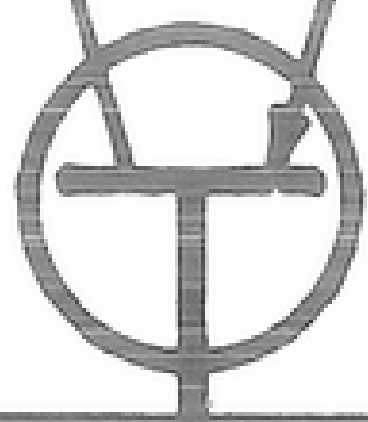


Central Oklahoma Radio Amateurs

COLLECTOR AND EMITTER

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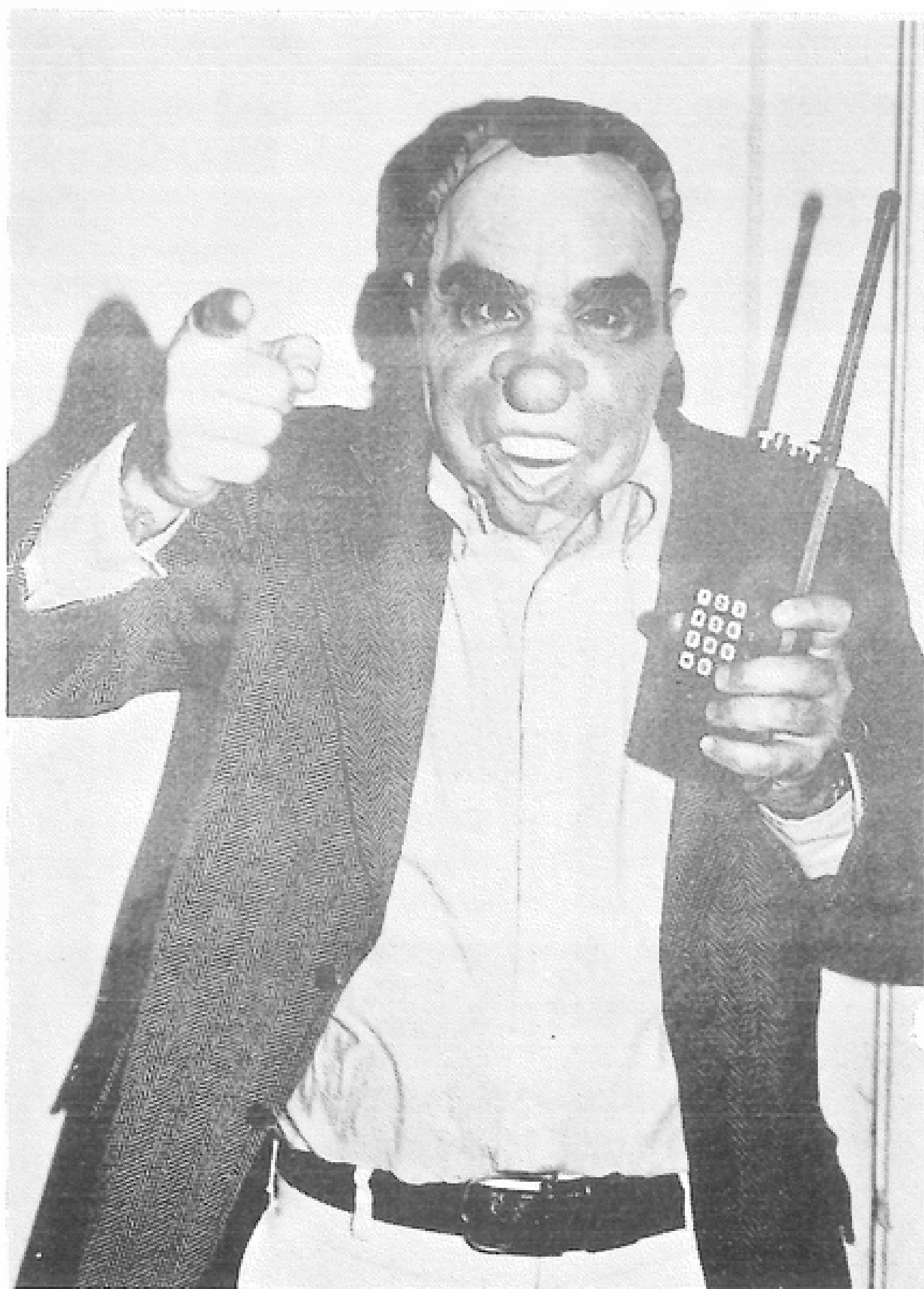
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PUBLISHED MONTHLY BY AND
FOR OKLAHOMA RADIO
AMATEURS

AND ANYONE INTERESTED IN
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Volume 7

APRIL 1981

Number 75



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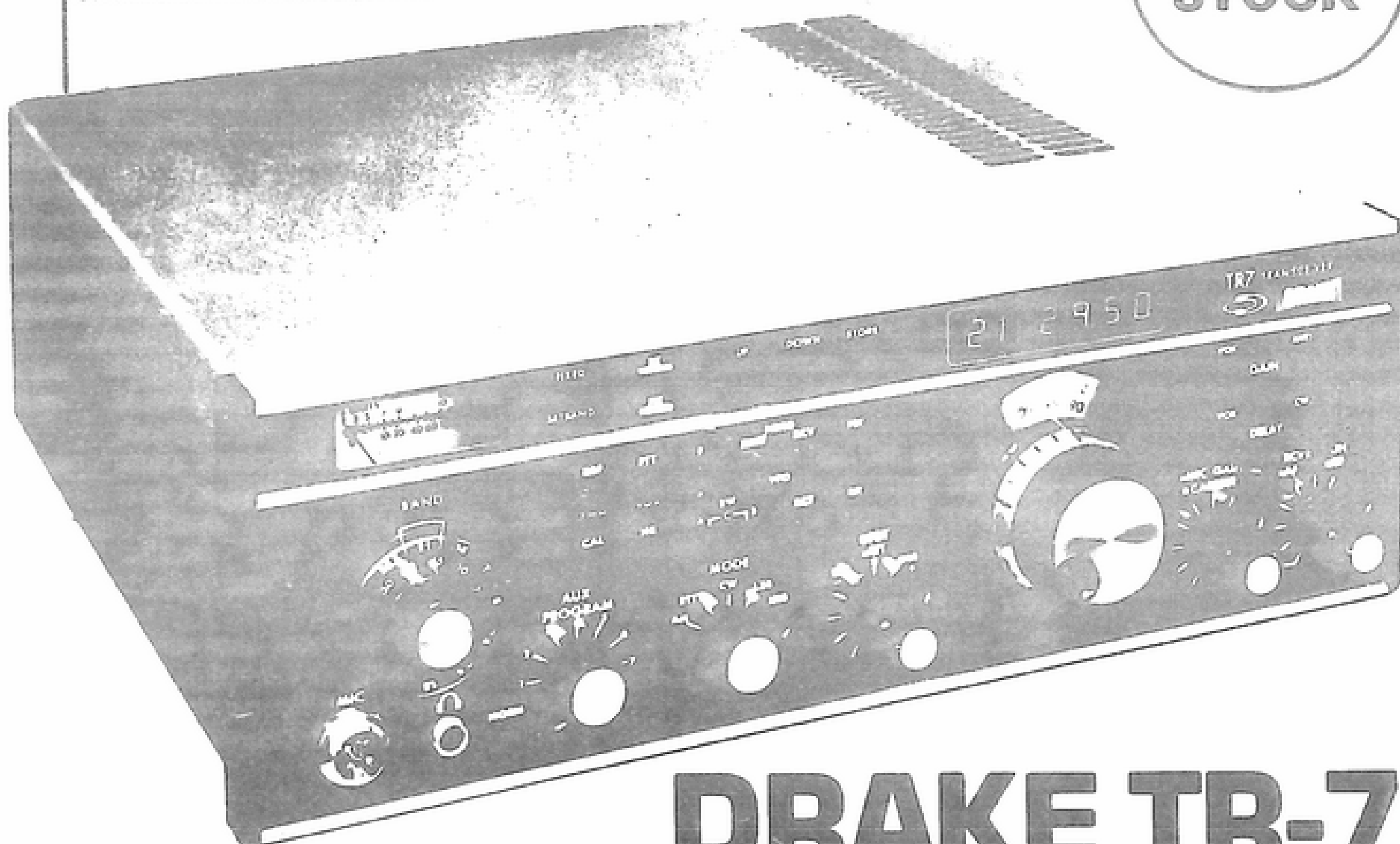
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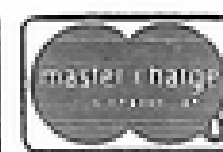
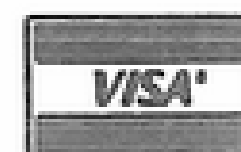
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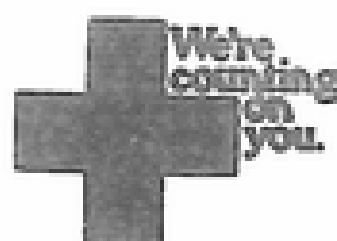
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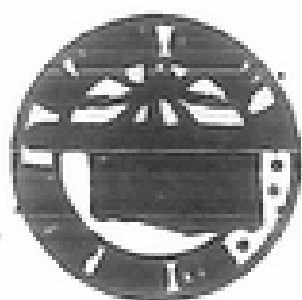
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NEWS
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EDITOR: Joe Buswell, K5JB 732-0676

MINUTES OF MARCH MEETING

WILL HAVE TO BE PUBLISHED IN THE MAY ISSUE BECAUSE C&E PUBLICATION DATE WENT OUT OF PHASE LOCK WITH THE MEETING SCHEDULE. PASTE-UP THIS MONTH WILL OCCUR THE EVENING BEFORE THE CLUB MEETING

KEN, WB5ECJ, REPORTS, AND THE CLUB THEREFORE WISHES TO THANK WILLIAM WARREN, WB5TZQ, WHO DONATED 150 FEET OF ROTOR CONTROL CABLE TO THE CLUB FOR USE AT THE CLUB STATION. MANY THANKS BILL! JOE, K5JB

APRIL FOOL ELIMINATOR FOR BEARCAT 101

I WISH I COULD SAY THAT THIS IS A REPRINT OF AN ARTICLE PUBLISHED IN 1976 BECAUSE IT DESCRIBES A MODIFICATION THAT SHOULD HAVE BEEN MADE TO THE BEARCAT 101 SCANNING RECEIVER WHEN IT WAS FIRST OBTAINED IN 1976. BUT IT IS NOT THE CASE. ONLY RECENTLY I BECAME SUFFICIENTLY PESTERED BY BAD HABIT OF THE RECEIVER TO DISCOVER A SIMPLE CORRECTION.

THE PROBLEM WAS THIS. WHEN THE RECEIVER WAS SCANNING, SOMETIMES IT WOULDN'T RECOGNIZE THAT THERE WAS A SIGNAL ON A PROGRAMMED FREQUENCY UNTIL IT HAD SCANNED OVER IT THREE OR FOUR TIMES. I ASSUMED IT WAS SCANNING SO FAST, IT DIDN'T HAVE TIME TO LOOK AND SEE IF ANYONE WAS THERE, KIND OF LIKE SOME HF OPERATORS I HAVE HEARD. THIS PROBLEM WAS NO BIG DEAL BUT IT WAS RELATED TO A PROBLEM THAT WAS REALLY IRRITATING. WHEN STEPPED MANUALLY TO A PROGRAMMED CHANNEL, IT WAS OFTEN DEAF AS A POST. THE SOLUTION WAS TO LET IT SCAN UNTIL IT STOPPED ON THE DESIRED CHANNEL THEN LOCK IT THERE, OR MANUALLY STEP IT TO THE CHANNEL WHEN IT WAS BUSY. NEEDLESS TO SAY, THIS WAS SATISFACTORY FOR CASUAL LISTENING. THE BUBBLE BURST THOUGH WHEN ANY RF WAS BROUGHT AROUND THE THING. IT WOULD BURRRP...AND THEN GO DEAF.

WELL I RECENTLY GOT MY CURIOSITY UP ENOUGH TO GET INTO THE THING AND MESS AROUND WITH IT A LITTLE. I DIDN'T HAVE ANY MORE INFORMATION THAN THAT WHICH CAME WITH THE SET BUT I FIGURED THAT WITH A LITTLE POKING I COULD FIND AND RETUNE THE VCO TO GET IT TO LOCK MORE RELIABLY. REFER TO FIGURE 1 FOR A PEEK AT THE SOLUTION AND IN REFERENCE TO DESCRIPTION OF LOOP LOW PASS FILTERS WHICH FOLLOWS.

