operating so well. I guess I am just a little suspicious of the new fangled things! Just ask N5MS about how I sniffed about his dtmf decoder. (Now I think it is about the niftiest decoder I have used.) I have had only a couple of hours to play with the XR2211 demodulator and I guess my confidence will improve as I give it some workout. Joe, K5JB

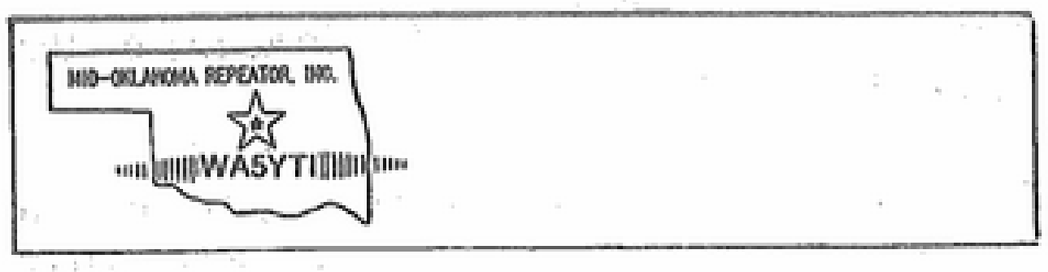
S T R E T C H It Out a Little

I was just visited by Joe, WA5ZNF, who came by to see the automated C&E column writer at work. He sez, "It's so smart, I bet it would put a little more space between the lines. Why don't you try it?" I sez, "But, I can't put as much drivel on a page that way!" He sez, "White space increases readership!", or something like that. So, we thought we would give it a try and see how it looks when it is reduced.

Actually, I just got back from a typewriter swap fest with Tom, WA5TSJ, and wound up not only with a smarter typewriter, but one that would space a line and a half. I always thought it would be a good idea to have such a feature, in fact, Jim Greenshields, WD5HPU, the typewriter wizard of Norman had suggested it but I kept procrastinating.

Tommy would get a laugh out of how I fired the thing up when I got home. Naturally I was in a hurry so I didn't take time to get a circuit together that had handshaking with the printer. The printer can only handle about 135 Baud but it has a 96 character buffer. My handy dandy modem driver can run 110 or 300 baud. 110 is a little slow. The clutch would be engaging with each character. 300 is a little fast. The 96 character buffer would be over-run quickly. The solution: Add 75 nulls after each carriage return. It did the job! Now that this page is typed, it is time to get serious and get that handshaking in order for the next issue. (This is sure a painless way to crank out stuff for the old C&E.)

Joe, K5JB



My first report is a little about the March meeting. (this is not the minutes...) One of the main highlights was the the plaques given to some of the outstanding membera and the trustees; Merwin, K5ELL, Ken, K5VVZ, Joe, K5JB, Ron, WA5EAI and Sid, W5KOZ. I agree that these guys have really put a lot of time and great effort into our club for many years. I also think that everyone in MORI plays a special and important part.

There was discussion about "HH-83" which will be here very soon -- in fact just a few months away. June, N5ARV, and Fred, KA5CXW, will be in charge of getting prizes for the ladies, arranging programs and entertainment for them and a representation of MORI, but if any of you have some ideas for programs, etc., contact one of our CORA representatives, Henry, N5IH, Mack, K2GKK, Reggie, WN5NWX, Art, W1GOM (and Jane), Judy, KA5BJS or Kathy, WB5NDO for any assistance, information, etc. I am sure they will be glad to hear from you.

Several people have asked me if I knew when FCC is coming to OKC again. (First I wuld like to thank Don, K5SJV for supplying me with the information and distribution of schedules to anyone that wanted them). This year something different will happen. To begin with, there are two days in May (10/11) and October (25/26) so that the ones who are unable to make it and/or an overflow of people taking their exams on Tuesday may have the opportunity to take it on Wednesday and hopefully no one will be left out. So be sure to notice the date they send back to you (usually in red or a check mark beside the right day) and don't get them confused and also be sure to tell your boss that you might have to take off the 2nd Wednesday instead (that is if you are trying to make plans ahead of time. BE SURE THAT YOU HAVE YOUR 610 FORM AND SCHEDULE WITH YOU ON THE DATE OF THE EXAM).

Art Roberts, W1GOM, Section Mamager for ARRL discussed and brought to the club many benefits if MORI becomes affiliated with ARRL. We are only required to have 51 percent of our members also ARRL members. On the last roster we had 52 percent.

Stew, KD5DL, our Vice-President discussed and brought to our attention the NO-CODE proposal and asked the membership if they would prefer to handle it on an individual basis or as a letter from the entire club, it was tabled until the next meeting so the mebership can obtain any additional information from amateur publications (See last months C&E for extensive coverage).

There are several activities ahead for the remainder of the year, and it is barely one fourth over, but I would like to encourage everyone that can to be a participant and support your favorite club(s). I am!

Sorry to report that the repeater is down at this time and has a few problems, but by the time this is in print, it should be in fine shape and also hope the weather improves. (Just a little house repeater cleaning).

Just scanning a little -- I was sure glad that Ken and Rosemary Eason made it back from their trip to Hawaii. I heard they took about 250 color slides so maybe we can get a sneak preview --- OK? (Also, thanks for the post cards). Also, looks like our Pres and his wife are really doing some "swinging" -- they recently graduated from a Square Dancing class, and June has been real busy making all kinds of outfits for them, and yards and yards of ruffles -- I wonder if they will give us a demonstration at MORI or wherever. It would probably be a very interesting program

As I read the C&E I notice the litle sayings --- YOU'VE HAD A BAD DAY, WHEN.. or YOU ARE GETTING OLDER WHEN, Etc., I just

Continued next column →

wanted to add a comment, sort of on the same lines, but it goes like this:

NEXT TIME SOMEONE POINTS HIS FINGER
AT YOU FOR DOING SOMETHING WRONG,
JUST REMEMBER THAT PERSON
HAS THREE FINGERS POINTING
BACK AT HIM . .

You might think about this sometime or the next time it happens...

SECRETARY MINUTES:

VIVA LA DINNER MEETINGS! LETS ALL TIE A STRING AROUND OUR FINGER TO JOIN THE LADIES FOR MORE OF THE SAME LATER... OUR MARCH 1 MEETING AT THE FAMILIAR STOMPING GROUNDS..THE OKLA CITY EOC WAS WELL ATTENDED..AN OVERFLOW, YET...

BOB ALLEN OUR PREXY OPENED THE MEETING WITH A WELCOME TO ALL MEMBERS. WE INTRODUCED OURSELVES, AND OUR GUESTS. I ADD THAT THE FOLLOWING AMATEURS HAVE JOINED US SINCE NEW YEARS.. KA5ETA, WOGAJ, K5GLH, W5HMT, W5IST, WB5ISN, KA5MDI, W7QIN, AND WD5ZKW. WELCOME!

THE MEETING CONTINUED WITH THE TREASURERS REPORT NOTING $1029.42 on hand. DISCUSSION OF POSSIBLE AFILIATION WITH ARRL WAS APPROVED IF OVER 51% OF CLUB ARE ARRL MEMBERS.(NOTE: A CHECK BY KD5DL, KA5CXW & W1GOM REVEALED WE LACK 10% BEING ELIGIBLE.) LETS WORK ON THIS..

REPEATOR REPORTS FOLLOWED WITH K5VVZ, KEN DETAILING THE PROBLEMS OF THE 146.07/67. HE ESTIMATES THE MODERNIZATION WILL TAKE SEVERAL WEEKS. BOB, N5EPV URGES US TO CONSIDER THE ACC COMPUTER/CONTROLLER IN THE NEAR FUTURE, AND SAYS THAT MEANS TO OBTAIN THIS UNIT ARE UNDER STUDY.

A GOOD SHORT COURSE REGARDING THE 22/82 WEATHER NET WAS PRESENTED BY MAC, K2GKK.

K5SJV EXPLAINED THE SIREN TEST PROGRAM ON 34/94(N5BEQ) AND ASKED FOR MORE PARTICIPATION.

BOB, N5EPV PRESENTED PLAQUES TO THE FOLLOWING HONOREES WHO HAVE WORKED SO DILIGENTLY ON OUR BEHALF: K5JB-JOE; K5VRL-JIM; WA5EAI-RON;W5KOZ-SID; K5VVZ-KEN; AND K5ELL-MERWIN. THX GUYS...

DOOR PRIZES WERE DRAWN AND THE MEETING ENDED.

ON A SAD NOTE..SILENT KEYS:

BEN GARD WB5TFX, THE NIGHT OWL NET MANAGER FOR SEVERAL YEARS HAS PASSED ON . A DELEGATION OF KX5W DOC, KA5CXW FRED, N5BEQ JIM, KA5EAY RANDY, W5AS HOWARD, AND KD5IS JERRY TRAVELLED TO HOLDENVILLE LAST SATURDAY TO JOIN THE AMATEURS THERE WB5UBB WB5TYW AND OTHERS TO HONOR HIM. A SPECIAL TRIBUTE WAS THE SOLO BY DOC KX5W.

W5GDM WALTER COX WAS SILENT KEY ON 19 MARCH WE'LL MISS WALLY.

FRED KA5CXW

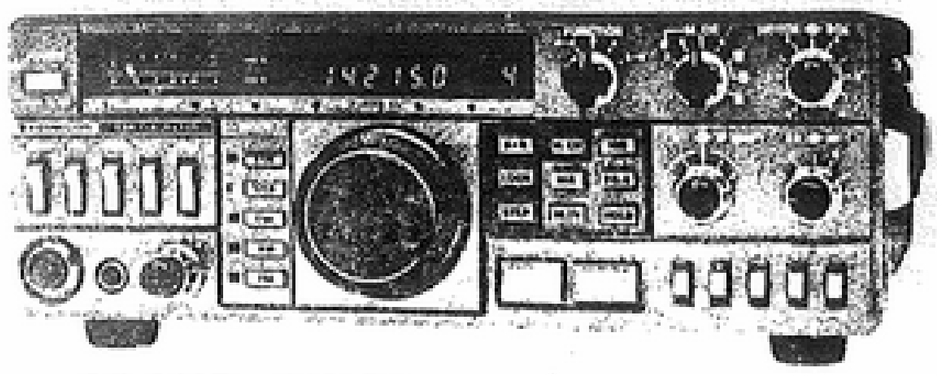
Art Roberts, W1GOM
SECTION MANAGER

Greetings to the OK Section.

I am sorry, but this months column will be short, due to a death in the family. I did want to announce two appointments made recently. These are for the new positions (in this section) of District Emergency Coordinator. The first is Frank McCollom, N5FM, DEC for the Oklahoma City metropolitan area. The next appointee is John Campbell, K5ENA, in Tulsa. John is the DEC for the Northeast quadrant. I am looking for recommendations from the Northwest, Southeast and Southwest quadrants. I hope by next month things will be back to normal. I will include the February traffic totals then. 73, W1GOM

- ***HAM HOLIDAY '83***
- ***COMPUTERFEST***
- ***ARRL STATE CONVENTION***

JULY 29,30,31



MUST BE PRESENT FOR ALL AWARDS*

GRAND AWARD - $1200 Value
KENWOOD TS 430 S & Power supply

PRE-REGISTRATION: $6.00 with attached form. All envelopes must be postmarked not later than July 17, 1983 to be eligible for the pre-registration awards. Registration packet with badges and tickets will be held at the door. No limit on number of tickets.No refunds or confirmations. Winner need not be present for this award only.