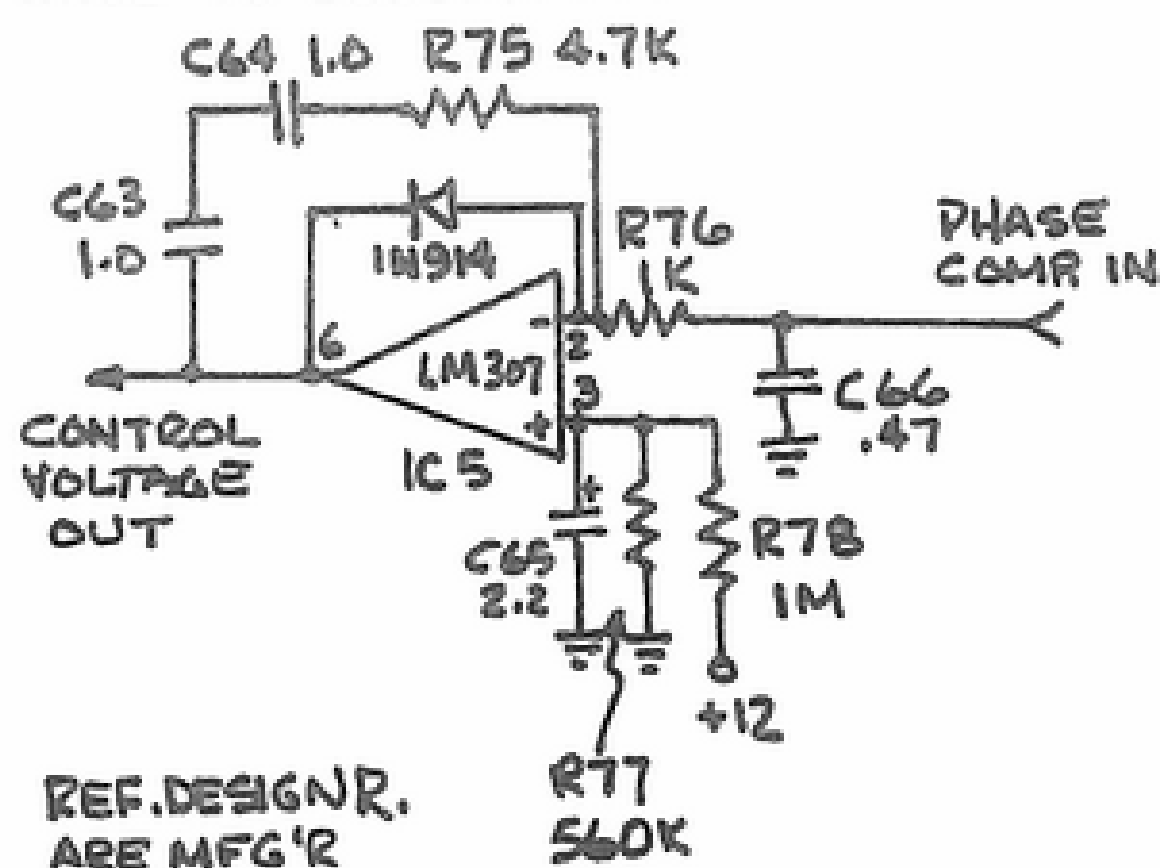


FIGURE 1. LOOP LOW-PASS FILTER

A PLL CIRCUIT WORKS BY COMPARING PHASE OF A VOLTAGE CONTROLLED OSCILLATOR TO A STABLE REFERENCE OSCILLATOR, DEVELOPING A CORRECTION VOLTAGE THAT IS A FUNCTION OF PHASE ERROR, AND APPLYING IT TO THE VCO IN SUCH A WAY AS TO CAUSE IT TO CORRECT ITS PHASE AND STAY ON THE STRAIGHT AND NARROW FREQUENCY. THE PHASE ERROR SIGNAL IS A NERVOUS NELLY AND IF IT WAS APPLIED TO THE VCO DIRECTLY, IT WOULD HAVE THE FREQUENCY WIGGLING ALL OVER THE PLACE, CAUSING A NOISE IN THE RECEIVER CALLED PHASE JITTER, OR PHASE NOISE. A CIRCUIT IS THEREFORE INCLUDED TO SMOOTH THE ERROR SIGNAL AND IT IS CALLED THE LOOP LOW PASS FILTER. THE ONE DRAWN IN FIGURE 1

IS CONSTRUCTED FROM AN OP AMP WIRED IN LOW PASS CONFIGURATION. PIN 2 IS THE INVERTING INPUT. THE OUTPUT, PIN 6, IS CONNECTED BY TWO CAPACITORS AND A RESISTOR TO THE INVERTING INPUT AND HAS THE EFFECT OF KILLING THE GAIN AT HIGH FREQUENCIES. DC VOLTAGES ARE AMPLIFIED

GREATLY BY THE OP AMP. THE ONLY CONTROL OVER THE OPERATING POINT OF THE OP AMP IS THE ASSUMPTION THAT THE VCO IS UNDER CONTROL AND THAT THE PHASE COMPARATOR IS RELATIVELY HAPPY WITH ITS PHASE, AND THUS, FREQUENCY. THIS IS A BAD ASSUMPTION. ON THIS RADIO, AS THE FREQUENCY GOES UP, THE CONTROL VOLTAGE CAUSES IT BY GOING MORE POSITIVE. THIS IS ACCOMPLISHED BY THE AVERAGE VOLTAGE OF THE PHASE COMPARATOR GOING A LITTLE BIT NEGATIVE, BUMPING THE FREQUENCY UPWARD UNTIL PHASE LOCK IS ACHIEVED. I NOTICED THAT THE NORMAL TUNING RANGE OF THE CONTROL VOLTAGE WAS FROM ABOUT 5 TO 12 VOLTS, OR SO, THE HIGHER THE FREQUENCY, THE HIGHER THE VOLTAGE. WHEN IT FELL OUT OF LOCK, THE CONTROL VOLTAGE DROPPED TO ABOUT 1 VOLT. AT THAT POINT, THE VOLTAGE ON PIN 2 WAS OBSERVED TO BE ABOUT 10 VOLTS. UNDER LOCKED CONDITIONS, VOLTAGE ON PIN 2 WAS 4 VOLTS, THE SAME AS THE REFERENCE VOLTAGE ON PIN 3.

THE SOLUTION WAS SO SIMPLE I COULDN'T BELIEVE IT. DIODE 1N914 WAS ADDED BETWEEN PINS 2 AND 6 AS SHOWN IN THE FIGURE. WHEN LOOP LOCK IS NOW LOST, OR VOLTAGE ON PIN 6 DROPS BELOW 4 VOLTS, PIN 2 IS JERKED BELOW THE VOLTAGE ON PIN 3, CAUSING THE OUTPUT VOLTAGE ON PIN 6 TO JUMP HIGH AND THE OSCILLATOR TO SWEEP BACK INTO LOCK RANGE.

NOW, THE RECEIVER CAN BE SET ON A CHANNEL AND ZAPPED WITH RF FROM A WALKIE TALKIE, GOING DEAF ONLY WHILE THE RF IS SOAKING IT. AS SOON AS THE KEY IS RELEASED, THE RECEIVER IS BACK TO LIFE. JOE, K5JB

SORRY, WRONG NUMBER - A SELECTIVE CALL DECODER

NUMEROUS ARTICLES HAVE APPEARED IN THE AMATEUR PUBLICATIONS DESCRIBING USE OF TOUCH TONE ®, ABBREVIATED DTMF, FOR REMOTE CONTROL PURPOSES AND NEARLY EVERYONE IS AWARE OF HOW DTMF TONES CAN BE USED TO REMOTELY CONTROL THINGS IF HE HAS EVER HEARD AN AUTOPATCH BEING USED. IN MY FASCINATION FOR REMOTE CONTROL, I HAVE DABBLED WITH DTMF AND CONTROL LOGIC TO PERFORM USEFUL, AND OTHERWISE, TRICKS. ONE OF THE LATEST THAT HAS STIRRED SOME INTEREST IS SELECTIVE CALL.

THE SYSTEM THAT I AM CURRENTLY EXPERIMENTING WITH CAUSES SPEAKER AUDIO FROM A RECEIVER TO BE MUTED UNTIL THREE STANDARD DTMF TONE DIGITS ARE RECEIVED IN PROPER SEQUENCE. TWO DIGITS WOULD PROBABLY HAVE BEEN ENOUGH, ALLOWING THE NUMBER OF UNIQUE CODES TO BE AS HIGH AS 144 FROM A TWELVE BUTTON PAD. IF STAR, POUND, ONE AND ZERO WERE NOT CONSIDERED BECAUSE IT MIGHT BE USED ON AN AUTOPATCH REPEATER, MAXIMUM NUMBER OF UNIQUE CODES WOULD BE SIXTY FOUR. WITH THREE DIGIT DECODING, MAXIMUM NUMBER OF COMBINATIONS WOULD BE 1728. EVEN WITH THE AVOIDANCE OF STAR, POUND, ONE AND ZERO THERE WOULD STILL BE 512 POSSIBLE CODES, MORE THAN ENOUGH TO GO AROUND. FOR REASONS GIVEN LATER TO SIMPLIFY ON-OFF LATCHING, A THREE DIGIT CODE WAS DECIDED ON. WITH A LITTLE MORE SOPHISTICATION OF THE DECODER, IT WOULD BE EASILY EXPANDED TO SEVEN DIGITS TO ALLOW DECODING A TELEPHONE NUMBER.

THIS ARTICLE WILL BE IN TWO PARTS. IT WOULD BE MORE LOGICAL TO START WITH THE DTMF DECODER BUT SINCE THIS IS APRIL FOOL ISSUE, I WILL DESCRIBE THE LOGIC THIS MONTH AND GO INTO THE DTMF DECODING NEXT MONTH. ACTUALLY, THE DTMF DECODER I AM USING IS A SURPLUS ONE CAST OFF FROM TELEPHONE SERVICE AND IS NOT EASILY REPRODUCIBLE. THE DECODER FUNCTION CAN BE PERFORMED A NUMBER OF WAYS AND AFTER CONSIDERING THE TRADE-OFFS, I'LL GO INTO THE DETAILS NEXT MONTH. THE DECODER DESIGNS WILL BE DESCRIBED HERE ONLY TO THE EXTENT NECESSARY TO ALLOW UNDERSTANDING OF THE LOGIC. THE LOGIC PORTIONS COULD BE BUILT AS A BUILDING BLOCK AND CONNECTED TO A DTMF DECODER OF VIRTUALLY ANY DESIGN, OR BUILT AS A PROJECT IN ITSELF TO EXPLORE SOME BASIC LOGIC FUNCTIONS AND CREATE SEQUENTIAL LIGHT FLASHER, OR WHATEVER.

TWO METHODS FOR RECOGNIZING A CERTAIN SEQUENCE OF KEYED TONE PAIRS WERE EXPLORED. ONE METHOD REQUIRES ONLY TWO TONE DECODERS, CAUSING THEM TO SWITCH FREQUENCY TO THE NEXT EXPECTED VALID TONE PAIR AFTER EACH TONE PAIR IS DECODED. THE SECOND METHOD REQUIRES DTMF DECODERS FOR EACH VALID TONE BEING RECEIVED, MAXIMUM NUMBER OF DECODERS IS SIX IF NO REPETITION OF A ROW OR COLUMN IS EXPECTED. THIS MEANS TO USE THE CODE 7-5-3, SIX DECODERS WOULD BE REQUIRED USING THE SECOND

METHOD. WHAT THE HECK, WITH SEVEN TONE DECODERS, ANY OF THE TWELVE FUNCTION KEYS COULD BE PROGRAMMED SO THERE IS LITTLE ADVANTAGE TO A SPECIALIZED DESIGN USING SIX DECODERS. THE DECODER TO BE DESCRIBED NEXT MONTH WILL PROBABLY USE NE 567 PLL DEVICES THOUGH THERE ARE LATER METHODS AND EVEN A POSSIBLE METHOD OF USING COILS AND CAPACITOR OUT OF AN OLD WESTERN ELECTRIC PAD.

THE LOGIC CIRCUIT FOR THE SEQUENTIAL DECODER IS SHOWN IN FIGURE 1. IT IS CONSTRUCTED FROM READILY AVAILABLE DEVICES AND CONSISTS OF AN ANTI-FALSING TIMER, U1, A TIMER, U2, WHICH ESTABLISHES A TWO SECOND WINDOW DURING WHICH THE SECOND AND THIRD DIGITS MUST BE SENT, U3 A COUNTER WHICH CAN COUNT UP TO FOUR IN BINARY, AND A SET OF NOR GATES WHICH CONVERT THE BINARY COUNT TO A COUNT OF 1, 2, 3, 4, OR IF YOU PREFER, 0, 1, 2, 3. THE NOR GATES IN U5 ARE USED TO PERFORM SOME OTHER FUNCTIONS AS WELL AS THE TWO SHOWN IN THIS CIRCUIT. THEY WILL BE CONNECTED IN A LATCH CIRCUIT IN ONE TEST CONFIGURATION OF THIS DECODER.

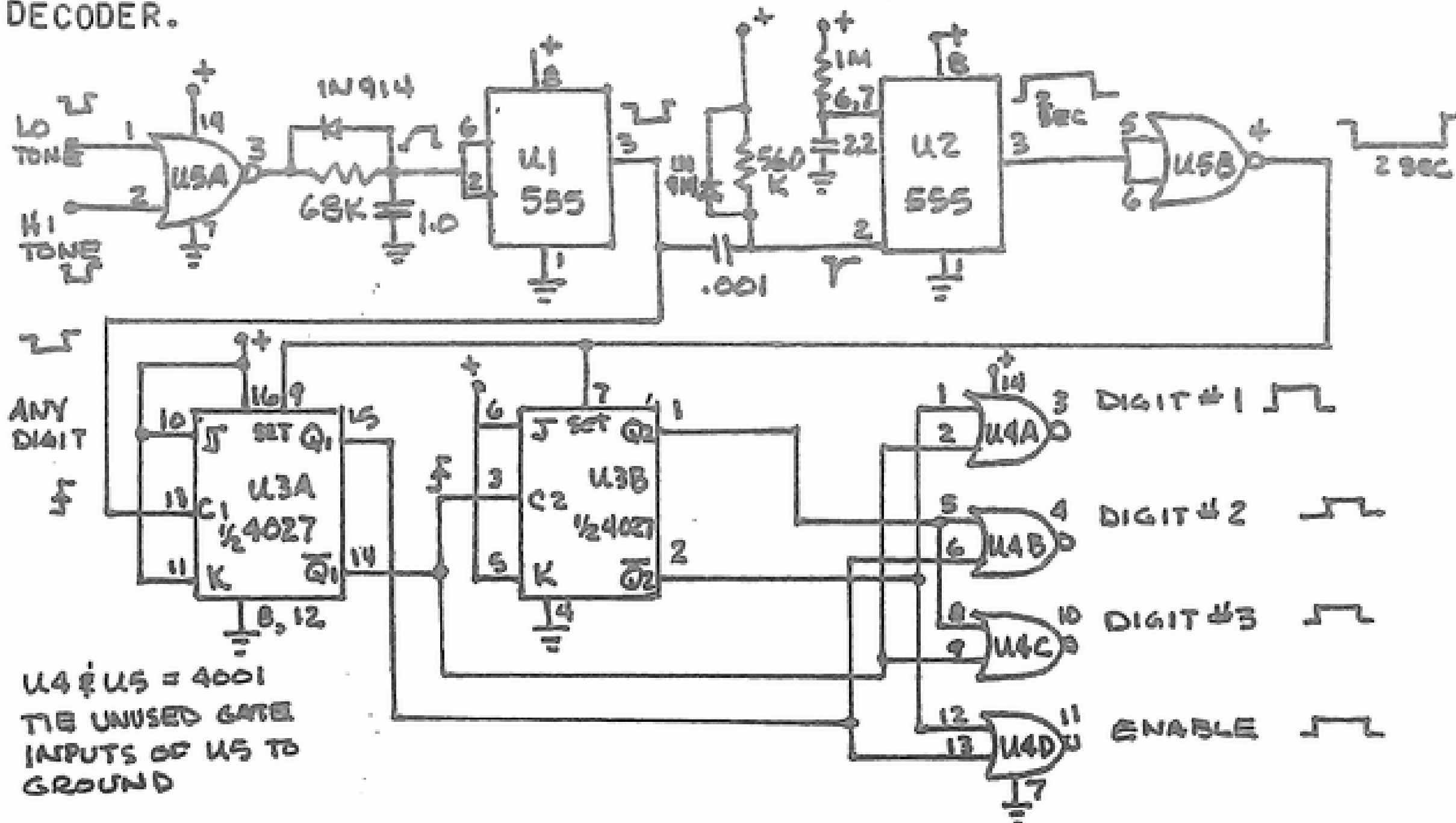


FIGURE 1. SEQUENTIAL DECODER

REFER TO FIGURE 1 AND THE TIMING DIAGRAM IN FIGURE 2 FOR DISCUSSION ON HOW THIS THING WORKS. SIGNAL SYMBOLS ARE SHOWN ON THE SCHEMATIC TO DEPICT THE ACTIVE STATE, THE SIGNAL CHARACTERISTIC THAT MAKES SOMETHING HAPPEN.

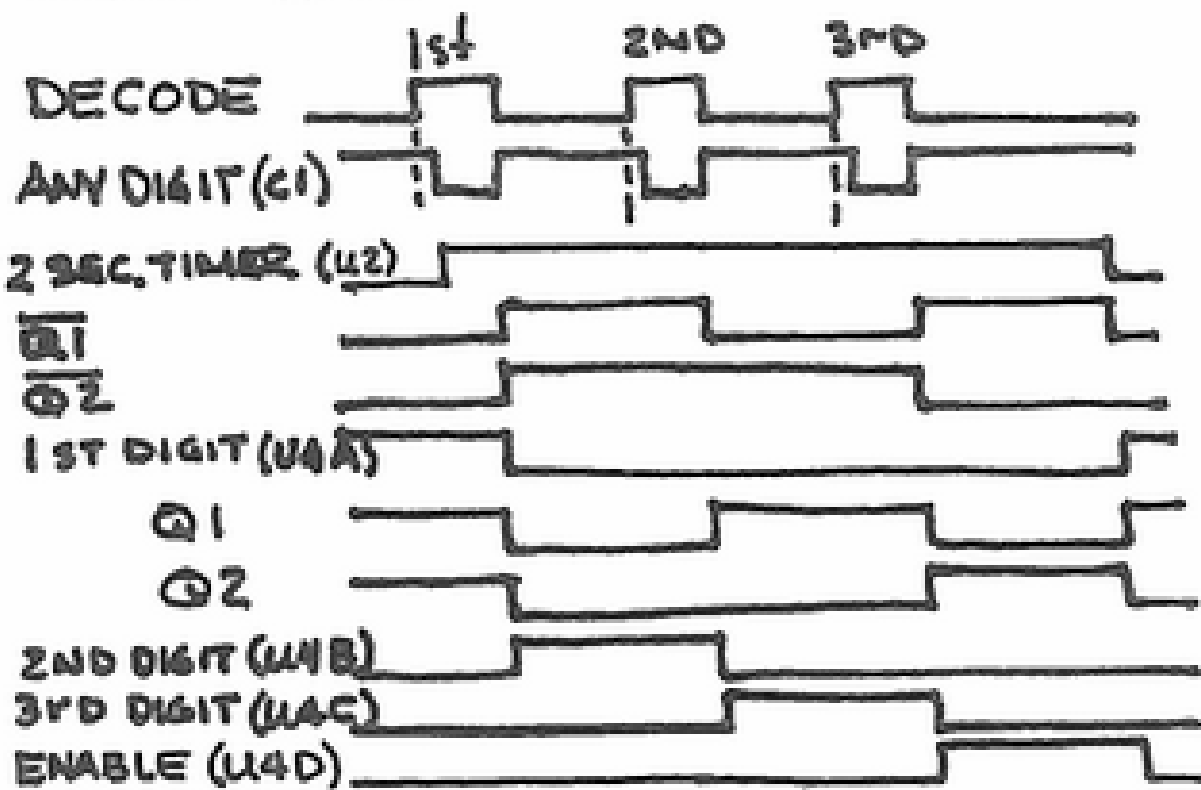


FIGURE 2 TIMING DIAGRAM

WHEN IDLE, OUTPUT, PIN 3, OF U2 IS LOW AND IS INVERTED BY NOR GATE U5B. THIS HIGH SIGNAL IS APPLIED TO THE "SET" INPUTS, PINS 9 AND 7 OF U3A, A 4027 JK FLIP-FLOP. THIS CONDITION TAKES PRIORITY OVER ALL OTHER SIGNALS ON THE JK FLIP-FLOP AND CAUSES Q1 AND Q2 TO BE HIGH AND $\overline{Q1}$ AND $\overline{Q2}$ TO BE LOW. THESE LATTER TWO LOW SIGNALS ARE SUPPLIED TO U4A. SINCE NEITHER INPUT IS HIGH, OUTPUT OF U4A, PIN 4 WILL BE HIGH, TELLING THE WHOLE WORLD IT IS WAITING FOR THE FIRST DIGIT TO BE DECODED.

THE JK FLIP-FLOPS, WHEN J AND K INPUTS ARE TIED HIGH, REVERSE OUTPUT STATES WHENEVER A CLOCK PULSE MAKES TRANSITION TO A HIGH. PIN 13, CLOCK INPUT OF U3A SEES THE FIRST POSITIVE TRANSITION AT THE END OF DECODING OF THE FIRST DIGIT. WHEN THIS HAPPENS, Q1 FLOPS LOW AND $\overline{Q1}$ FLIPS HIGH. THIS HIGH IS APPLIED TO C2 THE CLOCK INPUT OF U3B AND CAUSES ITS OUTPUT Q2 TO FLOP LOW AND $\overline{Q2}$ TO FLIP HIGH. INPUTS TO NOR

GATE U4B ARE CONNECTED TO Q1 AND Q2 AND SINCE NEITHER INPUT IS HIGH, ITS OUTPUT IS SWITCHED HIGH. EXAMINE THE CONNECTIONS BETWEEN THE JK FLIP FLOP OUTPUTS, THE NOR GATES' INPUTS, AND THE TIMING DIAGRAM. IT WILL BECOME APPARENT THAT THE OUTPUTS OF GATES IN U4 SWITCH HIGH IN SEQUENCE AS DIGITS ARE DECODED.

FOR TEST PURPOSES, THE INPUTS TO U5A CAN BE TIED TOGETHER AND CONNECTED THROUGH A HIGH VALUE RESISTOR TO THE SUPPLY VOLTAGE. THE SUPPLY VOLTAGE CAN BE FROM 5 TO 15 VOLTS, BUT IF NE 567'S ARE ADDED TO THE CIRCUIT, THE SUPPLY WILL PROBABLY BE REGULATED TO 5 VOLTS. A MOMENTARY CONTACT SWITCH CONNECTED BETWEEN THE NOR GATE INPUTS AND GROUND WILL ALLOW DIGIT DECODING TO BE SIMULATED. OUTPUTS OF U4 CAN BE TIED TO LIGHT EMITTING DIODES, LEDS, TO SHOW STATE OF EACH OUTPUT. CONNECT EACH OUTPUT TO THE ANODE OF A LED AND CONNECT CATHODE THROUGH A RESISTOR TO GROUND. IF FIVE VOLT SUPPLY IS USED, THIS RESISTOR CAN BE 470 OHMS AND IF 12 VOLTS IS USED, THE RESISTOR SHOULD BE 1.5K. IF THE PUSH BUTTON IS CLOSED THREE TIMES, SIMULATING THREE DIGITS BEING DECODED, THE LIGHTED LED WILL ADVANCE FROM GATE A, TO B, TO C, STOPPING AT GATE D. WHEN U2 TIMES OUT, THE LIGHTED LED WILL JUMP BACK TO GATE A. THE OUTPUT OF GATE D IS CALLED THE ENABLE OUTPUT AND WILL BE USED LATER TO SWITCH ON THE AUDIO AND A LATCH WILL KEEP IT ON UNTIL MANUALLY RESET.

THE UNUSED INPUTS OF U5 ARE TIED TO GROUND TO KEEP THEM FROM WANDERING AROUND AND CAUSING THE UNUSED GATES FROM CHATTERING. A CUTE LITTLE LATCH CAN BE CONNECTED TO GATES C AND D OF U4 TO PERFORM A SIMPLE ON-OFF FUNCTION. CONNECT GATES C AND D OF U5 TOGETHER AND TO GATES C AND D OF U4 AS SHOWN IN FIGURE 3.