ADMISSION: $6.00 pre-registered; $7:00 at the door. (Same price as last year.) This price is for everyone attending - visitors, wives and teenagers - licensed or not. Children age 12 or under admitted free with parent, but are not eligible for awards. Badges must be worn as proof of registration for entry into any area, including exhibit hall, flea market, coffee lounge and banquet/dance.

FACILITIES: Ham Holiday activities, except buffet/dance, will take place in the northwest area of the Myriad Convention Center in downtown Oklahoma City (same as last year). All events on Friday will be held on the main floor while commercial exhibits are being set up. Security has been arranged to protect the area at night. Upstairs meeting rooms will be open all day Saturday for demonstrations, forums, and ladies programs. The Buffet/Dance Saturday night will be held at Quality Inn, Reno at I-40, a few blocks east of the Myriad.

PROGRAMS: Something to interest everyone. There will be the usual displays, forums and seminars and amateur oriented computer programs from beginning to advanced levels. There will be programs on DX, antennas, satelites, FM, alternate energy sources and many others. Special groups will hold meetings: ARRL, Night Owls, Oklahoma Repeater Society, SMIRK, MARS and CORA, to name a few. There will be QLF and QRM programs. The ladies will have plenty of interesting things to do.

FLEA MARKET: (Non-commercial only) Every pre-registrant may buy one table for $1.00. Additional tables listed on pre-registration form. The 30,000 sq. ft. area is indoors and airconditioned, with easy-access loading doors on Sheridan St. for setting up.

ACCOMODATIONS: The Sheraton Hotel, across the street, and the Quality Inn have offered reduced rates. Tell them you deserve the Ham Holiday rate.

AWARD POLICY: The winner and/or his ticket must be present to claim any award except the pre-registration award. You may sign your ticket for someone else to hold for you. Unclaimed registrations will not be deposited for the main drawing - only for the pre-registration drawing.

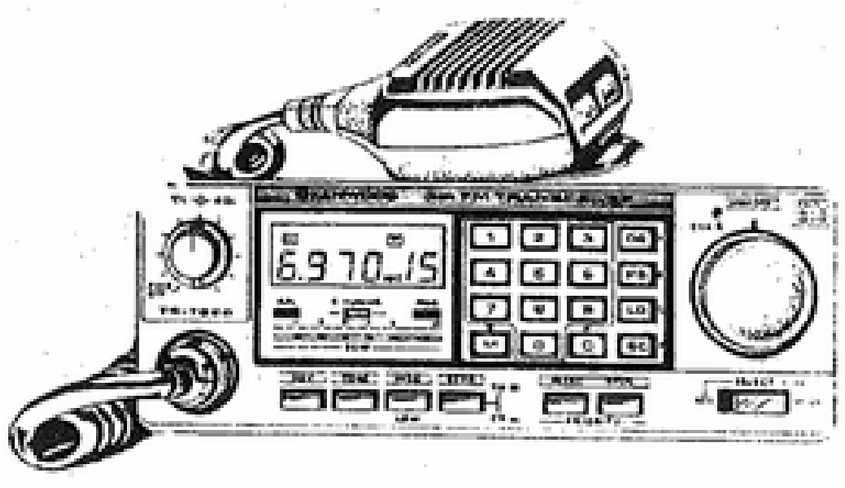
PARKING: Ample underground parking is available under the Myriad at their regular rates. In addition, there is substantial on-street and off-street parking close by.

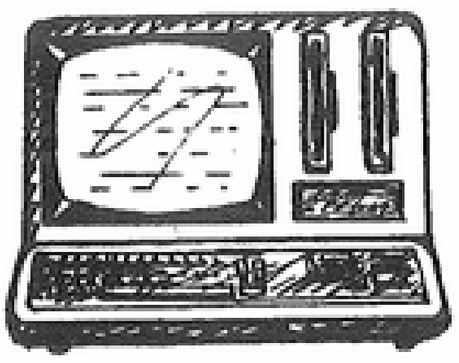
See Other Side

Preregistration Award
TAKE YOUR CHOICE

TRS-80 COLOR COMPUTER

OR KENWOOD TR 7950





Computerfest

H H '83

State Convention

CENTRAL OKLAHOMA RADIO AMATEURS

proudly invite everyone to attend

our *bigger* and *better*

HAM HOLIDAY '83

JULY 29,30,31

Myriad Convention Center
Downtown Oklahoma City

See Other Side

PRE-REGISTRATION DEADLINE: **Postmarked by July 17, to be eligible for Pre-registration award**

Registration packet will be held at the door. Please do not request refunds or confirmations.

USE THIS FORM TO PRE-REGISTER

You may buy as many registrations as you desire at $6.00 each. All participants and all guests over age 12 will be required to register to enter any area. Tickets at the door are more expensive, so pre-register the whole family!

Please pre-register ____ people (over 12) @ $6.00 ea $_____

Saturday Night Buffet & Dance _____people @ $11.00 ea Door Awards $_____

Dance ONLY Saturday Night ___SINGLE @ $3.00 ___COUPLE @ $5.00 $_____

ONE Flea Market Table @ $1.00 (Strictly Non-commercial) $_____

_____Additional Flea Market Tables @ $4.00 $_____

NOTE: Flea market tables not reserved on this form will be sold to door registrants @ $5.00 ea, subject to availability.

Reserve my table(s) for SATURDAY SUNDAY (Circle one or both)

Total amount enclosed $_____

Name _____ Call _____

Street/Box _____ Apt # _____

City _____ State _____ ZIP _____

Names of additional registrants, paid for above.

_____ Call _____

_____ Call _____

_____ Call _____

PLEASE INDICATE YOUR INTEREST IN: (how many?)

QCWA Breakfast, Downtown Holiday Inn Everyone Welcome YES NO

LADIES Saturday Luncheon & Fashion Show YES NO

Bus tour to shopping center, Walking Tour of Downtown YES NO

Make check/money order (No Cash Please) to CORA Ham Holiday and mail to:

CORA, P.O. Box 14268, Oklahoma City OK 73113 before July 17, 1983

The South Canadian Amateur Radio Society

The regular monthly business meeting of SCARS was not held this month because all of the members chose to pig out at FURRS Cafeteria instead. The member with the least excuse to forget the festivities (me!) forgot about it anyway. I type up the report of club happenings monthly and remind others about upcoming events, and I am one of the ones that forgot about the dinner. Shucks, I really enjoy those dinners.

Anyway, a few things were brought up informally at the "Regular Saturday Morning Coffee Drinkin' " that are of interest to the members of the club.

Several club members announced that they are going to petition to change the constitution of SCARS to allow club officers to succeed themselves in office for more than one term. In accordance with the prescribed method of amending the constitution, the proposed change will be voted on by club members at the next two successive meetings.

Other topics included: K5KDR gave a brief progress report on the new repeater. KA5EFJ is working to find a new site for the repeater. AF5X is revising the telephone tree. N5ALG has a new Kay-Pro computer. W5MCN is still in Texas visiting friends. WB5SKB was back in town for a short visit before returning to his new QTH in Missouri. W5OU is the new owner of yet another talkie, a Tempo S-5.

Also, Congratulations to KU5B, Jack, on being named to be the new Civil Defense Director for Cleveland County.

-wa5rpp-

√ This list shows the last call sign in each group to be assigned for each district, as of the first of March.

Dist.	A	B	C	D
Ø	KYØQ	KDØCW	NØENH	KAØPUF
1	KO1G	KB1GL	N1COR	KA1JZC
2	KZ2E	KC2XE	N2EDY	KA2RRD
3	KN3F	KC3GU	N3DHY	KA3KSE
4	WN4D	KF4TN	N4IKJ	KB4EHS
5	NF5A	KD5XI	N5FSP	KA5QFV
6	NT6G	KF6QA	N6IGS	KA6ZBF
7	NB7K	KD7HE	N7EZY	KA7POH
8	NA8T	KD8EG	N8ESS	KA8RUM
9	KU9O	KC9YK	N9DUK	KA9PDZ
HI	WH6H	AH6EP	KH6WU	WH6AVU
AK	WL7R	AL7EV	NL7AJ	WL7AZB

Space

UoSat OSCAR 9 has developed what appears to be a serious problem -- the University of Surrey crew attempted the deployment of the 50-foot magnetometer boom. Unfortunately, the package jammed after extending only 3 feet.

Phase IIIB launch (still subject to change) is now scheduled for June 3, 1983. AMSAT is planning a launch net, but the details will not be available for some time. We'll keep you posted.

√ The Virgin Islands QSL Bureau has been, essentially, out of business for some time. Due to the small number of users (and complaints), we hadn't realized the extent of the problem. Ed Turner, KV4BQ, and the Virgin Islands Amateur Radio Club have agreed to serve as the bureau. As soon as the club has a P.O. Box number, we'll give it to you.

CONDITION

CONDITION #1 — HEAVY RAIN (ONE HALF BLOCK VISIBILITY)

CONDITION #2 — HAIL (ANY SIZE)

CONDITION #3 — STRONG DAMAGING WIND (50 MPH OR MORE)

CONDITION #4 — CYCLONIC MOTION

CONDITION #5 — FUNNEL CLOUD (TORNADO ALOFT)

CONDITION #6 — TORNADO (ON GROUND)

NET CONTROL LOCATION: WARR ACRES POLICE DEPARTMENT
INPUT: 146.22 MC
OUTPUT: 146.82 MC

OCAPA

OKLAHOMA CITY, OKLA.

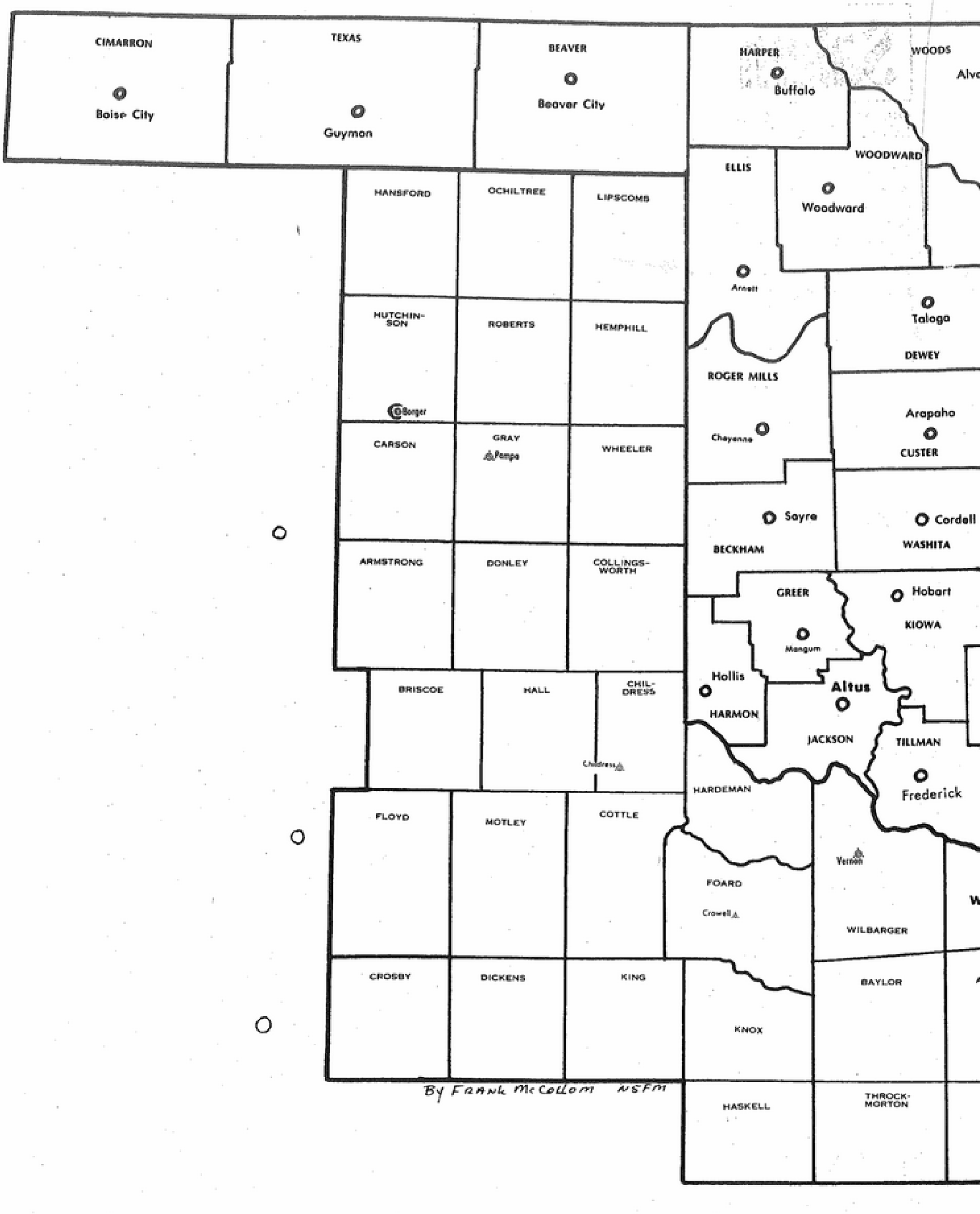
W X Y Z AA CC DD EE FF GG II JJ KK LL MM OO

N.W. 220 st.
N.W. 206 st.
N.W. 192 st.
N.W. 178 st.
N.W. 164 st.
N.W. 150 st.
Memorial Rd.
N.W. 122 st.
N.W. 108 st.
Britton Rd.
Wilshire Blvd.
N.W. 63 st.
N.W. 50 st.
N.W. 36 st.
N.W. 23 st
N.W. 10 st.
W. Reno Ave.
S.W. 15 st.
S.W. 29 st.
S.W. 44 st.
S.W. 59 st.
S.W. 74 st.
S.W. 89 st.
S.W. 104 st.
S.W. 119 st.
S.W. 134 st.
S.W. 149 st.
S.W. 164 st.
S.W. 179 st.

TURNPIKE
TURNPIKE
FOREST PARK
US 62 & 270
ST. HWY 3
TURNPIKE EXPRESSWAY
TINKER FIELD
LAKE
STANLEY DRAPER

2000 EASTERN AVE.
3000 BRYANT AVE.
4300 SUNNYLANE RD.
5600 SOONER RD.
7000 AIR DEPOT BLVD.
8000 MIDWEST BLVD.
9000 DOUGLAS BLVD.
10000 POST RD.
11000 WESTMINSTER RD.
12000 ANDERSON RD.
13000 HIAWASSEE RD.
14000 HENNY RD.
15000 CHOCTAW RD.
16000 INDIAN MERIDIAN
17000 TRIPLE XXX RD.
18000 PEEBLY RD.
19000 LUTHER RD.
20000 BOBBS RD.
21000 HARBAH RD.
22000 POTTAWATOMIE RD.

SCALE MILE



OKLAHOMA AMATEUR RADIO SEVERE STORM WARNING NETWORK — 146.82 MC

PROCEDURE

1: MOBILE UNITS AND BASE STATIONS REPORT INTO NET CONTROL.

2: NET CONTROL WILL REQUEST ADDITIONAL MOBILE UNITS INTO OPERATION IF AND WHEN NECESSARY.

3: REPORTING SEVERE WEATHER.

- A: SPOTTERS WILL GIVE THEIR STREET LOCATION AND GRID LOCATION.
- B: CONDITION OBSERVED WILL BE REPORTED TO NET CONTROL FROM LIST BELOW.

4: ALL TRAFFIC WILL BE HANDLED THRU NET CONTROL (NO MOBILE TO MOBILE COMMUNICATION).

Salem

OH, NO, NOT ANOTHER PAY TV SCAM!
(All right Folks, its SHOWTIME Here)

The fortitude and inventiveness of the amateur radio operator and experimenter springs eternal and is everpresent. Many of you probably remember when MDS (Multipoint Distribution System) first came out. It was intended by the FCC as a small educational common carrier service operating in the 2 Ghz range. What it became was a pay TV system operated as a sort of poor man's cable TV. Of course, it was exclusive, that is to everyone who could pay the price for the so-called "premium service." They used a "decoder" box which attached to your television and miraculously snatched their signal out of the air.

Well, it was really nothing more than a simple downconverter that brought the 2 Ghz signal down to television channel 3. The signal was transmitted inverted and after running it through a suitable mixer it became a normal tv signal for use by the paying (and occasionally nonpaying) subscribers. And it didn't take long for those who were activily interested in the service to discern how the system worked and began marketing their own private label converters for sale. Certainly, this was american ingenuity at its best. The whole scenario reminds me of the comment by pundit Harry Golden who said, "The idea of sex is older than the idea of prostitution, but only by a few minutes."

This has been a reoccuring circumstance since the first technocrat set out to provide a service and exclude nonpaying customers from that service. The occurrence of exclusion merely represented a challenge to those technically competent enough to figure out or begin to figure what was going on. I have seen this occur over and over. In 1970 or so I read an article about phone phreaking in Esquire Magazine. Until that time, I never gave much thought to people who could gyp Ma Bell out of phone calls, but I must admit that I was fascinated by these people who had and certainly the subculture that sprung up around the new technology. It occurred again when MDS came of age and I bought one of the first kits for these microwave receivers in the flea market at Dayton. I later sold it when I got back to Norman and looked it over and figured out how it worked. It had no more interest for me.

I also watched Bob Cooper W5KHT and others in their early pursuit of the home satellite receiver market and the rush to develop low dollar technology. I attended the first TVRO seminar at South Oklahoma Junior College. Once things were understandable, I again kind of lost interest. In fact, it was there that I heard what must be the Experimenter's Creed expressed by Taylor Howard W6HD who designed one of the first home satellite receivers. Someone asked Tay if he used the terminal personally and he said no, that his children spent most of their time in front of his creation and he would only refer to it for an occasional program. He flatly stated that he had lost interest in watching the satellites. Somebody asked him what it would take to get him interested in it again and he said that he had heard that Home Box Office and others had begun to discuss the possibility of scrambling their pictures. Now, this was a challenge ! He had heard about digital techniques of scrambling and if they decided to do so, then he would get his TRS-80 and have a go at it. That would be something to conquer.

I recently heard that Home Box Office now after about 5 years have finally settled on a scrambling technique developed by Linkabit out of California and it is a doozy. It involves digitally messing up the video lines by digital delay lines and rearranging them according to a certain key later. Now, I suspect that this will keep Tay Howard awake. They talk about implementation sometime in the next year or so.

I really don't know what all the fuss is about. I have had cable tv for some time now, but I don't subscribe to Showtime or HBO, or any of the premium movie channels for the reason that they are not really that. These services are nothing more than a stopping point for many movies on their way to commercial tv. The occasional "free" looks that HBO offers on the weekend (just had one slide by about a week ago) convince me that this is an expenditure that is just not worth it. Besides, I just don't get much time to watch TV. Even the use of a video recorder doesn't help much. I just record it and leave it in the can indefinitely. Oh, they have a few specials that look pretty good and sometime I see a couple over visiting a friend's house, but it just seem cost economical to subscribe to all of the services they operate when I rarely watch news or any programs before 10:00 O'Clock at nite. Besides, if the only advantage that premium services offers is an early peak at the "new" movies, that is not really going to be much of a handicap to someone who has yet to see "Sound of Music" or even "Grapes of Wrath." Besides, there are a lot of bad movies coming out on a regular basis. Something that cost $4.00 to see at a movie theatre that can be seen on pay TV in about 6 months for a mere $9.00 a month is on a fast scale depreciation anyway. $9.00 a month is merely a passing through point on its way to anonimity.

So why does the heathen rage? As Tay Howard said, the hunt's the thing. To stalk the elusive prey and conquer is the sport, not the enjoyment of the meal. And that's why I will describe a recent hunt, because to tell of the conquest is fun to be savored. I also will make my description in the most general of terms because I do not recommend a duplication of my efforts. The cable TV system is a much battered device and additional assaults will not engender their respect.

So what's the scam. Well, it is quite simple. You pay your money and you get cable TV. But they want to sell you more than just cable service. The basic service is really a loss leader. They really want you to buy the premium service for which they probably keep about half the money and send the rest to New York. For the most part, this is easy money. They only have to provide for just one extra satellite channel and they virtually double their income. They add two premium channels and voila, the money, she is tripled.

But no everybody doesn't want the premium channels. Some people, like me, tell them to suck it up and keep their channel 7 or 2 out of my cable and I keep my $18.00 a month in my pocket. Under the terms of their franchise, they have to accommodate me and they do that in the form of several devices. With some, they insert an interfering carrier right in the middle of the picture video which keeps the picture from stabilizing. Then when somebody buys the premium channel, then the serviceman comes out and puts a trap on the line which notches out the interfereing carrier. The only problem is that the customer can also insert the trap in the form of a quarter wave stub right at his television antenna and he can achieve the same results with out the bother of a monthly bill. Besides the philosophy of the interfering carrier is that more people are expected to not buy the service than those who do.

Another alternative is to buy the traps only for those who don't want the premium television channels. This assumes that more people will buy the premium service than not. But this can be expensive for the cable company because if there are two premium channels, then that means that you have to have two filters. But again you assume that most people will buy the service.

The traps are quite simple affairs and appear to be some sort of tuned line or quarter wave trap. Out of curiousity, I spent some time studying mine with a pair of binoculars from my front porch to the telephone pole. It is possible that they could be a couple of quarter stubs in series. They appear to be quite effective in nulling out channel 7 and channel 2, the two premium pay TV channels. They do not degrade any of the adjacent channels either.

The picture is just weak. The sound is still there, but the weak signal drives the adjacent channels bonkers because the AGC of the set is turned up quite a bit on the premium channel because the signal is weak. One major problem then is that the adjacent channels bleed over a little. Roger and I once speculated on a method of pulling the signal in using some high gain amplifiers for watching out of town TV stations when the local channel was blacked out for a football game. These were the All American Amplifiers manufactured by Cadco of Oklahoma City. They suggested using them and I think that they sold a lot of them in Dallas when the Cowboys were home and not sold out. The preamps featured some filters that could help out. One problem is that if the amplifier is placed on the cable, it also amplifies the other signals around and I am afraid that the adjacent channel interference can still be a problem. Looks like time to try another tack.