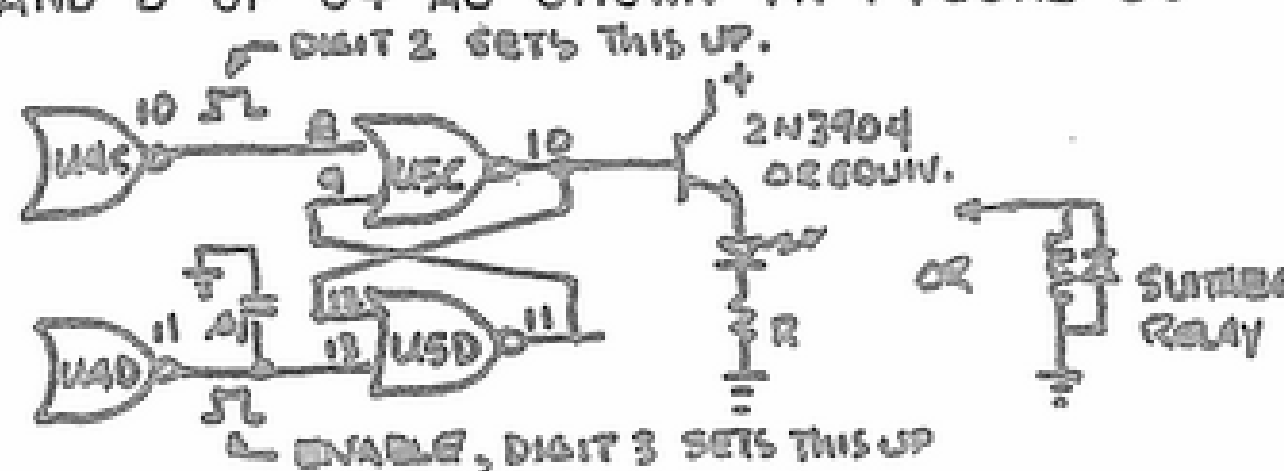


FIGURE THREE. R-S LATCH

THE TRANSISTOR IS CONNECTED TO GATE C TO PROVIDE ENOUGH DRIVE CURRENT FOR THE LED WITHOUT LOADING DOWN THE GATE EXCESSIVELY. OUTPUT OF U5C WILL SWITCH HIGH WHEN THREE DIGITS ARE DECODED. WHEN DIGIT 2 IS DECODED, THE HIGH OUTPUT OF U4C WILL CAUSE OUTPUT OF U5C TO GO

LOW. THIS LOW AND THE LOW FROM U4D WILL CAUSE OUTPUT OF U5D TO GO HIGH LATCHING THE PAIR AND LEAVING THE LED OFF. THE WAY IT WORKS IS ONE-TWO-THREE, ON, ONE-TWO, OFF.

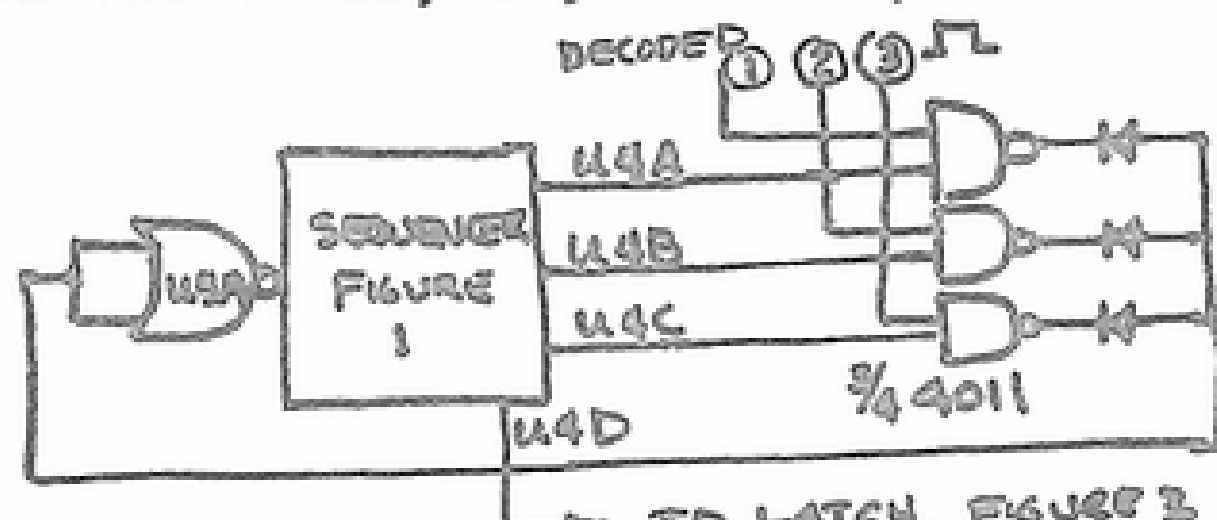


FIGURE 4. PREVIEW OF NEXT MONTH

FOR THE BENEFIT OF SOMEONE WHO HAS A DTMF DECODER AND WANTS TO GIVE THESE CIRCUITS A SHOT, I HAVE PROVIDED FIGURE 4 WHICH SHOWS HOW THE SEQUENCER IS CONNECTED TO A DECODER WHICH RESPONDS TO THE APPROPRIATE DIGITS WITH A LOGIC HIGH OUTPUT. ALSO, WITH THIS CIRCUIT THE THIRD DIGIT ENABLE WHICH

IS SET UP BY THE SECOND DECODED DIGIT CAN BE USED TO RESET THE RS LATCH SHOWN IN FIGURE 3. EVEN IF THE DTMF DECODER HAS A LITTLE CHATTER, THE ANTI-FALSE CIRCUIT OF U1 SHOULD CLEAN IT UP. IF THE 70 MS ANTI-FALSE PROVIDED BY THE 68 K RESISTOR IS INSUFFICIENT, IT CAN BE INCREASED TO PROPORTIONATELY INCREASE THE DELAY BEFORE A CHARACTER IS DECODED. TO BE CONTINUED NEXT MONTH. JOE, K5JB

DEAR JABBY

I HAVE AN ANTENNA PROBLEM. ALL I HAVE IS A LONGWIRE RUNNING FROM THE BATHROOM WINDOW TO THE BACK YARD FENCE. I KEEP MY RIG UNDER THE SINK AND THE ANTENNA TUNER UNDER THE WATER CLOSET. IT IS A BIT CRAMPED AND I WOULD LIKE TO GET RID OF THE TUNER BY PUTTING UP A TOWER AND RESONANT ANTENNAS BUT MY WIFE SAYS "NO WAY!", BESIDES TOWERS SEEM AWFULLY EXPENSIVE. ANY IDEAS? PLEASE ANSWER IN THE C&E BECAUSE MY WIFE READS MY MAIL. HENPECKED.

DEAR HENPECKED

THE COST OF A DIVORCE IS SOMETIMES INCLUDED IN PRICE OF TOWERS.



APRIL PROGRAM

BICENTENIAL *Amateur Radio Club*

The 76'ers program for APRIL will be AMATEUR COMMUNICATION USING COMPUTERS.
=====

The computer code ASCII will be explained and demonstrated as it is used as an amateur communication mode ! ! ! ! ! ! !

AIN'T THIS GREAT ?

A few local amateurs, already on the air with ASCII, will bring us our program. The amateurs are:

Jerry Sproul, N5AUH

Alan Perkins, WB5NER

Joe Couch, WB5BMP

Phil Hall, WD5BNT

Alan will be the master of ceremonies.

Don Duck, AE5N, is a computer buff and is working toward getting on the air with ASCII. Beg your pardon if we omitted any of the local enthusiasts. Incidentally, there is a local repeater for ASCII and RTTY. It is 146.10/70.

*****-----

ASCII and COMPUTER HOMEWORK

The April 76'ers program will be more informative and interesting to you if you will read one or more articles or books on the subject. Following are some suggestions. First is some literature on how a computer works. Then some ASCII articles are listed:

HOW A COMPUTER WORKS. MEET THE MICROPROCESSOR, QST -

Part 1, August, 1976, page 11

Same year

Part 2, September, 1976, page 15

we were

Part 3, October, 1976, page 32

born!!

BOOKS. HOME COMPUTERS by The Editors of Consumer Guide. Published by Beekman House, a Division of Crown Publishers, Inc., One Park Ave., New York, N.Y. 10016.

GETTING ACQUAINTED WITH MICROCOMPUTERS by Louis E. Frenzel, Jr. Publisher is Howard W. Sams & Co., Inc., 4300 W. 62nd Street, Indianapolis, In. 46268.

First book is reviewed in C&E, April, 1979, Page 43

Second book is reviewed in C&E, June, 1979, page 18

Several library books were studied for use in the article: FUNDAMENTALS OF COMPUTERS, November, 1977, C & E, page 17.

Some ASCII articles::

ASCII - at Last. QST, December, 1979, page 9

ASCII Rules. QST, April, 1980, page 74

But Do You Understand ASCII? QST, March, 1981, page 26

Time to Get Your ASSCII in Gear. C & E, October, 1978, page 16

An Introduction to Packet Radio. ham radio, June, 1979, page 64

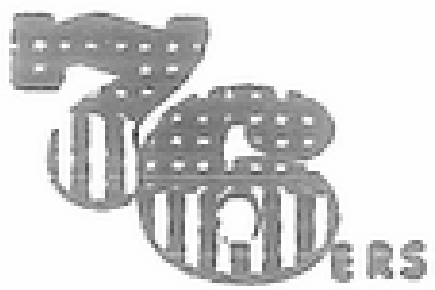
ASCII, BAUDOT and the Radio Amateur. QST, September, 1980, page 11

A CW ASCII Keyboard. QST, October, 1980, page 26

Bill, WA5RAQ

=====

DRAKE C LINE, T4XC,R4C,AC4/MS4....\$775. firm. Linear Amplifier, 10 thru 80 meters. Has 4-1000A tube and all heavy duty parts. It loafs along at a Kw. Reasonable offer or trade for older transceiver. call KB5CW..732-3990.



MINUTES

The March meeting was called to order by the Club President Bill KB5BS at 7:02 pm on the 10th at the Will Rogers Air National Guard Base with 46 members and guests attending.

The report on the Treasury by Joe WD5BMP was approved as read.

Since the February meeting was cancelled due to inclement weather the minutes of the previous meeting refer to the month of January and were approved as published in the February Collector and Emitter (C&E).

The Education committee chaired by Coy N5OK reported that there is no amateur class currently underway because there are no students because the ones who were, graduated with licenses; any further interest for licensing or upgrading should be reported to Coy or Ernie K5YKD.

The Technical committee chaired by Don AE5N and reported by Dick WB5TMW reported that the replacement receiver for the repeater had arrived and was on frequency to be fine-tuned while new control circuits were being built (if more people would volunteer to help with designing and etching the circuit cards: see Dick or Don).

The Field Day committee chaired by Dick WB5TMW reported that it was now accepting volunteers for all positions and a sign-up sheet was circulated for that effect.

The Ham Holiday 81 committee chaired by John KB6JTE received the volunteering of Paul WA5HTL and Jim WA5TDW and circulated a sign-up sheet for people to operate the registration desk.

The CORA committee chaired by C.Y. WB5TKG reported the events of the previous CORA meeting as found elsewhere in this issue.

On motion of Coy N5OK, second by Bob W5VZU the Club voted to financially support Ham Holiday 81 up to \$200.00 (Club Liability).

The refreshment break was taken from 8 till 8:15 pm.

The evening's program was "AmCare" presented by its Communications Director, Mike McElroy WA5PDH ably assisted by Emergency Medical Technician/Driver Art Roberts W1GOM and Oklahoma City Fire Department Communications Manager Jerry Rader W5UGM: very good and well-received training in those slides and brochures!

The Club adjourned to the aftermeeting at 9:11 pm.

The April meeting will be held on the 14th at the same time and place with the scheduled program to be "ASCII on 2-Meters." CU There.

Jim N5BEQ
Secretary

hr report #337, 13 MAR 81:

Eight jammers of a California repeater have been cited by the FCC's San Francisco office. The eight, two of whom are unlicensed, were cited for various rules violations resulting from an organized jamming effort against the Grissly Peak repeater, WB6AAE/R, last summer. All now face fines and/or license suspensions and revocations. The Amateurs involved are N6OZ, KB6IL, KA6KXP, WA6JIY, K6MMZ and KA6KWM.

Microwave radiation killed a New York telephone company supervisor, the state's Workers' Compensation Board ruled in a decision believed to be the first official finding of its kind. The supervisor, who worked with TV relay equipment on the Empire State Building's 87th floor, died of "abnormal, premature aging" according to Dr. Milton Zaret, radiation specialist and professor at NYU Medical School. The supervisor, who lost his sight, hair and coordination before dying at 58, had worked at the Empire State installation for eight years.

A ham radio chain letter, very likely the same one that was circulating in the United States a year or so ago, is now making the rounds in Australia. The recipient is asked to send the top person on the list a dollar, add his name at the bottom and then make 20 copies to send to other Amateurs. Results are to be reported to "Imperial Sales Co." in Knoxville, Tennessee.

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AGE SAGE: HOW TO KNOW WHEN YOU'RE GROWING OLDER or IS THERE REALLY LIFE AFTER 40 ? : TODAY YOU REMEMBER YOUR ANNIVERSARY WAS YESTERDAY!.

Jim n5beq



**Skunk
Hollow
ARC**

SKUNK HOLLOW AMATEUR RADIO CLUB
Skunk Hollow, Oklahoma 73073

SKUNK HOLLOW AMATEUR RADIO CLUB LATEST CORA MEMBER!!

(Editor's Note: The following material is submitted by CORA's newest member, the Skunk Hollow Amateur Radio Club, a just recently voted CORA member. Let's all welcome this small but active group who has already offered to take on their fair share of the work at Ham Holiday by being responsible for the Dick Bash memorial bookstore concession.)

Hello all fellow Oklahoma "ham" (Err, make that Amateur, don't want to hack off the natives) radio operators and let me tell you a little about the Skunk Hollow Amateur Radio Club (SHARC for short). We are located in Skunk Hollow, Oklahoma just about 30 miles or so south of Apache. Actually, we get our mail at the local filling station, run by our club president, Nicolas Dixon, WT5APE (that big gorilla). Since there are only about 30 people in the whole town, of whom 7 of us are amateurs, we didn't have any problem getting P. O. Box 73 as our mailing address. The Zip Code is 73073, another coincidence arranged by Nick.

Regular club meetings are the first day of every month at Nick's (the station also doubles as a town hall, so we have to share our meeting space with the Mouse Lodge) and begin promptly at 1830 p.m. Actually, the coffee drinking begins at that time and we get around to business about 7:15 or so with the Pledge of Allegiance and reading of the Amateur Code. The business portion of the meetings are usually short, and the program usually doesn't run much over 30 minutes or so. Licensing Classes are conducted twice a week on Monday nights, weather permitting, and code practice is sent twice a week on the Club's experimental 75 meter repeater. We welcome visiting amateurs to use the system and trustee WJ5GG asks people to properly identify before using the phone patch.

Our club has been in existence for only about 12 months or so and we hope that many of you will try to attend our first annual SHARC Hamfest scheduled for the last full weekend in April (same as Dayton and we expect to be the second best hamfest in the entire United States that weekend). The club is now in the process of applying for money from the town council for the purchase of a rig capable of using the repeater to put in the civil defense operating center. Come down and visit us when you get a chance. I am always monitoring 3813 ("listening 13") the output of the repeater.

Ethyl Rainwater WG5APR
SHARC Editor

MINUTES OF MARCH 1981 MEETING

The meeting was called to order at 2001 CST by President Dixon who welcomed all the 7 members in attendance. During the self-introductions WT5APE said that he had just finished converting a Radio Shack intercom to an eight band sideband transceiver, WJ5GG reported that the duplexer for the 75 meter repeater was in place and working perfectly and he would produce a picture for inclusion in the Collector and Emitter, WF5ZOE had just received an obscene QSL card from somebody who keeps keying up the repeater and talking like

SKUNK HOLLOW AMATEUR RADIO CLUB
Skunk Hollow, Oklahoma 73073

a kangaroo, KG1FUL reported that the new hand drawn SHARC patches were available for just \$5.00 (\$3.00 if you wanted crayon), WE5GJU killed a rat the other day while talking mobile, WJ5KTG pulled the big switch, and WG5APR announced she needed contributions for the "I Said" column for Collector and Emitter.

The minutes of the February meeting were approved as read with the exception that WG5APR moved for adjournment instead of KG1FUL. The Treasurer's report presented by WG5APR showed a balance of \$74.28 after adding receipts from last months fund raising ham dinner and deducting \$25.00 for crystals purchased by WJ5GG for the new duplexer.

Under Old Business, WT5APE announced that club affiliation with CORA had been accepted and Club scribe WG5APR would submit our first contribution for the next issue. WF5ZOE called for the question and the vote was 5-0 in favor with one abstention.

Under new business, Club Repeater Trustee WJ5GG reported that the club repeater had been the victim of malicious interference in the form of someone keying up and making noises like a kangaroo. He reported that he had been trying to get the jump on whoever it is but had been unsuccessful in locating the jammer with a new light weight vertical DF antenna. WJ5KTG suggested that the club should consider the purchase of a full size vertical to track the culprit down. Upon motion made by WG5APR and seconded by KG1FUL, it was unanimously agreed to purchase an S-meter for the repeater. WJ5GG also reported that the repeater output had been moved to 3813 in order to comply with the ARRL proposed bandplan for 75 meter repeaters. The frequency change of 10 Khz necessitated recrystalling the receiver to a standard 15 Khz split. GG said he didn't mind getting the new crystals, but it took a week and a half to retune the duplexer.

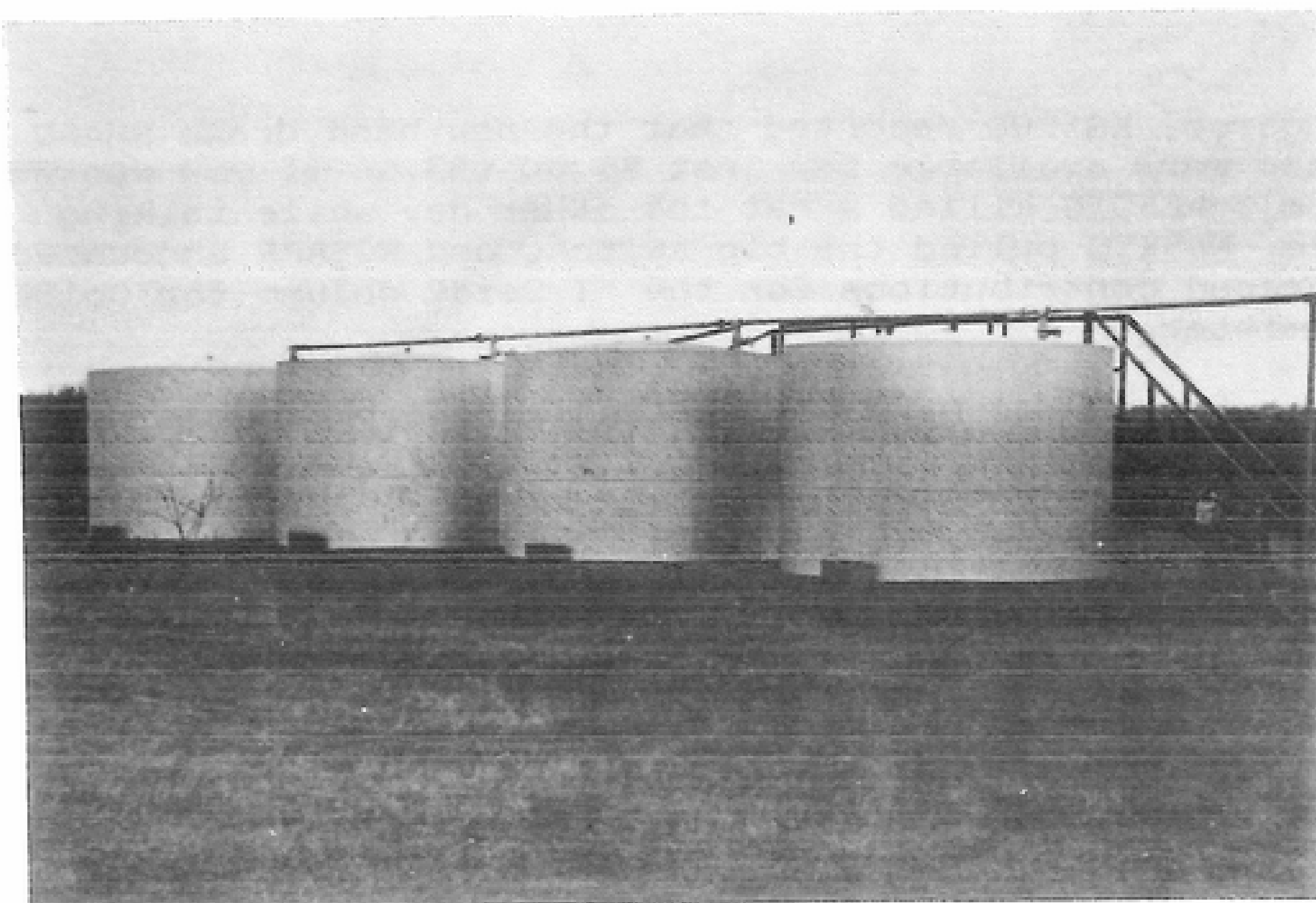
SHARC Hamfest Committee chairman WJ5KTG reported that progress was being made on arrangements for the first annual SHARC Radiofest to be held the same weekend as Dayton. The club president had already agreed to allow the flea market to be set up north of the gas station and the two garage stalls at the station can be used for programs and meetings. A collection for the prizes had already been taken up and it was acknowledged that a mint condition BC610 with knee key had been donated along with several 25 foot rolls of RG58 coax left over from another local hamfest. KTG also got a couple of donations of Radio Shack battery cards as door prizes. Nice going so far KTG. Keep those cards and letters coming in and KTG will announce preregistration information soon.

There being no further business, WF5ZOE called the question and the vote was now 3-2 in favor with two abstention. After that, the meeting was adjourned and we all adjourned to the wash stall for Moon Pies and Big Oranges.

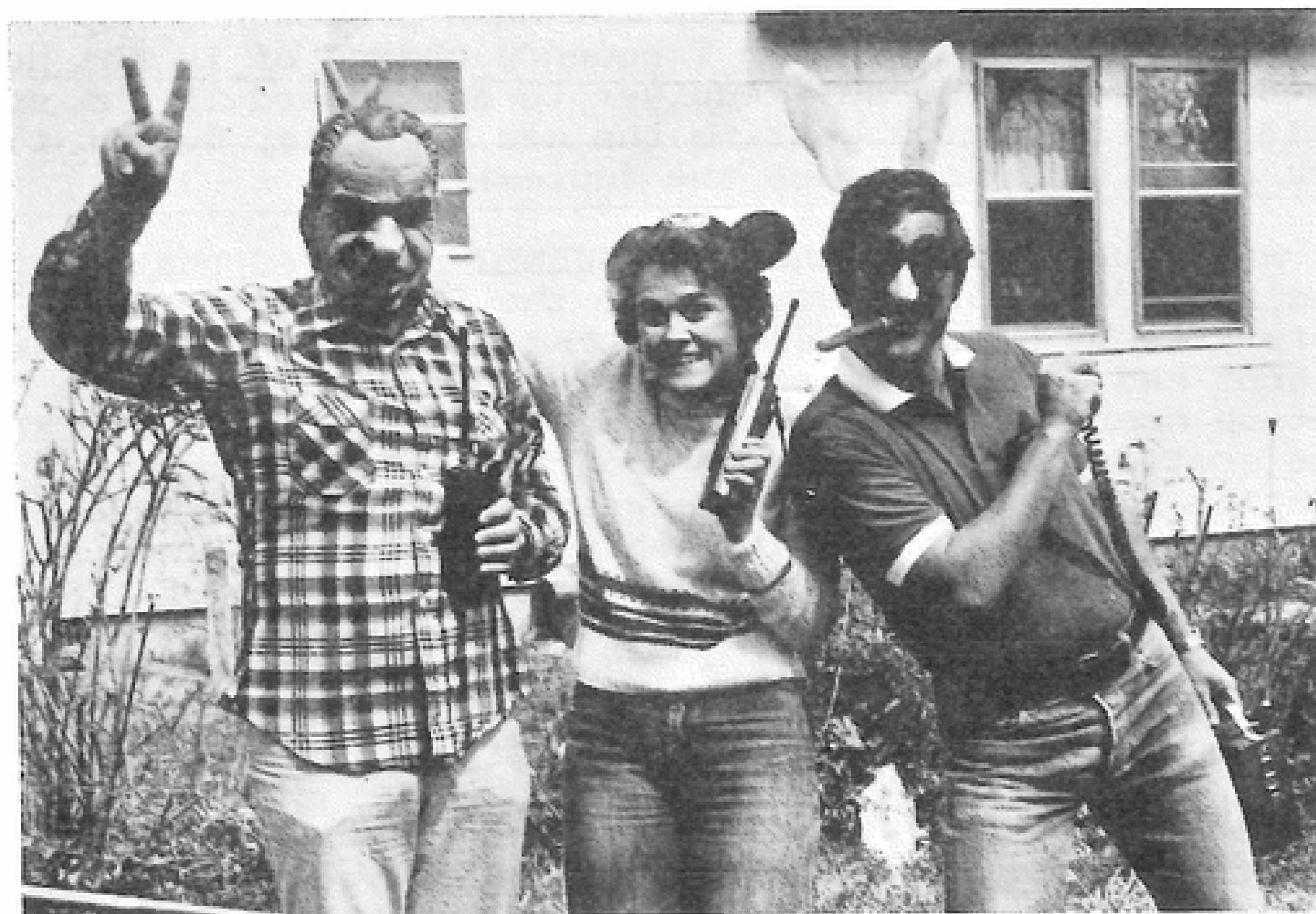
During the refreshments period, our program was presented by local DXer WE5GJU entitled "Stalking the Elusive PG5 and other DX tales of Delight." Good program GJU and I hope that you can come back next year and tell us about 10 meter pulse DX.