Remember, the hunt is the thing. How can I get a signal through the trap tuned right to its frequency? Cable TV systems are quite simple. They consist of nothing more than coaxial lines and trunk amplifiers and an occasional bridging point where multiple taps would be placed to feed various houses. There is a pilot tone on the cable that is used to set the gain on the trunk amplifiers. The pilot signal amplitude is controlled very carefully at the head in point and each trunk amplifier can pick up the pilot and use it as a reference point for setting the gain of the overall system. I suppose that if there was someway I could get to the pilot and decrease its gain, then the trunk amplifier gain would come up and the channel 7 or 2 gain would also come up. But since the pilot tone was active into the trunk amplifier, I could not get to it without breaching the system and that was a violation of the ground rules, that is, see if I could watch the channel without going outside my house. Scratch another idea.

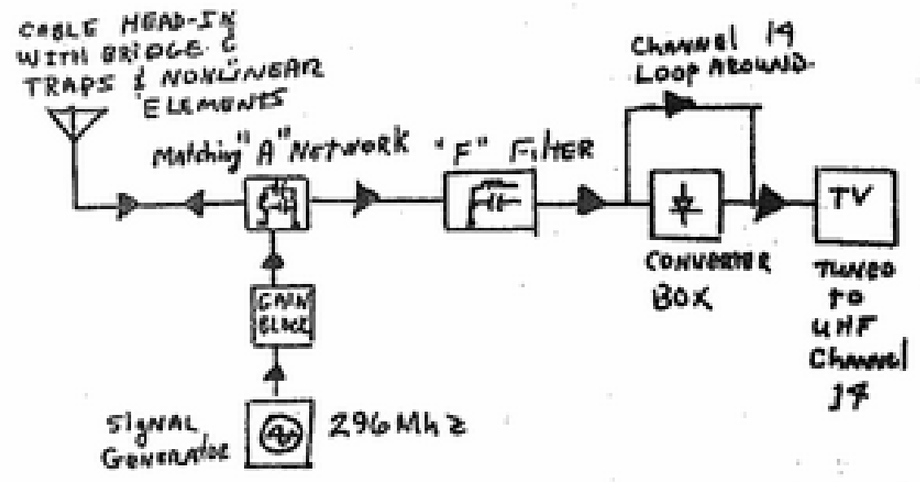
Finally, I thought, the cable TV comes into my house and goes into a converter box which then mixes each of the channels down to channel 3 to use on my TV. Wait a minute. Would it not be possible to inject a signal into the cable system back to the bridge point which would then mix with the channel 7 and bring the signal out on another channel which would then come down the back door and skip the channel 7 filter.

Now mixing occurs when two signals encounter a nonlinear element. The nonlinearity produces the difference and sum of the two frequencies. This is desireable as the front end and second conversion of almost every superhetrodyne receiver and undesirable in some circumstances as when the mixing occurs in the output circuit of some transmitter and produces intermodulation. In this instance, we could make mixing work for us. It might be true that there are few nonlinearities in a bridging output, but with the right amount of excitation from the proper local oscillator, it might be possible to produce a mixing frequency which would provide some nonlinear

mixing. Cable TV channels 2 through 13 appear in their normal slots as in the commercial broadcast field. In fact, this can be a problem with a leaky cable channel selector box close to the actual TV station in the form of ghosts because of the propagation delay in the signal from the cable being picked up slightly ahead of the normal broadcast signal leaking into the cable tv system. On the cable system, the channels above 13 are really midband channels and are inserted between channel 6 and 7. Channel 6 is the highest of the low band channels with its carrier (video) located at 83.25 Mhz. Channel 7 is is the lowest of the high band channels with its carrier located at 175.25 Mhz. Between 83.25 and 175.25 Mhz are the midband channels.

What I needed was a signal up the cable that would mix with Channel 7 and produce a signal somewhere where there was no trap. It would need to be close to channel 3, the cable mixing channel output because if I got very far away from channel 3, then the bandpass filters used in the cable converter box would get my signal as they were designed to pass only channel 3,

The next available channel was UHF Channel 14 at 471.25 Mhz. If I injected a signal of 296 Mhz I could produce a mixing result out at Channel 14. I fired up my trusty rusty signal generator and gave it all she got, but no dice. I concluded the the impedence mismatch was the problem and I further needed a little more signal. Several companies, like Motorola make little gain blocks that provide about a half a watt output from just milliwatts in. This looked good. Now I needed to design a transmission matcher that would allow me to match the output of the signal generator and amplifier to the cable without interfereing with the regular service. I had talked with K5JB and after putting our heads together on this one came up with a "A" type matching network in which the signal generator and the amplifier would be "transparent" to the cable system. It worked, but the signal on Channel 14 was a little fuzzy from intermodulation products that cropped up from other mixing of the other channels. The solution was a filter that would clean up the output and keep the spurious products out of my UHF Tuner. A lot of cut and trying later produced a "F" type filter that provided adequate filtering. Refer to the following block diagram for a brief description:



So how does the pictures look? Not all that great, but it does show that something can be done. I suppose that I could improve the picture by mixing down to some VHF channel and take advantage of the better receiver characteristics, but I haven't had time recently. Cable Channel 1 is a mid channel that is currently unused on our system. I could mix a frequency in with that that might produce an output there. Might even be able to take off the F Filter.

Like I said, your local cable company might object to this kind of hanky panky, so I don't suggest that anybody get into this. Besides the copyright complications might be a real mess. Play at your own risk. For me, the chase is now over and I don't plan on doing anything more on this project until next April.

Micheal Salem N5MS

How Does This Thing Work??

COMPUTERS PART III

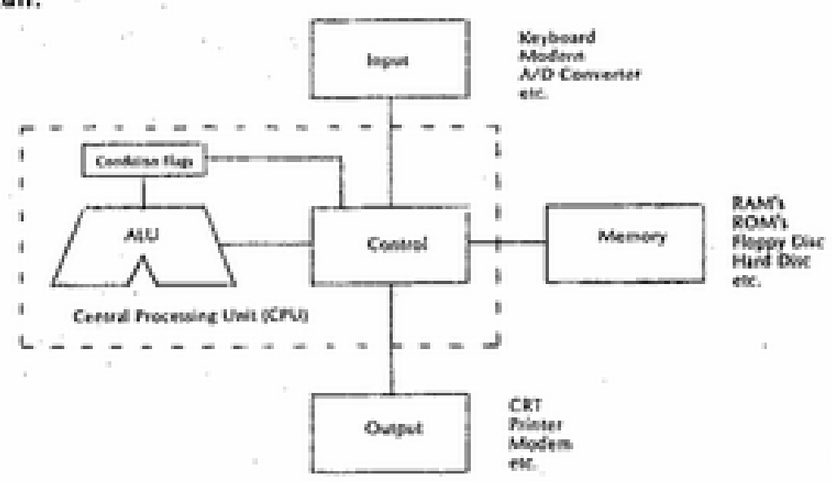
With the advent of Integrated Circuits, computer design philosophy evolved to that which we know today. At this point, it's time we examine the design philosophy of a computer to see how it works. To begin examination, let's restate the definition of a computer:

> A computer is a mechanical, electromechanical or electronic device that can input, store, process and output data.

Don't forget, *data* can be any type of alphabetic or numeric information. From the definition, we find that a computer has five parts. Remember, it *has* to have these five parts or it can't be called a computer!

1. Input — needs some method of inputting data
2. Storage — also called memory
3. Processing — called the arithmetic logic unit or ALU
4. Control — not specifically named in the definition but consists of the decision electronics that addresses, turns on and off and moves data to and from the other four parts of the computer.
5. Output — puts data into a form that can be understood after processing is complete.

Figure 1 shows the five parts of a computer in more detail.



Let's look at each of the parts a little more closely.

INPUT — These devices can take many forms such as keyboards, card readers, modem's, A/D converters, joy sticks and many different kinds of switches and sensors. What ever the input device is, it must translate the data being input from the outside world to a format the computer can understand. The input device most familiar to many of us is the keyboard. The most common output format of keyboards is ASCII (American Standard Computer Input Interface). An ASCII output character (often called word) is seven binary digits (called bits for short) in length. There is also an eighth bit called a parity bit. It is an optional bit used for testing the input and is often not used.

OUTPUT — An output device puts our processed data into a form that can be understood by what ever is requesting the data. Almost anything could be requesting the data: another computer, a telephone line, a teletype transmitter, a piece of the test equipment or even a person. Therefore, the output device can take many forms like a CRT, Printer, MODEM (telephone or teletype interface), D/A converter, LED display, relay network, etc. Obviously, the ones we're most familiar with are the CRT and printer. These output devices put the processed data into a form that we can understand which is alphanumeric characters.

MEMORY — Computer memory is exactly what it seems it should be. Memory stores data. A computer uses different kinds of data during its operation. There is information that is input, processed by our program and outputted. Both the information and program data are called transient data. Under normal circumstances neither the program nor the information needs to stay stored in computer memory for a long time. That's what transient means. When you're done running your program, you can take your output, turn off the computer and walk away. The data is not saved inside the computer This type of data is stored in "Volatile" Memory. Data stored in volatile memory is not saved when power is turned off.

Most of a computer's main memory is made up of volatile memory chips called RAM's (Random Access Memory). The most popular type of RAM in use in computers today is the Dynamic RAM. Dynamic RAM chips are made up of many tiny capacitors that can be charged to read a "1" or discharged to read a "0". The problem with dynamic RAM-s is that the dielectric resistance of these capacitors is not very high and they discharge very quickly. So in most systems (particularly ones that us a Z-80A CPU) the central processor spends part of its time restoring or "refreshing" the charge on the RAMs every few milliseconds when it could be doing other things instead. These systems are less efficient than ones using other storage techniques such as static RAMs. But there is also a positive side for using dynamic RAMs. They are cheap compared to static RAMs. Where cost is an important factor, such as in commercial personal computer, dynamic RAMs are almost always used. Therefore dynamic RAMs are used in most commercial home computer designs.

Static RAMs are also a type of volatile memory, so it is correct to assume that the data is also lost when power is turned off. The difference with these chips is that once input, data remains stored as long as power is applied. There are no tuning or refreshing problems to worry about. Fortunately, the cost of static RAMs is constantly going down as manufacturing techniques improve. If you are planning to build your own computer, using the system efficient static RAMs should not be financially prohibitive.

Not all data can be considered to be transient data. There are frequent situations where the computer will use certain data over and over. For example, if a computer receives ASCII input but on a routine basis must output Binary Coded Decimal, a conversion table should be retained in memory and should be available for future use whether power is left on or not. Also, every computer needs what is called an initializing program. A typical initializing program may first clear the CRT screen, clear memory, transfer control to the keyboard and then wait for an input. Without a permanent initializing program, a computer can not work at all. All these data, look up tables, initializing programs frequently used subroutines, and even programming language interpreters must all be stored in non-volatile memory.

The most common form of non-volatile storage used in main memories is the ROM, or Read Only Memory A ROM is unique in that the data is either permanently or semi-permanently stored in it. The computer can only "read" data from it, and can not "write" or store data into it. In the case of the standard ROM, the data is permanently fixed into it at the time of manufacture. The data can never be changed or erased. The PROM, or programmable read only memory, is a little more sophisticated. It is manufactured unprogrammed. The data is permanently "burned-in" later to fit each user's needs. Like the ROM, once the PROM data is programmed (or burned-in) it can never again be changed or erased. The EPROM, or erasable programmable read only memory, is at a still higher level of sophistication. The data can be burned-in in the field like the PROM, but it can also be erased with ultraviolet light. The EPROM is fairly low cost and is becoming the most used form of ROM. There is also an EEPROM (Electrically Erasable) that has recently been introduced on the market. Although it shows good promise, it is currently *very* expensive and difficult to obtain.