Ethy! Rainwater WG5APR

SHARC CUTTS!!!



Pictured above is the recently retuned 75 meter duplexer for the SHARC repeater. Club trustee WJ5GG reports that the repeater now conforms to the standard 15 khz split as recommended the ARRL proposed bandplan. GG is presently working on a mobile duplexer to take advantage of the repeaters full duplex phone patch capabilities.



For the first SHARC contribution to the Collector and Emitter, we thought we would include a picture of the club officers. Pictured above (from left to right) is Club President Nicolas Dixon (he's also the cover boy for our SHARC recruiting poster), repeater trustee WJ5GG, and Ethyl WG5APR, also a member of the local Mouse Lodge No. 24.



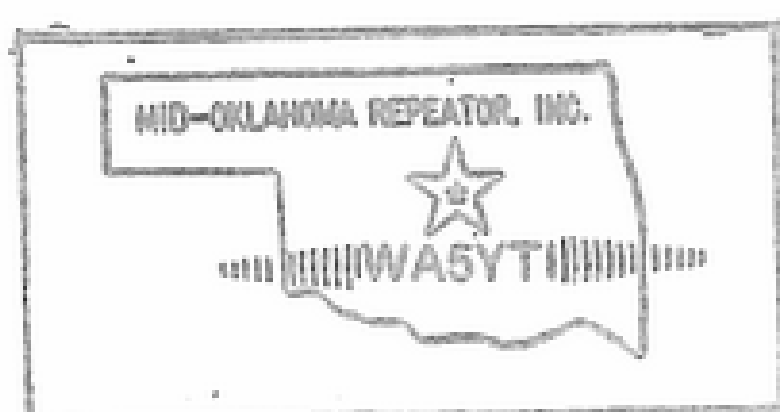
Happy Fool's Day!

Well, April is just about here and I remember a few things from the past three years, and it seemed like there were so many activities for everyone. This year, beginning with April 3 until the 5th, is the Lawton Hamfest, which I have attended and always had a lot of fun. In fact, I remember the very first time -- we were greeted and welcomed by Mel, WB5OPP (who is currently ??? at Lake Texoma) and the sounds of his train whistle -- if you haven't heard that yet, then you are missing something... You can almost always depend on Mel to be at one of the hamfests, etc., Mel, his wife, of course, the train whistle. Ruby, Mel (and the whistle) have become very good friends, and they are very fine people to know. *** Some of the other activities included Novice QSO parties on HF, picnics, Easter, 3 months away from Ham Holiday and so much more. I was informed last month that this year there will be CPR classes, conducted by Ralph Bartow - WD5IRB at the Red Cross and available for anyone who is interested. I think that this will be a very beneficial and rewarding program, so watch and listen for the times and dates to be announced. Hope to see you at these activities, because I really am looking forward to them myself and hope to see you. Also, if anyone is going to try and up-grade, remember the date for the exams is the 14th, good luck -- I am going to try again...

In the past few months, I have heard many compliments, comments and complaints about the different articles that I have been writing in C&E. Last month (March) I also noticed the word "editor" by my name in MORI's logo, well, I really don't mind taking the responsibility, but I DO think a lot of you could submit some very interesting things for publication, because I DO NOT know everything, so if you want to see something published, then mail it to me at (3113 Wilshire Terrace) or call me (842-8014) and I will do my very best to see it is published in one of the issues....

MARCH's meeting was held on the 3rd of the month at E. O. C. with 27 people present. I guess part of the reason a lot of people didn't show up is because of the mis-print in last month's issue, because it stated we were having a dinner/meeting. We will be having one very soon, so keep this in mind, and it will be announced on one of the repeaters, via C&E or via my mouth, etc. -- Hi! **** Our program was presented by one of our members, Clarence - K5YAQ who works for the Dept. of Transportation and he explained the importance of communications for the men who work out in the fields, to repair mal-function equipment such as a light goes out on a detour sign etc. There are 12 men assigned to 8 different divisions covering the State of Oklahoma. They use duplex frequencies have approximately 90 repeaters and base stations in operations. He passed out some literature for anyone interested in knowing some of the other systems performed. **** Marty KA5JUL gave us a CORA report about Ham Holiday-81, which will be held at the Myriad this year and told us about the participation MORI has. Any additional information or if you would like to assist, - contact him. I am sure he will share any details you might want to know. **** Jim K5VRL gave a report on the "intruder" situation, and said he has received several good clues, about location etc., and he and his volunteers will be doing some investigating in the next week or so...

**** We also got a report from Jim - N8AVX about the "Batfish Expedition" held last November -- he said there were 1100 contacts, and they operated all bands including 2 meters, about the only problem was a shortage of antennas. He also told us that this year, it will be held for only one day -- Veteran's Day. ***** We had our prize drawings, then everyone was dismissed at 10:17 PM. See you at the next meeting, April 7 at 8:00 P. M. at E. O. C. ***** Susie, KA5FED



ITS BEEN A BUSY, BUSY MONTH FOR THE CLUBAND I GATHER MOST OF YOU HAVE TAKEN ADVANTAGE OF THIS BEAUTIFUL WEATHER... FOR SOME REASON, MY TIME HAS BEEN AT A PREMIUM. GOTTA STOP THIS FOOLISHNESS, THIS HOBBY IS SUPPOSED TO BE FUN. ISN'T IT? I LOOK FORWARD TO THE COFFEE BREAKS, THE

PICNICS-----HEY!! WA5JGU CHARLIE GREENE AND THE BUNCH HAD CAMPFIRES AND WEINERS AT LAKE THUNDERBIRD RECENTLY WHICH I UNDERSTAND WAS A BLAST SURE SORRY I DIDN'T MAKE IT ... CHARLIE KNOWS WHAT ITS ALL ABOUT. WE SHOULD HAVE A SERIOUS SIDE.....SETTING UP A STATION THAT IS LIGHTNING PROOF, ERECTING AN ANTENNA, NET PARTICIPATION OR MAKING THAT TREASURED DX CONTACT..INJECTING FRIVOLITY IN THOSE SITUATIONS COULD BE DISASTROUS. A WELL ORDERED NET SESSION WOULD SUFFER. DON'T GET ME WRONG, I DON'T BEGRUDGE ANYONE HIS RECREATION. A CERTAIN AMOUNT IS A NECESSITY. HOPEFULLY WE WILL ALL WILLINGLY PARTICIPATE IN THE WEATHER NETS, THE ARES NETS ON MONDAY AT 9:00 PM, THE ARES EXERCISES, THE RED CROSS ACTIVITIES AND CERTAINLY YOUR OWN CLUB ACTIVITIES AND PROGRAMS. ON THE LIGHTER SIDE WE WILL HAVE COMMUNICATIONS JOBS IN WALKATHONS, JOGATHONS SPECIAL OLYMPICS WHICH ARE COMING UP. CAN YOU REPORT WITH A COMPLETE STATION AND ACCESSORIES (MOBILE) , PORTABLE POWER, AND PORTABLE ANTENNA TO OPERATE AT THE ASSIGNED PUBLIC SERVICE SITE?? BE A PART OF AN ORGANIZATION.....LET YOUR NAME AND CALL BE KNOWN AS A WILLING VOLUNTEER IF THAT IS YOUR THING. WILL YOU BE RECOGNIZED ON A NET AS A TRAINED AND KNOWN MEMBER OF A SERVICE ORGANIZATION. OR AT A DISASTER SITE? YOUR IDEAS MAY BE THE SPARK THAT MIGHT IGNITE A GROUP INTO POSITIVE ACTION. ACTIVE ORGANIZATIONS? THE RED CROSS, CIVIL DEFENSE, YOUTH ORGANIZATIONS, ARES, AND CERTAINLY YOUR OWN CLUB MAY HAVE AN ACTIVE AFFILIATION WITH A PUBLIC SERVICE GROUP. STEP UP AND SAY I'LL DO IT!!

CLUB HAPPENINGS

K5VRL. W5GNV, KA5DFV ARE SURE APPRECIATED FOR THEIR FANTASTIC JOB OF MONITORING AND RECORDING INCIDENTS PRESENTLY OCCURRING ON OUR REPEATERS. KUDOS TO K5JB AND K2GKK FOR THEIR FINE TECHNICAL ASSISTANCE AND SURVEILLANCE.

W5HXL THANKS BOB, FOR THE FINE COFFEE YOU AND THE VHF CLUB HAVE ALWAYS HAD AT THE RED CROSS FOR THE WORKERS.

KA5FED SUSIE IS REALLY ORGANIZING OUR FILES THANKS GAL...

KA5JUJ MARTY IS IN THE SWING WITH OUR HAM HOLIDAY JOB. EXHIBITORS ARE BEING CONTACTED IN SEVERAL WAYS TO ASSURE THAT WE WILL HAVE THE LARGEST BUNCH OF DEALERS EVER,,,

K5YAO THANKS, CLARENCE FOR A SUPER PROGRAM ON THE HIGHWAY DEPT RADIOS KB5KT DAVE IS MAKING FANTASTIC PROGRESS ON THE NEW BORDS FOR 07/67 HIS WORK IS METICULOUSLY NEAT. THANKS DAVE.....

K5HFN CHIEF COOK AND BOTTLEWASHER AT HIS HOUSE WHILE HIS XYL IS AILING HE IS HELPING MARVIN K5HQP WITH HAPPY FLYERS CONTRUCTION.

PUBLIC SERVICE OPPORTUNITY

APRIL 4 SATURDAY 8 AM

AMERICAN LUNG ASSOCIATION WALKATHON

MEET AT: HIGHLAND HILLS SCHOOL MOORE

WE WILL SERVE AS COMMUNICATIONS FOR THE DRAPER LAKE WALKATHON

SEE EVERYONE AT THE NEXT MEETING AT THE OKLA CITY EOC NE 46 AND EASTERN REMEMBER THE FIRST TUESDAY OF THE MONTH APRIL 7.

FRED KA5CXW

OOHH BABY! HERE COMES DAYTON!!

Ahh, Spring! The flowers bloom, the grass turns green, tiny birds and other beasts scurry about in nature's little activities. A time when naturally, a young ham's fancy turns to thoughts of . . . (dramatic pause) the 1981 Dayton Hamvention Extravaganze!! Wow, its only a couple of weeks away and by comparison, all other hamfest pale.

What superlatives can you attach to a three day colosses whose mere consideration of a 40 acre flea market causes strong men's knees to buckle and shake. Whose mouth would not water at the thought of over 150 commercial exhibitors hawking their wares from virtually every nook and cranny of the HARA Arena in North Dayton. Ahh, yes, this is really the first sign of spring. The end of a long winter's drought. Nirvana at the end of April. The Flea Market at the end of the long, dark, deep tunnel.

I wax on about Dayton because I just got the new brochure the other day and I could feel the sap beginning to rise. I have had word from a few informed souls around that the Oklahoma City contingency will be as large as ever. And why not? We deserve it. It would be a dull spring without it. And you know, you don't have to leave the wife at home. Special ladies programs include a Yoga and Herbalist instructor, Belly Dancing Class (couldn't hurt and I imagine that male spectator tickets are limited and highly prized), and a lecture in Genealogy.

The program committee has set a Microcomputer tutorial and application symposium for Friday including interfacing with the TRS-80, design and programming with the Motorola 6800, 6801, 6809 and Intel 8085, and Circuit Design using the (you guessed it) TRS-80. Saturday programs include contest, DX, Antique Amateur Radio, Weather Satellites, SSTV/ATV, QRP, RTTY, MARS, and the 10-10. Don't count out talks by Wayne Green and ARRL officials and a (tah dah) 10 Meter FM workshop. Might break my record of missing all the programs at Dayton the last five years and make it to that one.

So come one, come all. Registration is just \$6.00 (for all three days) and tickets can be obtained by writing to: Dayton HAMVENTION, Box 33, Dayton, Ohio 45405. Motel Reservation are available also, but the deadline is April 3. WB5YWO has already sent in ours and we still got lousy accommodations about 15 miles from the convention site.