Other types of non-volatile memory include magnetic, cores, magnetic tape, floppy discs and hard discs. With the exception of magnetic cores, these types of non-volatile memory are not generally used as a part of main memory. They are usually contained in added or peripheral equipment and are treated by the computer as another input/output source.

ALU — The Arithmetic Logic Unit is the "brains" of a computer. The ALU with its associated condition flag register does all the arithmetic computations and sets up all the logic decisions for the computer. Some ALU's are very sophisticated and can make very complex computations without outside programming help. Others are fairly simple circuits. Most microcomputers have this kind of ALU. Like their calculator ancestors, microcomputer ALUs directly can only add and sbutract. Multiplication is accomplished by a series of additions and register shifts and division is a series of subtractions and register shifts.

The function of the ALU is to take two data words (or bytes) transferred to it by the control section, arithmetically or logically process them and output the result. An important feature of the ALU is that it not only outputs the result; it also outputs the condition of the result. This is normally output to the Condition Flag Register. In many computers, particularly in microcomputers, this register receives and stores bits of data indicating five possible conditions of the result. Although some of these condition indicators vary from computer to computer the ones addressed here are very typical. The condition indicators are:

1. CARRY — indicates an overflow condition exists. That means the result which was output by the ALU was too large to be processed within the size limitations of its registers.
2. ZERO — gives a quick verification that the result was equal to zero. The control section is often instructed to check to see if the flag is "on" without actually checking the result.
3. SIGN — indicates whether the sign of the result is plus or minus.
4. PARITY & 5. AUXILLIARY CARRY — these are valuable tools to the experienced programmer, but are not used anywhere near as often as the first three flags. We do not need to add to the confusion by addressing them in this article.

Computers (cont.)

To quickly summarize, the ALU inputs two bytes of data, processes them as dictated by the program and outputs the result and the condition of the result. This data is used by the computer as the basis for all arithmetic and logic decisions made.

CONTROL — If the arithmetic and logic section can be thought of as the brains of the computer, the control section can be thought of as the "enforcer". The purpose of the control section is to transfer both control and data between the other four parts of the computer. It does this in three ways:

1. Fetch and execute an instruction — Instructions are the basis of the program being run which is stored in memory. A typical instruction might tell the control section to transfer control to the keyboard and wait for an input. The next instruction might say to transfer data from the keyboard to memory.

2. Read the condition flag register — recall that the ALU makes arithmetic and logic computations and places the *condition* of the result in the flag register. Depending on the data present in the flag register, the computer will branch off to read any of several subroutines specified by the program. For example, examine a typical assembly language instruction: Jump Not Zero (JNZ) INDEX. In this example, the control section will check to see if the result of the two numbers processed by the ALU was zero. In other words, the computer checks the condition flag register for a zero condition. If the result is *not* zero, the control "branches off" to read the first instruction in the subroutine the programmer has named "Index". If the result *is* zero the computer reads the *next* instruction following the one just executed.

3. Respond to an Interrupt Request — many kinds of peripheral equipment such as Keyboards, CRT's and printers don't operate as fast as the control section of the computer can service them. It is not good design to slow the computer down to match the speed of the slowest piece of equipment attached to it when the computer could be off performing other functions instead. In the better designs, the control section is constantly checking for "Interrupt Requests" so it can temporarily break off what it is doing, service the peripheral and return.

There are *many* subtle differences from computer to computer, but don't forget every one *has* to have the five parts discussed above or they can't technically be called a computer. If you have a good basic knowledge of the computer parts as addressed here, you will have a good foundation for understanding the next article in our series which will cover microcomputers. But before we leave our example of a generic computer, lets examine one more point. As shown in Figure 1, the control section and the ALU with its associated condition flags are called the central processing unit (or CPU). It picked up this name some time ago because of the large amount of space required by vacuum tubes. That is as much of the computer that would feasibly fit in one enclosure (or along one wall).

Well the name stuck, and even though innovations in microelectronics have reduced the size so much that the entire processing unit can be placed on a single printed circuit board, we still call it the CPU. Eight bit CPUs used in microcomputers are sometimes called microprocessing units (or MPUs). You will not see that term used again in any of the remaining articles in this series. We will consistently use the terms CPU or microprocessor.

In the next article we will apply what we discussed here to microcomputers. We'll first take a look at the development of the 8 bit microprocessor. We'll then group them into design families and discuss the good and not-so-good points of some popular brands. We'll discuss who's who in the microcomputer business. We'll also talk about what's happened to the Japanese and why they were so slow to start. We'll discuss in detail what is clearly the best 8 bit microprocessor on the market today and why it's so good. And if that isn't enough, we'll talk about who's using it and why it might be a good idea to buy stock in their company. We'll wrap up the article with a discussion of where microcomputers are heading in the near future.

Allen Bailey, ADØZ

CIMARRON A.R.A.

EDITOR: Jack Day, N5FMQ

CARA was well represented Saturday Feb. 26, at an antenna party for KC5OU of Vici. Harry Watts, the recipient, is "special" to all of us in this area, and is probably more widely known among the ham community than many of our state politicians. Harry has been blind for a good many years, and has also had the misfortune to lose the fingers of his left hand in an encounter with a table saw. Nevertheless, he has gained his Extra Class license and is one of the mainstays of the traffic nets in this area. Nineteen amateurs helped him celebrate his 75th birthday the week following the party.

Harry's management of the gadgets and gizmos in his comfortable radio station is nothing short of miraculous. Still, being unable to check by sight, he had always had a problem knowing for sure which way his KT34A was pointing. The party cured that problem by installing the latest Digi-Talker, a rotor indicator that announces the movements of the rotor in degrees. They also installed a Tail Twister Rotor and a 160 meter antenna in the top set of guy wires of his 70 ft Rohn mast.

CARA members present at the antenna party were KI5P, WB5ECM and N5FMQ.

Other news from CARA includes the upgrading of three Novices to Tech; KA5PKM, KA5PKK, and KA5PKN. KA5PKR upgraded to General, and N5FMQ upgraded to Advance in February.

The Thursday evening 2 meter Net (8:00pm) is really growing, with twenty check-ins, March 10th. KA5DUO was NCS for the evening.

CARA meets the Second and Fourth Tuesdays at 7:30pm with 14 members presently on the roles. Major Bailey, KI5P, is President. Denny Painton, WB5ECM, is Vice President. Nadine Painton, N5FMH, is club Secretary. We here at CARA are happy to be affiliated with CORA and also plan to affiliate with ARRL.

The Wheatstraw Club gathered at Datonga on March 13. Over 30 members showed up for a lively discussion about some club jackets. This had been going on so many months now that I think most of us would have went along with just about anything to get it over with. We did decide on the matter and put KA5DUO to work getting an order together. He has been hard at it too, judging by the sounds on the repeater. Might have them in time to use next August after all. We discussed several other matters, then adjourned to see a film. Then we "pigged out" on some of GOLDIES GOODIES. I understand that Virginia also contributed to the cause. I dont know who made what, but the last trip back, the platter was already clean. I did not hear anything about what the activity manager has brewing in the line of something to do or go to. Ray what gives? Next meeting will be at Calumet. Ray, K5LLX will be net control this month.

George K5GGL

Give DOC KX5W A Call

TRS 80C Central Oklahoma C★mputer Organization

Minutes of the March Meeting:

The meeting was opened by Bob Langmacher at the Red Cross Center.

OLD BUSINESS:
Be sure to unpower the COCO before removing the disk controller board.

NEW BUSINESS:
There was a proposal by Bob Pace to review all public domain basic software in the club for bugs. Each member would be assigned a program to study and correct for errors. This is for learning purposes only and not to be construed as distribution of software. Joe Harding made the motion and was seconded by Holly Holcomb.

There was discussion on divding the meeting into groups based upon level of personal computer knowledge. Members were asked to bring suggestions to the next meeting.

PROBLEMS:
Hardware-----Disk not formatting. Check head alignment and speed.

No heading on power up---misspelled words--skips-----Computer faster than the ROM.

Going from 1.0 to 1.1 ROM. See Radio Shack for $15.00. To see if you have 1.1 ROM even though on power up it says 1.0----EXEC 41175 and 1.1 Extended Basic will show up on the screen if you have 1.1 Exdended Basic ROM.

Basic ROM----Extended Basic ROM----Disk ROM

Software-----All public domain
TRANSFER--RS and FLEX
CONVERT---ML to Data Statements
DISPLAY---Use Upper 32 on 64k machine
FLIPPER---Switches between 32k blocks under ROM basic
List------List data files
Thanks to Bill Holland for the Review.

SPECIAL REQUEST: Mark Litke of the RED CROSS asked COCO members to help during Health week April 9-17. Looking for assistance in
Prepare and furnish equipment;
Assist at the Health Fair--21 sites--in Oklahoma County area.
PROGRAM: SIGMON by Bob Graham. Top Notch Review.

Bill Wright
Secy/Treas.

Remember - April meeting is a week later because of Easter. Meet on April 9.

THOUGHT: How about dividing the club into four basic groups as follows:
Begining Programing
Intermediate Programing
Assembly Language Programing
General Discussion
Of course we would need a leader for each group. Maybe the Saturday meeting could be structured as follows:
9:00-9:45 Pick your group from above
9:45-10:30 General meeting
10:30-11:30 Main Program
11:30- Open for Sales
I believe this would help lend direction to the meeting and lessen chit chat groups during the main program which by the way was very distracting to those trying to listen to Bob Graham. Remember we are not all on the same level----------.

Bill Wright

Color Computer Product Review-
WICO Command Control Joystick Adaptor
WICO Command Control Joysticks

By George Adkins

Dedicated game players will welcome these products which are now available for the TRS-80 Color Computer, as well as Atari and Apple computers. These products are designed to permit real 'arcade' action on the sophisticated machine language games available.

The WICO Command Control Adaptor is an interface between the computer joystick port and the 9-pin Atari-style joystick. The adaptor we tested is a black box, approximately 1" x 2" x 4" with DIN plugs for plug-in to the computer ports (right and left) and two jacks for connection of most (if not all) Atari computer - compatible joysticks. The small size of the adaptor allows it to fit neatly behind or beside your computer.

We experimented with three non- Radio Shack joysticks and enjoyed satisfactory results with all. The basic Atari joystick ($7.95) was lightweight, offered rapid action while still a significant improvement over the "stock" sticks.

Next we tried the Pointmaster joystick ($12.95) by Discwasher which gave better action with results closer to the desired arcade feel. The stick on this model is large enough to fit an adult hand,
shaped like a hand-grip with the fire button on the top of the stick. Full 360 degree rotation of the stick is easily attained. The major drawback is the necessity to hold the stick in your hand while playing; it is too light to rest on a table top without holding it down.

Finally we fired up the WICO Command Control joystick--- the real McCoy! It is heavy enough to use 'one-handed', gives positive response and feels like a genuine arcade unit. It is also the most expensive, of course; available locally for around $25.00. The model we tested has a ball-grip on the stick with fire buttons on BOTH the base and the stick, a nice feature.

WICO also manufactures a "Trackball" control ($65.00) which works with the Command Control adaptor. Excellent for Katerpiller and Gobbler freaks!