THE "IT CAME AS NO SURPRIZE " DEPARTMENT --MDS DIVISION

I saw the letter in last month's C & E from John C. Keeney of the Criminal Division of the Justice Department to Marvin Leath of the House of Representatives regarding the MDS-gate I driveled on about in the last two issues of the C & E. I am not sure whether or not Mr. Keeney's letter is responsive to Holly Stewart's letter, but it seems to me that the thrust of John Osgood's letter was not directed toward the manufacturer's of "pirate antennas" but contained a real threat to people who just happen to have microwave dishes on their houses, whether used for MDS reception or not.

As far as the civil litigation that "ensued" between the HBO Affiliate and the manufacturer, I presume that this was intended to shut him down, whoever he is, to dry up the source of parts. I suppose that the MDS operator's rights can be adequately vindicated in this civil litigation since this is the only remedy that should be available to them. As Rosanne Rosannadanna would say, "It just goes to show, it's always something. Either you get sued by the MDS operator or you have a microwave dish on your house." The scare tactic worked fairly well. I am sure that quite a few dishes came off of a few

houses as a result of the District Attorney's letter. The same result might have occurred if the civil litigation had been as well publicized as the attempted criminal sanctions.

So I imagine that the issue is not over, but probably at a Mexican standoff for now. I would be interested to see what the result of the civil litigation will be, but unless the MDS operator decides to carry a few civil summons through the flea market the first Saturday of every month in Dallas, there are still going to be 2 gigahertz receivers available. You'll just have to drive to Dallas to get em.

So what's next? Well, before we look forward, I have a couple of questions. First, if MDS is a common carrier (as defined by the FCC) then why are they not regulated by the State Corporation Commission as a public utility? I was perusing the Statutes the other day and I found under Chapter 17 of Title 17 a series of sections dealing with radio common carriers. Section 201 defines "radio common carriers" as follows:

§ 201. Definition

The term "radio common carrier" shall include every person, firm, corporation or other legal entity operating or managing a radio system engaged in the business of furnishing for public use one-way or two-way radio communications and licensed as a miscellaneous common carrier by the Federal Communications Commission, but not engaged in the business of providing public landline message telephone service or public message telegraph service.

Laws 1970, c. 136, § 1, emerg. eff. April 7, 1970.

Hum. Now that's interesting. TVQ is certainly a common carrier under §201 since they provide one-way radio communications and are certainly licensed as a miscellaneous common carrier by the old FCC. So now we know that they meet the definition, what is in store for them? Well, roll on to the next section and we see that they are a public utility and as such must have a "certificate of convenience and necessity."

§ 202. Certificate of convenience and necessity—Application

Every "radio common carrier" is hereby declared to be a public utility and subject to the jurisdiction of the Corporation Commission as to its rates, services, practices and charges. Every such "radio common carrier" shall be required to secure a certificate of convenience and necessity from the Corporation Commission of Oklahoma to begin or continue the construction or operation of any such radio common carrier system or to transfer or dispose of the ownership of the same where lawfully established. The Corporation Commission shall issue no certificate of public convenience and necessity for such construction and/or operation until a written application, on forms and in the manner prescribed by the Commission, has been filed. Such application shall be accompanied by an affidavit that notice of the intention to file the same has been published for two consecutive weeks in a legal newspaper of general circulation in the county where the base station of operation is proposed to be located. Such application shall further be accompanied by proof of mailing notice of intention to file such application to the holders of all certificates for furnishing radio common carrier service within the area of normal communication by radio of such base station, to all landline telephone companies and to the chief executive officer of the city or town in which such base station is proposed to be located, or, if in a nonincorporated area, to such officer of the nearest city or town.

Laws 1970, c. 136, § 2, emerg. eff. April 7, 1970.

Well, what do we have here? Looks to me that TVQ needs a "certificate of convenience and necessity" to be in business in Oklahoma. And further, if the statute declares that all radio common carriers are considered to be "public utilities" then that means that they have to have a franchise from each city that they operate in. I began to wonder when TVQ got their certificate from the Corporation Commission, so I called them up and talked to one of the staff attorneys who indicated that they had nothing on file for TVQ. Really, now I think that's a bit much. Well, shouldn't they have a certificate? Replied the attorney, "I don't know, but we will check into it and if they are a common carrier, they will have to make an application to us."

Now, what happens if TVQ makes an application for a certificate they should

have applied for before ever putting goo into their antenna? Well, in order for the Corporation Commission to determine that the public good is served, they have to have a public hearing and take some evidence as to whether or not the certificate should be granted. Now, if I was Cox Cable or KAUT and I knew that a competitor was making an application they should have made five years ago and I had spent all that time getting a franchise agreement from the City of Oklahoma City (in the case of Cox Cable), then I certainly wouldn't want TVQ cutting into my market. KAUT could certainly argue that the public convenience is already being served by their megawatt transmitter. Amateur radio operators could argue that TVQ is an annoyance.

So what will happen? I don't know. The attorney for the Corporation Commission promised to find out if TVQ met the definition of a radio common carrier and call me back. That was over a month ago. It might be useful to call them and shake the tree again just to see what will happen. I really doubt that the Corporation Commission will deny TVQ a franchise since they will be the only MDS operator in town. The city franchise requirement is different. Most cities don't want franchises of utilities unless there is something in it for them. And the franchise election could be fairly expensive and it is borne by the prospective franchisee.

I spoke to a city council member of one of the OKC suburbs and I imagine that he will make an inquiry to the council as to why this franchise refugee radio common carrier is doing business within their city limits without benefit of the city's blessing. Could be an interesting turn of events, but that is life in the big city. If something pops up from the Corporation Commission, I'll let you know. Meanwhile, if the local MDS operator has equipment in your community, you might make inquiry of the city council when their franchise was granted.

Micheal Salem N5MS

THE "I'VE GOT THOSE PAY TV BLUES" DEPARTMENT

This is really getting silly. California passes a law signed by the Karma Kid, Jerry Brown, that attempted to shut down the brisk traffic that was occurring in decoders for one of the Pay TV services in California. So now, if you sell a device capable of receiving ON-TV, you might be a candidate for the crowbar hilton. All of which led to the following clever ad in the February 23, 1981 issue of Electronic News:

CALIF. GOV. JERRY BROWN NAILED US!!!

ACCORDING TO THE NEW CALIF. PENAL CODE, SECTION 1043.5, PARA. 2, WE CANNOT ... "manufacture, distribute, or sell for profit without the authority of a subscription television service any device or printed circuit containing circuitry for interception or decoding of any over-the-air transmission by a subscription television service pursuant to authority granted by the F.C.C. which is a misdemeanor by Penal Code, Section 593e, and punishable by a maximum fine of \$2,500 and/or 90 days in jail."

WELL ... WE'VE GOT NEWS FOR YOU, JERRY!!

ATTENTION ENGINEERS, HOBBISTS AND PIRATES!!

WE'VE GOT THE *ON-TV SCHEMATIC!!!!

It can be yours with a complete parts list, and a fully variable varactor tuner for the measly sum of ... \$69.95, plus applicable sales tax; which, is roughly what *ON-TV charges you for installation alone! The above law, as unfair to businesses as it is, still allows you, the consumer to "manufacture" your own for your private use; (provided, of course, that you don't sell it for profit), and enjoy it without looking over your shoulder for GOOD-OLD, J.B.!

Ah, Yes!! American ingenuity is really something to witness. And who was the dunder head who allowed a person to manufacture their own decoder? Another slipup maybe in the statute drafting department? Well, watch this space next month for another thrilling segment of "The Life of Jerry." He just hasn't been the same since Linda Ronstadt moved to New York to take up Gilbert and Sullivan.

Micheal Salem N5MS

RADAR JAMMER AND "FUZZ BUSTER" BILL PENDING IN LEGISLATURE

Boy, am I steamed. An article in the February 26 issue of Daily Oklahoman indicated that a Senate committee had approved a bill to ban the sale and use of devices designed to confuse radar systems used to enforce the speed limit law. As if there wasn't enough problems getting transmitters on 10 Gigs, they now have to come up with this one.

Actually the problem has been around for awhile. I saw a radar jammer of the type described two years ago in Dayton. All it is is a Gunn Oscillator modulated with an audio tone of an appropriate frequency designed to mimic the reflection "difference" frequency received by the typical police radar. There are various sources for the devices and they are low power (on the order of 10 MW or so). I have a couple and use them on 10 Ghz for playing around. Gunn oscillators can be amplitude modulated, but not more than about 40 or 50% unless you accept some distortion. The Gunnplexer is frequency modulated by a varactor diode in the oscillator cavity.

Radar jammers are illegal under the FCC rules and has been specifically mentioned in a public information release dated July 7, 1980 from the FCC. So why now does the State of Oklahoma desire to ban not only these transmitters, but also radar detectors? According to the newspaper article that I saw, apparently it is to "improve the morale of Oklahoma Highway Patrol troopers." Damn straight. Radar speed traps on the highway aren't sporting anymore. Jammers take all the thrill out of it. I mean, that's just like spotting the citizen driver three touchdowns and its the 4th quarter.

What's even more incredible is that the Senate passed the bill out by a vote of 32-13. Yee Gods, if it passes the house it could become law. And if so, then the patrol can go back to work to pay for all those new radar revenue raisers.

Now, I can understand trying to ban jammers. But the FCC has already made that against the law. But to ban radar receivers also is an unwanted byproduct of this legislation. I consider receivers to be a defensive device. Recent studies at the National Bureau of Standards have indicated quite a few deficiencies in various radar transmitter units in terms of beam width, lock up features, signal processing, and extraneous source interference. I mean, you could get nailed and not be guilty, especially if that large bed truck behind you a 1/4 mile was doing 10 over the speed limit. The larger surface area reflects more signal than your small 6 banger.

There is no solution to the problem. I guess we will always be playing the speeder and speedee game as a means of relieving officer boredom. I don't own a radar receiver, but I have seen quite a few of them in the cars of people I pass. It is going to be too bad for the first out-of-state citizen who traverses our state line with his parametric radar receiver and finds that he must stop, yield it to the trooper and face a possible jail term and fine. For goodness sake, talk to your Representative about it.

Micheal Salem N5MS

The South Canadian Amateur Radio Society

EDITOR: Jack Bickham, WB5TZZ

329-1311

TRYING TO GET THE C&E ON TIME IN NORMAN -- CHAPTER III

Late last summer we let readers of the C&E in on Norman amateurs' continuing problem with the long-delayed C&E; while most readers in the state were getting their copies on the 2nd or 3rd of the month, we were lucky to get ours by the 10th or 11th.

At that time, Olde Joe Harding evidently sent a copy of our article to the Norman postmaster, and for a month or two we got our copies almost on time. But the memory or attention span of postmasters, like presidential candidates, must be fairly short when it comes to good intentions; in November the LDC&E syndrome struck again.

On December 9, WB5TZZ undertook to write a nasty letter to the postmaster about the problem. Again. On December 17, the postmaster wrote back, saying he had initiated a "publication watch" on C&E for four months, and would report back at the end of that period.

The January C&E, which came out early because of the holidays, got through in good shape.

The February C&E was delivered to a SCARS member in Moore, KB5EK, on February 2. He was one of a very few checkins on a February 3 emergency net meeting on the 147.66-.06 machine the next night; he had gotten the notice in the SCARS news in C&E; others in the Norman area missed the notification because the C&E again was delayed somewhere in the Norman postal system.

As of the weekend of the 7th, Norman readers and ARES members hadn't gotten the C&E yet.

As I outlined to the Norman postmaster in the December 9 letter, I now plan to send copies of the correspondence so far to the postal inspectors. The following month, if that does no good, copies of everything to that date will go to Congressmen. The following month, if that does no good, copies of everything will go to the White House. And if all that does no good, presumably we shall punt.

If there is anybody else in the Norman area who (a) would like to get C&E on time and (b) thinks the postal service ought to do more well than raise rates and diddle with nine-digit codes and (c) is fed up with incompetence and (d) still has the quaint idea that maybe government at some level ought to be mildly concerned with good service, then maybe they ought to start writing some letters, too. I am not sure what the hell a "publication watch" is, but in view of recent events, it begins to look like a bureaucratic maneuver to prove after a failure that the failure really was not avoidable. It is going to take more than one taxpayer kicking whatsit to accomplish anything here, although yr obt svt intends to keep kicking until the last shoe is worn out.

One other note: no one has proved yet that all the incompetence is in Norman. Investigation may prove that the magazine bundles are being held up in Oklahoma City. But somebody is screwing up; there's a cold solder joint somewhere; you apply the iron where it will reach, and that means the place to start applying the heat on this absurdity is at the Norman post office.