The adaptor and joysticks were tested with many Color Computer machine language games, including Donkey King, Dunkey Munkey, Katerpiller, Ghost Gobbler and Offender. Results were excellent on these games which require 360 degree movement of play. We found that the joysticks will NOT work with many games which require only LATERAL (side to side) movement, such as Clowns & Balloons, Shooting Gallery and possibly others. You will need to keep your Radio Shack joysticks for these games.

The WICO Command Control package is available locally from R & G Electronicu (see ad this issue of C & E). The Pointmaster and Atari joysticks are available from Buttons Video, Camelot Music and just about any other computer/ video store in the universe.

Now for the disclaimers...nobody reads this part....Atari is a registered

trademark of Atari, Inc; Apple is a registered trademark of Apple Computer, Inc.; TRS-80, Radio Shack and Color Computer are registered trademarks of Tandy, Inc.; WICO and Command Control are registered trademarks of WICO, Inc.; Pointmaster is a registered trademark of Discwasher, Inc.; (Isn't this silly?) Buttons Video, (with a capitol "B") is a registered trademark, I guess-- and 'Joystick' is probably a registered trademark of somebody, somewhere...

CO CO HINTS

Do you find that the "RESET" switch on the rear of the computer will not always clear a machine language program? Do you worry about turning power on and off too many times, possibly damaging the computer? Try a POKE 113,3 and <u>then</u> push Reset--- this should clear the memory without the strain of powering down and up.

Do you have the latest Color Computer ROMs? Type EXEC 41175 and <ENTER>. Poof!

SOMETHING NEW !

There are now Three Magazines for the Color Computer with more just around the corner.

COLOR COMPUTER NEWS
Remarkable Software
PO Box 1192
Muskegon, MI 49443
(616) 728-9100

CCN was the first magazine for COCO. Cost is $21.00

RAINBOW
5803 Timber Ridge Dr.
PO BOX 209
Prospect, KY 40059
(502) 228-4492

Rainbow is the biggest magazine. COST is $22.00

Color Computer Magazine
PO BOX 468
Hasbrouck Heights
NJ 07604

This is a new one and look pretty good. Cost is $19.97

All of these are good magazines and worth the price. Although your best buy for your money is right here, The C&E. At $.25 a copy its hard to beat.

FOR SALE: The KIM I Microcomputer System, Complete and serviceable with:
1 Power Supply (worth what asking for all)
2 6501 micro & 6530 chips, 2048 ROM, 128 RAM, 30 I/O pins, 2 Timers, expansion options, display, keyboard, TTY & cassette interfaces, 1024 byte RAM. Full set of manuals - Kim-I user manual, programming manual, microcomputer systems, KIM hints & the First Book of KIM. Expandable mother board with manuals. An extra auxiliary key board w/46 keys. Call Joe, WA5ZNF, 737-1044. ONLY $125.00.

WANTED: An antenna tuner, MFJ-949B Versa Tuner II. Call Virgil W7JTG, 721-8411.

UNIVERSITY OF OKLAHOMA

Amateur Radio Club I 46.28/.88

A BELL IN THE NIGHT . . .

Ding..ding.....Ding..ding.....Ding.ding..... ding..ding....Ding...ding . . . a ring of the door bell after a late supper. Rather urgent by the sound of it. Maybe it is a fire at a neighbor's house. There I sit on the phone to another ham. Richard is a novice and called with a few questions. That's important.

As my wife answers the door I can see our neighbor, Jack. He blurts out "Is your husband on the radio?" "There's interference on my TV," he goes on. "Hello, Jack," I holler. "I'm on the phone." (He can see plainly that I'm on the phone in the dining room, but he continues, anyway.) "Well, I didn't think he was on the radio but I thought (he didn't think.) I would check anyway." My wife mumbles a few words about my never getting on the air at nite and I hurriedly wind down the conversation with Richard so that I might keep peace in the neighborhood.

"Hello, Jack, ... say, have you ever seen my station?" "Yeah, I think I have seen it one other time, way back." "Well, come on back this way and let's see if we can hear someone on." "It's my daughter's TV and she watched it all morning and it didn't give any trouble, so I know the set is working all right. So it has to be somebody in the neighborhood." "What kind of interference is it, Jack?" "Well, it's these things in the picture."

"Let's see, ... this field strength meter might show if there was a strong signal in the area." ..."Well, this other meter is more sensitive... let's see." "No, Jack, doesn't look like any strong ones on."

"Here, I'll PLUG IN my rig and we can listen around. ... This is my favorite band... Sounds dead. ... Well, here is another band (20 mtrs.). A few strong signals, but none of them are nearby. Back to my favorite... There is the Russian Woodpecker. ... have you ever heard that before?" Jack finally speaks, "No, what is it?" "Well, it's sort of an over the horizon radar ... they bounce off the same layers that I use for communicating and look down on the land of our country."

By this time, I can see that Jack is ready to leave ... after seeing for himself that my rig was NOT even plugged into the wall outlet when he first entered the radio room. I'm not sure that 'dear Jack' is properly convinced of my innocence, but he probably wonders how I did it with the plug pulled out of the wall and my coax disconnected and lying on the floor. I tried to mumble something about it possibly being a defect in the TV set even tho it might occur only when a transmitter was operating.

I can only sympathize with all the OM's and YL's out there who might have had a similar or worse experience. Be brave & GUD LUCK.

73, WD5HPU, Jim

HONEYWELL AMATEUR RADIO CLUB

NN12-1190 P.O. Box 524 Minneapolis, MN 55440

15 March 1983

TO: All Participants, March 3 T.R.N.

FROM: Rick Whiting, WØTN, Net Manager

SUBJECT: June 2, 1983, Net

Congratulations! The March 3rd net was a spectacular success, thanks to your participation.

More good news. The Darome Connection has offered us the use of 60 ports on the Chicago bridge for the upcoming nets (subject to preemption which is very unlikely). Therefore, please advise me immediately if you do NOT plan to participate. Otherwise, your repeater will be included in the national publicity mailing going out next week.

Also, please have any group linking to you (or rebroadcasting) that wants to be included in the national publicity send me a request for listing along with their: name, address, callsign, phone (home and work), name of group (if any), repeater or station callsign, output frequency, and city name for listing.

Henceforth, the locations pre-designated to be interactive during the net will change each net. The locations will be selected on the basis of: (1) proven off-the-air audio quality, and (2) wide population coverage. In this regard, suggestions are solicited for a standard for the audio level put on the phone line along with a method of measurement. How about Ø dBm measured across the line from a signal received from a transmitter sending DTMF digit 3 with 3 KHz deviation?

Several locations have requested that, during the net, the locations from which questions will next be taken be announced before the speaker begins a portion of the talk. This we will do. The reason is to allow the listeners in the target locations more time to think about and formulate their questions.

It is planned to assign a unique telephone number for the bridge for each participant for each net (at least for the interactive locations). Note that the number may change from net to net. It will be important to use the assigned number and none other. The number, along with last minute instructions, will be mailed two weeks prior to the net. If you have not received it one week in advance of the net please contact me.

NCS for the June 2 net will be Dave Meldrum, KA1MI. Dave will be with the speaker in a Honeywell teleconference room in Billerica, MA.

We will be using a newly-purchased Darome Model 2020 multipoint teleconference bridge at Honeywell in Minneapolis for the interactive locations. This bridge plus the Chicago bridge will provide 77 ports for direct repeater ties. We expect to use them all! As for past nets, Lou Appel, KØIUQ, will operate the bridge (or perhaps supervise me as a novice operator).

It is planned to provide periodic updates on the net via the CompuServe ham radio SIG. Have one of the computer buffs in your group monitor the SIG to keep your group informed.

One last request. Please poll your group for suggestions for speakers and/or topics for 1984 nets and send them along with any other requests to me at the address below. Thanks.

Now to share a few lines from the many letters received after the last net. From KA2GFA "I've been an amateur radio licensee for less than four years but this was one of the activities with which I've been associated that made me feel proud to be a part of the amateur radio fraternity." And from WA4GPJ "It had to be the most exciting event that I have ever been involved in in my 20 years as an amateur radio operator."

Rick Whiting

Richard A. Whiting, WØTN
Net Manager

4749 Diane Drive
Minnetonka, MN 55343

DX The Spratly Island DXpedition scheduled for this week has been pushed back to begin around April 7. Details next time.

ZS6BPJ/3 is on 160 on a regular basis. Between 0400 and 0445 UTC, he listens on 1804 and transmits on 1827. He'll be there until the first of May.

ZL1AMO/C will begin on Chatham Island March 28, cw & ssb. Look for a "professional" operation.

The Polish government permitted 17 or 18 members of the SPDX Club to operate for an 11-day period during the Heard Island operations. SPDX members who had anticipated the DXpedition worked behind the scenes through the bureaucracy for several months to obtain this concession. SP stations may now apply for their licenses back, but don't expect any miracles.

The petition goes to the local club, who passes it along to the local militia for processing. Once the militia is through with it, they pass it to PZK (the Polish national radio society). From PZK, it goes to the official government radio inspector. Best guesstimates are that it will be near the end of 1983 before this process can be completed for many, if any, SPs. Presumably, those with "unclean" political beliefs will face even more difficulty. Word has it that many SP amateurs feel the world is passing them by as electronic technology races ahead and they are stuck in the mud of oppressive bureaucracy.

W1AW worked C53EE (The Gambia) on 14.075 MHz yesterday at 2030 UTC using the newly authorized AMTOR mode.

A new 220 MHz world record was established on March 9, between KP4EOR, located near San Juan, and LU7DJZ, located in Buenos Aires. The 3670 mile QSO was made via transequatorial propagation. KP4EOR used both cw and ssb, while LU7DJZ used cw only. The old distance record was established in June 1959, between W6NLZ and KH6UK, covering a distance of 2540 miles. Details will be in Bill Tynan's column in May.

ARRL Newsletter

Summarizing your action items:

1. Advise immediately if you will NOT be tying into the next net.
2. Notify all stations linking to you to notify me with info requested above if they want to be included in national publicity.
3. Send me your recommendations for audio levels into the line and method of measurement.
4. Send me your candidate speakers and/or topics for 1984 nets.

Items (1) and (2) are needed ASAP. Thanks and 73.

OK DX

De AD1S.

How about a change for Spring? The OK DX group has decided to try a new location for our monthly gatherings. Due to popular demand, the April meeting of OK DX will be held at HENSON'S RESTAURANT, located between Reno and N.W. 10th on Meridian Avenue. Henson's reportedly has excellent food and beverages for everyone and is highly recommended by several of our members. We hope you will join us at Henson's (anytime after 6:00 PM) on MONDAY, APRIL 11. Please mark the date, time and place on your calendar.

SIMPLEX FREQUENCY NO LONGER TO BE USED. For the past several years, DXers in the Oklahoma City area have used 147.900 Mhz (simplex) for their DX information and relay communications. This will be discontinued because of occasional interference with an upstate repeater on this frequency. In the future, we will exchange DX information on the OCAPA repeater, 146.22/146.82 Mhz. This is also the repeater used for the Central Oklahoma Severe Weather Warning Network. NO DX EXCHANGES will be made when any severe weather threatens anywhere in Central Oklahoma. You do not have to be an OCAPA member to use the 22/82 repeater, but obviously the sponsors would appreciate any support for the maintenance of this fine machine.

Heard at the March meeting: Everyone present had snagged the one of the Heard Island DXpeditions, but not everyone was so lucky with the brief, chaotic effort from Chad, TT8. Lots of interest in the rumored operation from Spratly (see below) and K5GL was sure he'd be first in town to get it! Our ARRL Section Manager Art, W1GOM joined us in March along with Bill, K1HFT. Thanks also to regulars K2GKK/5 and KC5CR who had DX information to share with the group. Rumors that AD1S will make 1983 CQ WW CW Test from H44 with stops in KH1 and YJ8 on the way. Oh, no, not again. "Any Oklahoma stations on the frequency???"

Later in this month's article is the first of many tips for the DX beginner. They will offer some guidance to the frustrated operator just beginning his/her adventure into the world of DX'ing. We would like to add new 'hints' every month and look forward to receiving ideas from our several Honor Roll members. Come on and help me John, Ed and Gil.

HEARD ON THE BANDS:

1S0- SPRATLY ISLANDS-Oh boy! Let's hope that we have propagation into the South China Sea in late March, because the boys from the Cologne, Germany DX Club are expected to operate from one of the islands of the Spratly chain for about five days. The dust may have settled by the time you read this. Full details were discussed at the March meeting.

PY0- TRINDADE- A disappointment so far, due to the ineptitude (look it up) of the 'list operator' down south of the border. Infrequent appearances have been made by PY1EFM/PY0T who speaks no English and chooses to work 100% through PY2PE and the group on 14.218 Mhz. Listen around 2230-2300 UTC...if you hear intentional QRM'ing and the usual crazies, the PY0 is probably in there somewhere. I was on the "don't worry about it list" and as of this writing, still no PY0 in the AD1S logbook. Still no appearance by PY1RR who indicated plans to spend two months on Trindade. Cross fingers and keep listenin' to 82.

3B9- RODRIGUEZ- Finally showed up in March, apparently only working 20 meters. 3B8DA/3B9 has been heard on long path in the mornings and short path in the evenings. Signal was strong but lots of callers! Listen 14.195 and 14.035 Mhz. for the pileups.

5X5- UGANDA- Remember all the screaming and yelling over Uganda in January 1981? Well, all this time there has been an active ham, using the call 5X5FS, operating from this shaky African Republic. The operator is Irish and will be returning to his homeland in a few months. Believe it or not, he is listed in the Callbook, and apparently was the host for Carl and Martha Henson when they were in Uganda. This guy HAS to write a book about his experiences as a foreigner with a radio transmitter in Uganda during the 'Revolution'. (He must be part-cat, nine lives and all!) Listen for 5X5FS on 28.510, 21.040 and 21.285 Mhz. when propagation permits.

PROPAGATION- Don't be fooled by your quiet receiver...Lesson #1 for the new DXer. Lots of folks have given up on 10 meters-- but the ARRL DX Contest in early March showed clearly that Ten is NOT dead! The Pacific was heard late into the evening and European stations were loud shortly after sunup at my QTH. While all the 'big guns' are beating heads on 20 meters, tune ALL bands for some juicy stuff.

QSL of the Month- Sorry, but I can't show you the promised QSL from TT8BC...it hasn't arrived yet. But here is a QSL from the ONLY station in the newest 'country' with DXCC status. I have difficulty understanding how the "Sovereign Military Order of Malta" is a qualified entity; maybe Luigi or Mario made the ARRL DXCC desk an "offer they couldn't refuse!" (Just kiddin', Don.)

TIPS for the BEGINNER- Listen. Listen. Listen some more. You might work 100-150 countries by calling "CQ DX" for the rest of your natural life, but in the meantime, you'll have missed most of the RARE countries, so fire up your receiver and tune ALL the bands wherever there is any propagation. How do you know where there are "props?" Well, you might buy the DXers Edge, a neat map which shows night, day and "gray areas" in the world in relation to your QTH. Or you might make your own observations on a daily basis. For instance, if you hear Japanese stations, you can also expect to hear nearby Asian countries; if you hear Germany, an Albanian could be lurking nearby. (Not likely) If Australia is loud on a particular band and time, it would be proper to expect ZK1CG to have similar signals coming your way. In addition to listening on the Bands, listen to the voice of experience at meetings like OK-DX and ham conventions with DX programs. There are lots of tricks to be learned from a seasoned DXer; most are willing to share and ALL love to expound on their latest conquest. More next month.

See QSL referred to - next page.

BICENTENNIAL AMATEUR RADIO CLUB

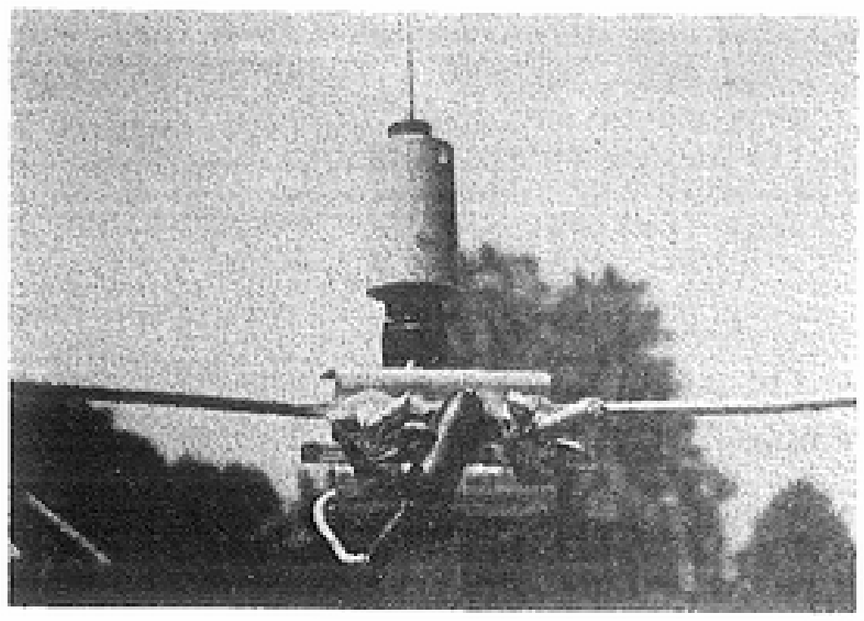
"To Promote Radio Communications"

MINUTES FOR MARCH MEETING

Meeting was called to order at 7:00 by President Jim Hopkins N5BFD.
Introductions followed.
Secretary Report: The so called minutes were approved by the club as reported in the C&E. Thanks to Ted Wd5JNT for taking those minutes in my absense last month,even though they may have slandered me a bit. Hi!
Treasurer Report: The Treasurer was not present so no report was given.
Repeator Report: Don reports progress on new repeator control circuits is going slow but is progressing. We hope to have the prototype running as soon as the soft ware is finished.
C.O.R.A Report: Dinner has been set for the Quality Inn Downtown. PreRegistration is same as last year at $6.00 and Registration at door is $7.00. However there will be a charge of $1.00 per table this year for flea market. Dance and Banquet tickets are $11.00 Per person.
Old Business: H.H.83 programs: Some have been arranged but others are still up in air. The committee needs to get busy and get these firmed up. Dale KD5SX is Heading this committee.
New Business: Mark Brown has volunteered a Van and Generator for our use at out field day this year.
Don AE5N told us about the new Radio for the NWS and asked for donations to help pay for it. It is a Kenwood TS7950. He received $24.00 from the club tonite.
Siren Warening System: Jim N5BEQ heads up this program and needs your help.Every other saturday these sirens in OKC are tested. If you can help contact Jim.
National Teleconference: The group who runs the 63:03 machine is to be commended for the fine job they did in coordinating the Teleconference set up nationaly by the ARRL. From all reports it went real well and we had no problems locally Our thanks to Dennis Orcut and his Radio Station for there expertise and equipment.
Next Montaas Meeting will be a film of our Feild Day 1982 so dont miss it. Please excuse this mess my computer printer is broke. maybe things will be better next montb.

Jerry Sproul
N5AUH Sec.

5/8 WAVE AT 6' - BICYCLE MOBILE



Well, unless you guys are going to send me articles, you'll have to take my choice! Since it's spring and we all need exercise, you get to read about my 'Bicycle Mobile Removable PVC Antenna Mount'! Using a talkie on my belt with an external mike/speaker, I get out much better with a 5/8 wave antenna and ground plane behind my head than from the car with a 1/4 wave antenna.

Above, you can see the antenna mount. The mast is 1/2-inch PVC tubing, slotted at the top to about 2 inches down. I drilled a hole about seat-height to run coax up. I soldered it to one end of a female-female SO-239 adapter, with a 4 inch ground wire soldered to the outside. I pushed it into the tubing, taped it, and clamped the whole thing with a U-bolt boom-to-mast mount.

I use wing-bolts with the mount to hold the ground plane - a single piece of No. 8 wire angled back about 19 inches on each side WITH PROTECTIVE CAPS ON EACH END. I use a clip to hold the ground wire to the ground plane, screw on my 5/8 wave antenna or a home-made 1/4 wave on a PL-259 and am ready to go!

At the left you can see how I cut the tubing and put an in-line adapter ih to be able to take the mount and antenna off at wheel-height to take with me into the house, work, etc. I bolted the mount to pieces of metal around the bicycle frame, and shimmed it with pieces of split PVC tubing to get it vertical.

Used off of the mount, the mast is nice for portable operation, too. You can use it hand-held, or with the in-line adapter you can extend it with more PVC. I have put it over the tubing on microphone stands and over sticks in the ground to have a mast-mounted 5/8 wave anywhere!

The Tulsa Repeater Organization

FOR SALE-ICOM 720A Transceiver, Power supply, microphone and CW filter. Fully solid state, 120+ watts output all WARC bands plus general coverage receiver from 10khz thru 30mhz. Speech processor, Passband tuning, Dual VFOs. ICOM's top of the line and state of the art! Just checked and aligned by the ICOM folks in Dallas. Excellent condition with some extras thrown in for the early buyer- $975. Call George Adkins, AD1S Days- 947-0511 Nites- 722-6195.

FOR SALE: 6 band 150 w transmitter and 6 band solid state receiver. $95.00 ea. Loyd, W5CCA Phone (405) 524-5219

For Sale: ALL YAESU Station, YO-901P Scope $300, YR-901 CW-RTTY Reader $500, YK-901 ASCII CW RTTY Keyboard $100 FV-901 Synthesized VFO $300, SP901P Speaker-Patch $50, FT 901DM Tranceiver $800, YN-34 Mike $25, FL 2100 B Linear $450, Swan WM-3000 Peak Reading Watt Meter $75, All manuals, boxes. XCVR & Linear will be sold last or $2250 takes all. Call N5ALG at 329-7391.

FOR SALE: Mint Heath SB-102 5-Band SSB/CW Rig.
Expertly assembled, factory aligned, used less than 1 hour.
Owner: Bob Flanagan WD5DPV
Contact: Ton WD5EAA
Box 143
Blackwell 74631
405-363-2217

WANTED: Heath HW-8 QRP CW Rig.
WD5EAA - Tony
Box 143
Blackwell 74631

FOR SALE: KWM-2 with solid state PM-2 power supply, 31285 Remote VFO, w/wattmeter, phone patch & speaker. Lee, 737-1759

FOR SALE or SWAP- KENWOOD TR-7800 2-Meter Transceiver. Excellent condition. Never used mobile. 10 memories, TT included, scanning , up-down controls on microphone, Will sell for $275 or trade for ALL-MODE 2-Meter rig in good condition. Call AD1S, George Adkins, Nights- 722-6195 Days- 947-0511

DECEMBER "AMATEUR RADIO"

Remember the G4RV antenna? All bands with no traps? It's given a thorough review in this issue.

So are two new transceivers, the TR-5 Drake and the IC-740 Icom. Also a peek into the past with a review of the Hallicrafters SX-25, which quite possibly offered the Radio Amateur the most receiver for the dollar of any that ever has been marketed.

There's a neat little trick for taking the output of a FRG-7 receiver's HF oscillator, doubling it with simple circuit, and using that frequency as a remote VFO with any transceiver having a VFO in the 5 to 5.5 MHz range.

Want a 20-m vertical that doesn't need a ground or radials? Read about the J feed, an old idea but ever good.

W5JJ

HAM RADIO HORORSCOPE

Aries **Mar. 21 - Apr. 19** You have an inventive mind and are inclined to be progressive. You lie a great deal, like giving a report 40 over 9 when the other station is barely S3. You forge cards for DXCC. People think you are stupid, but that's because you come across that way.

THE AMERICAN RADIO RELAY LEAGUE, INC.
HEADQUARTERS SOCIETY OF THE INTERNATIONAL AMATEUR RADIO UNION
ADMINISTRATIVE HEADQUARTERS NEWINGTON, CONNECTICUT, U S A 06111
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QST—
OFFICIAL JOURNAL

NEWSLETTER, MARCH 1983

Ladies and Gentlemen:

I am sure you have heard about the Federal Communications Commission latest published document, 83-28, proposing a code free license for the amateur radio service. I will devote this Newsletter to addressing this subject in an effort to give you some insight into the responses some of the members have passed on to me. I have had the occasion to talk with several of the clubs within this division with regard to this proposed regulation. It is suggested that each of you reading the Newsletter become interested enough in the future of amateur radio to generate a letter to the FCC, hopefully with a copy to either me or to the American Radio Relay League, in care of Mr. Perry Williams. Amateur radio needs your response individually, as much as we need to know by a copy of your response that correspondence was initiated to the FCC concerning this subject.

You are reminded of past correspondence from the President of the American Radio Relay League, Mr. Victor Clark, W4KFC to the FCC asking them to set aside any consideration for code free license for at least 18 months. This was to allow the League time to develop and implement the volunteer examination program which the FCC has asked the ARRL to handle and manage in the near future. This will be a tremendous financial burden, with manpower requirements on the part of the American Radio Relay League. At present the FCC gives no immediate insight as to any financial recovery for the expenses involved from this new endeavor. This obvious ignoring of the League's request to set aside the code free license for 18 months again reflects the attitude of the FCC. This should give each of us some feeling for the responsive nature of the FCC to any pleadings the ARRL or any other organization submits to them for consideration. Please consider the following items when you prepare your response to the FCC concerning the code free license.

At the ARRL Board Meeting in April of this year I plan to support the continued position in opposition to a code free license from the standpoint of the American Radio Relay League and our members. This position will be conditioned from the response that I receive from you, the members within this division. At this time I have received 287 questionnaires, with comments, returned to me from my October Newsletter, all showing opposition to a code free license. There are some of our members within this division that see this new code free license as a challenge to bring in new people to our ranks, and certainly I respect their opinion and their concern. Along this line, I must express my serious concern as to the mechanism by which we can control this expansion into the code free license area once the door has been opened by the Federal Communications Commission. This to me is a point for the greatest concern, as my previous experience with the FCC as your director in this division, I feel they continue to show little reaction from the wishes of the members. I see time and again that the FCC does not respond to the amateur radio community's wishes as apply to our activities for needed changes to improve conditions. This concern on my part is shared by many of our members that I have talked with at club meetings.

This does not set aside the point that most likely before 1983 comes to a close there will be in existence an amateur class license that does not require a code test or even a recognition of morse code. What then is a procedure that we could accept, and hopefully influence the FCC to adopt. First, you must recognize that we have one recourse which is above the FCC, and that is our elected officials in Washington, our Representatives and our Senators. These people are in office to represent our wishes, and I assure you that if we, in mass, send letters to our House of Representatives and the Senators with our expressed desire that this rule proposed by the FCC be abandoned, the FCC would in all probability have to comply, as they are appointed by the Congress and the President. This would take a massive effort on the part of the amateur radio community, and in the past our group as a unit have not responded to a calling of this nature. Many letters would have to be generated by the members of the amateur radio group, all addressing the same subject. We, as a group, are not noted for this type of unionization, and therefore I do not put much faith in this actually happening.

An alternate mechanism that is available to you for the expression of your wishes to the FCC is through a letter, radiogram, telegram, or a night letter, as you may desire, addressed to the FCC in Washington. This is a simple way of expressing your wishes and getting the word across to them of your desires. Any response will require an organized approach from the membership as a whole in order to give some indication to the FCC of what our wishes are and how we would like for them to react. I feel that a large response from the members within each of the divisions of the United States, Hawaii, and Alaska will be necessary to make an impression on the FCC.

Let me reflect with you on a few of the comments from those of you that I have had the pleasure to talk with at club meetings within the division. It is generally agreed among the members that the FCC should not abolish the five-word per minute code requirement for the technician class license. The recommendation basically is that the code requirements for novice, technician, general, advanced, and extra class license holders remain undisturbed. These privileges should be retained in their present format. One accepted procedure from the members at this time is to allow a code free license holder to operate on the frequencies of 220 MHz and 902 MHz. The rationale for the use of these two frequencies is that the 220 MHz frequency, I am sure many of you will remember, was in serious jeopardy of being lost some months back. These pressures have decreased but they have not gone away, therefore it is likely that unless we increase our utilization on that frequency, it still could be one that we will lose in the future. What better place to introduce additional amateur radio activity than on a frequency of this nature to give us a better assurrance for retention. The 902 MHz frequency was allocated under the WARC Treaty Agreement of 1979. Theoretically it is a frequency that will be available for the amateur radio service if we can show justification with utilization of this frequency in the future. I suggest that it be considered for the code free class license.

These two frequencies have a limited range and should carry limited power capability of 5 watts maximum output to a vertically polarized antenna. The modes of operation authorized for this frequency should be CW, ASCII, Baudot, Packet, and digital types of emissions as compatible with present day computer technology. These modes would be limited to one section of the 220 MHz and the 902 MHz frequencies. A second portion of the frequencies would be allocated to voice communications in the FM and SSB modes.

It would be desirable that amateur licensees holding the technician or higher class licenses be allowed the privilege of operating on the new 220 MHz and 902 MHz frequencies. This will allow us to communicate with these new amateur radio operators entering our ranks under the code free license. Through our contacts we could encourage them to participate in the code and theory classes to expand their capabilities by passing the tests for the novice, technician, and other levels of amateur radio license. This could be an acceptable procedure for the proposed code free license providing the selectivity process would follow a written test of general or high class theory, with rules, regulations, and operating procedures as part of the test questions.

The licensing of these individuals could follow the same format as calls now assigned, let's say in the novice class, except that it would include a one (1) in front of the present call. For example, the fifth (5th) call area would be issued a KA15AAA, those in the zero (0) land would be a KA2ØAAA, and the ninth (9th) call area would be a KA19AAA, etc. It would not utilize the one zero (10) because of the possible confusion there, and start with a one one (11) through two zero (20). Later, should the person upgrade their license to a novice, technician, or higher class, they would only have to drop the first digit of the number in the sign call. This would offer the FCC a minimum of paper work burden and may be an acceptable means by which to designate the new code free license holder.

I must restate that my impression of the information being fed out from the FCC is that we, the amateur radio operators, must be prepared to accept a code free license, as you see on Page 9 of the March QST, President Clark's comments that this proposed regulation, 83-28, is not the generation of the American Radio Relay League but strictly that of the FCC, and all indicatio are the FCC is going to implement a code free license. Please respond with your comments as you see appropriate to the FCC.

I have received 287 questionnaires from those of you in the division; I appreciate your effort in this area. These will be included with my response to the ARRL, and they in turn will forward them to the FCC for their review. I assure you that all steps possible will be taken through this division to convince the FCC that we are very concerned about this proposal and if it has to be a new level in amateur radio service, we want to have proper controls. We must submit our recommendations for consideration before the implementation of a program that could destroy amateur radio service as we know it today.

Please respond with your letter, post card, or whatever format you wish to the Federal Communications Commission, with a copy to me or to the League so that we will know your wishes. Now is the time to let your voice be heard. Very best wishes to you as we continue to work for the growth of amateur radio in this division.

73,

Ray, WSEDZ

Shawnee Amateur Radio Club

W 5 S X A

I will have to apologize for not having some input for the month of February. I will try to do better.

We all grieve the passing of Lyle WB5OHY late in February.

Mel K5KXL spent time in the hospital recently. Sigurd DL7HI/5 is improving and is getting around some now.

The Shawnee Amateur Radio Club has started classes to recruit new hams. The classes meet the second and fourth Tuesdays of the month- after the club meeting. Jay KD5NX is in charge of the classes and he told me that he might be calling upon some of the club members for some help.

A Wx class for the Pottawatomie County Amateurs was held March 22, 1983. We are very fortunate to have Tony Mullins in our area. He always does a fine job.

At the meeting of Feb. 22, 1983, the club discussed the possibility of helping the Sheriff's Department in some activities, such as lost persons, etc.

The need to get mile markers back in place in the county, especially in the Southwest area of the county, was also discussed. Bob K5LZF has been working on this project with the county commissioners.

I guess we do have a few DX'ers left in the area. David N5CGZ said he has worn out his 10 meter antenna.

In the meeting of March 8, 1983 we were delighted to have Art Roberts W1GOM and his lovely wife. It was an excellent opportunity for the club to get acquainted and have a good informal discussion with Art. I believe a wise choice was made when Art was appointed to the job.

David N5CGZ, our vice president, chaired the meeting in the absence of our president, and did a fine job. We will need to keep David in mind come next election.

Ron KA5CAY, our county C. D. Director, discussed storm watch precedures. Several changes were discussed and several changes will be made in our procedures.

Herb W5TQZ will coordinate the storm watch net with the National Wx service off the net frequency and bring information to the net that will help in our watch.

Ten members and seven visitors attended the meeting.

Two friends were hunting in the mountains. They came upon a large bear. The bear began chasing them. One of the hunters sat down and began putting on his jogging shoes. The other hunter said, "You fool. You can't outrun that bear". The friend said, "I don't have to outrun the bear. I just have to outrun you."

BE NICE TO EVERYONE!

73 Earl WB5ZBA

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HAM HAPPENINGS — REFER TO CLUB SECTION FOR SPECIFICS

APRIL

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
	APRIL FOOL	APRIL FOOL	APRIL FOOL	APRIL FOOL	See 18th for ACARC 1 APRIL FOOL	Pawhuska Hamfest See Next Saturday for COCO 2
3	OK-DX 4	Great Plains M O R I 5	ARDMORE 6	EDMOND Club 7	8	SCARS 9 am COCO 9
Wheatstraw Calumet 10	SEOARC 11	Okla Univ SHAWNEE 12 76'ers	13	ALTUS AREA 14	15	VHF Club LAWTON HAMFEST 16
LAWTON HAMFEST 17	Aeronautical Center ARC 18	AUTOPATCH 19	20	KAY County 21	22	23
24	ARES 25	CORA 26 SHAWNEE	27	28	29	30

EDIT

Central Oklahoma Radio Amateurs
COLLECTOR - EMITTER

Mike Kramer KA5NUP

146.025 / 146.625 REPEATER

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