If anybody else does write a letter, I would very much appreciate a copy to add to my growing pile of copies that next month will probably go to Congress.

ARES NETS RESUME IN NORMAN AREA

As mentioned in the above eruption, ARES nets and training have resumed on the SCARS 147.66-.06 machine in Norman under the tutelage of AF5X, new EC for Cleveland County.

The first meeting was Tuesday, February 3. The next regular non-emergency callup will be Tuesday, March 3. Nets are called starting at 1930 *local time*. AF5X has scheduled some brief eyeball training sessions in the immediate future.

A change from past procedures will require ARES members to remember the regular monthly meeting. AF5X says he does not at this point plan to activate a telephone calling tree as a reminder. His point is simple, he says: If you care, you'll remember. And then when you get a tree call, it's something more than routine.

NOTE: This is last month's. The Del City P.O. put it in the wrong box.
202, WAGON P



Well, well, well, here it is the end of march already and no major problems for me to report about. Everything seems to be going better than hoped for as far as the repeaters go. The heliax is in, town that is, and all systems point to go for having it up the tower before long. Reuben, WD5FKF, and his crew should have it taken care of prior to the next club meeting. GREAT GOING GUYS---even if you did hire it done!!! the main thing is it's there. The other part of all the new things is going equally as well. The decoder boards are doing fine, with Buddy KA5AQY, at the helm, and the new patch and controll curcuit, in the building, in the station, and all around is progressing nicely thanks to Larry, WB5NYX. By, the way, the emergency power plant is now operational. Thanks Merrill, WB5PTQ. Frank, N5FM, is doing his share taking care of the trailer. There is a lot of work involved and Frank may be calling on us for help and or parts donations. Wendall, KA5EBA has agreed to help Frank with bending of the metal for the trailer body. If YOU are called upon to help , please ask only HOW! Lets get our projects finished. I guess it is now time to talk on the subject of WEATHER. It has been requested that all of our weather nets be taped. So, let this serve as notice that ALL WEATHER NETS, on the auto-patch system WILL BE TAPED. (how is that Reuben?) Along the talk of weather follows the natural progression to disasters, of any nature. There has been a lot of descension in the past between certain amateur groups. I think it is high time for everyone to start working together before it is too late, and there is no better time than right now. DON ROOKER, K5SJV is now the EC in our area. Don is going to do everything he can to make certain that all the amateurs in this area work together. He has a big job in front of him, but we can help him by doing our part. One of the key areas of the EC is to know who can and can not keep radios on the air, and also on what frequencies. The only way for Don to know this information is for us to give it to him. The ARRL furnishes what they call registration forms for this purpose. For our convenience I have included this form so you may fill it out and return it to Don Rooker, K5SJV. Guys, it is important to have this information, and who is better prepared to give assistance during a disaster than the members of OCAPA; NO ONE ! Lets all get behind Don and help make his task bearable. Fill out the form and return it to Don. Along with all the business that was conducted at the last meeting there was also a lady there from the Fire Department to talk to us about emergency medical technics. Time ran out on us so Ms. Pualette Hunter did not get to finish her program or to show the film she brought. She has agreed to come back and give a short course in CPR. This would include work on the manikins. Even tho her program was short we did all learn about fire extinguishers.

NOTICE - NOTICE- The sub-audible tone that has been on the 22-82 machine will continur to be on during weekends only. This should give everyone time to get their decoders working. Buddy, KA5AQY will turn the tone on when he leaves work on Fridays and will turn it off on his way to work on Monday mornings. This will hold true thru the weekend of April 26th. GOOD LUCK



***** OKDX *****

The regular meeting of OKDX was held at the Colony Kitchen on north MacArthur Blvd. on March 9th. There were 14 people in attendance. Those present were:

George Adkins	AD1S	Frank McCollom	N5FM
Charles King	W5KWK	Coy Day	N5OK
Chuck Guschke	N5SW	D. C. MacDonald	K2GKK
Ron Recer	KE5M	Bruce Goff	KC5CR
Chuck Wilhite	K5NK	Ed Murta	K5LIL
Guy Liebmann	K5GL	Kermit Kruger	K5JEA
Buddy Kidd	KA5AQY	Henry Israel	N5IH

If you bothered to read those present I believe you will see two members of the honor roll were at our last meeting. Thanks to all for coming.

PROGRAM

At our next meeting Coy Day N5OK has agreed to have a program for us. I believe that we will all learn from the program that he has planned for us. Be sure and not miss the next meeting, for sure. It will also be hold at the Colony Kitchen on north MacArthur Blvd. just south of N.W. 63. BE THERE !!!

WHAT'S UP

I Trust that you all were able to work Dave K6LPL/CEØZ while he was on the island. if not maybe you able to work the other group that followed him in.

EL2AV is on the air and is trying to make contacts on 6 metres. Look for him when ever there is a 6 metre opening

9V1UR- List by K9ECE, 2300z 14218. qsl K5BLV - be there an hour early

7Q7RM - was to show 27 Feb. but as of yet no show- still hope and frequencies will be 14.195, 205 ; 21.290, 305 ; 28.590, 605 ; qsl WA4SKE his home call

ZD9- still maybe for July, keep your fingers crossed

Clipperton - for all that missed it the last time around looks like end of year

VU7, Andaman - Maybe there is a Japanese ambassador to India that is trying to put Andaman back on the air. For all that don't know this is a military base, and this seems to be the holdup. So maybe this time.

5R8AL - has been on a few times lately. sometimes a list by w2's. Also been on RTTY

9U5JM - Lists on Saturdays around 1700z on 21.280. Has not been ok'd by ARRL sooo

JD1 - There have been several stations on from both Ogasawara and Minami Torishima. They have been on 40 metres with regularity.

@kino Tori-shima - every one should know that this one has been deleted.

NEW LIST -The new countries list is available from ARRL. This one shows not only the correct total of 318, but also shows all the new prefixes. It would be worth your SASE to get one.

FOR SALE: I have one Kenwood R-820 receiver for sale. As every one knows this is the finest receiver that is available today. For the ultimate R-820. I also have a complete xitex RTTY, ASCII, and MORSE keyboard and modulator, demodulator. This is a complete system ready to hook to video for sending and receiving rtty, ascii, and the morse code. Too many features to list, but this is all solid state first rate gear. Check it out, call Henry N5IH at 7223848

FOR SALE- Yaesu FT101F, with outboard vfo and speaker. This rig is mint and on the air now, by WA3INA. to inquire call Henry N5IH at 7223848: the price is \$700

FOR SALE - Icom DV21 digital PLL scanning 2 metre vfo. can be used with IC21 or 21A, or a number of other 2 metre radios. Call Henry N5IH at 7223848

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Check (✓) bands/modes you can operate:

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FM								
RTTY								
SSB								
MOBILE								

Can your home station operate without commercial power? ☐ YES ☐ NO

If yes, what bands? _____

Signed: _____ Date: _____

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To All Radio Amateurs:

The Amateur Radio Emergency Service (ARES) is a voluntary organization of licensed radio amateurs, who have registered their capabilities and equipment for providing emergency communications as a public service to the community. The purpose of the ARES is to furnish communications in the event of natural disaster, when regular communications fail or are inadequate. Sponsored by ARRL, the ARES functions at the local level to meet local communications needs.

The ARES has a long history of public service going back to its formal inception in 1935. Since that time the ARES has responded countless times to communications emergencies.

Experience has proven that radio amateurs respond more capably in time of emergency when practice has been conducted in an organized group. There is no substitute for experience gained *before* the need arises.

The ARES in each locality operates under the direction of the Emergency Coordinator (EC), whose function is to direct the activities of the ARES to maintain a state of readiness.

To register in the ARES, send the detachable Registration Form above to ARRL Headquarters for forwarding to your EC. *League membership is not required for registration.* Registration does not require possession of any specially designed equipment. All amateurs can be of assistance to the ARES. There is provision in the ARES for *every* amateur regardless of class of license, equipment owned, or personal circumstances.

Won't you join us in providing this essential Amateur Radio service?

John F. Lindholm, W1XX
Communications Manager

CD-98 (1079)

CHOCTAW ARC



EDITOR: Syrena Standlee, N5BEP

The March meeting of the Choctaw Amateur Radio Club was called to order by Pres. Bob Allen, WD5EVP, at 7:15 pm with 11 members and four guests present. Treasurer Richard Edwards, KA5ALO, gave the treasurers report which was accepted.

June Allen, N5ARV, gave the CORA report from their last meeting which included details on Ham Holiday.

Places were discussed for the April meeting. June, N5ARV, had checked out a few places and was able to give us a price list and menus. Frank, AB5H, made the suggestion of Furr's Cafeteria in Midwest City. We all agreed. So for all those who would like to come, the dinner will be on Friday April 10th, at 7:30 pm. Furr's is on Air Depot, just North of SE 15th. Hope to see a lot of people there. Everyone is welcome.

Jim, N8AVX, came to discuss Batfish operations on Veterans Day. We discussed the problems they had last year and some changes to be made for this year. There were a lot of ideas tossed around and we will be discussing things further. I will let you know what develops on plans for this year.

Bob, WD5ECP, made the suggestion that we put Fort Gibson on the air as a club project. That sounds like a lot of fun. I will fill you in on the project as it develops. Lad, W5FX, is going to check into some details for us.

Field Day is coming up next. Due to so many of our regular members being out of town this month we put off making the final decisions until next time. We will be setting up operations at the same place as last year. Miskelley State Park in Choctaw.

We broke at 8:00 pm for coffee and cookies furnished by Jhon, KA5GFI, and Donna, KA5GEP.

Our program for this month was given by Bill, KA5ESA. He brought with him a portable 2 meter antenna that can be made at home to be used in hotels and apartments, also for emergencies and camping. Anyone interested in this can talk to Bill.

Our next Business Meeting will be held at the Choctaw City Hall on May 11, 1981 at 7:00 pm. Don't forget the April Dinner Meeting.

73 from
Syrena, N5BEP

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April 1981



TRI-CITY

AMATEUR
RADIO
CLUB

Holdenville - Shawnee - Wewoka

EDITOR: Yvonne Warriner
WB5TYW Phone 379-3500(work)

The TCARC is back after three presidents in the last year, a change of a couple diodes and adding a few capacitors. 1980 was a good year for several members with upgrades and new stations. N 5 CJH, Bill is now a general, KA 5 FDA, Nancy; WB 5 VLT, J B; WB 5 TYW, Yvonne and WB 5 UBB all are now Technicians. Two amateurs have moved to our area, WB 5 OFC James Estep and W 5 PBY, Russell Ramsey. We are planning fantastic things for 1981. Some talk of a repeater, permanent location of a club meeting place, several studying code for upgrading and a novice class is being organized. Recent programs have been WA 5 FSN, Leonard; Bob Willis, Hughes County Red Cross and C D director, explaining their programs and a possible CPR class. WB 5 OFC will show a film of self defense for women at our March 2nd meeting which will be at WB 5 VLTs radio shack.

Improvements to stations include; N 5 CJH a new tower and Kenwood 9000 transceiver; WB 5 OFC a 70 foot tower; KA 5 FDA a Midland 2 meter rig; WB 5 VLT an all-mode 2 meter rig and a 60 foot tower; WB 5 TFX and WB 5 TFY a tip-over tower and a Icom all-mode 2 meter rig; WB 5 TYW and WB 5 UBB a new Kenwood 9000 and 60 foot tower with 11 element 2 meter antenna; K 5 ZOB a Drake HF rig.

TCARC lost a good amateur to Shawnee, WB 5 VLS, Carl, but he is still our member.

Current officers are; WB 5 UBB, president; WB 5 VLT, Vice-president; KA 5 FDA, sec=treas, and WB 5 TYW is C & E editor.

Recent visitor to Holdenville was N 5 CPN, the midnight rider and litterbug.

Coffee meet at Shawnee recently included: N 5 BEQ, N 5 CPN, N 5 AUP WB 5 TYW and WB 5 UBB. Listen to 07/67 for the next meeting.

WB 5 VLT, WB 5 TYW and WB 5 UBB attended the Autopatch weather meet and enjoyed meeting a bunch of "Hams".

TCARC has a good checkins on the Night Owl Net.

KA 5 FDA not a talker on the radio; but watch out in person.

N 5 CPN, WB 5 VLT and WB 5 UBB working late on a mike(3:30 A.M.)

WB 5 VLT not being able to get the SWR down on his new 14 element beam.

WB 5 TFX talking so much on HF he woe his rig out.

N 5 BEQ shocked at how well WB 5 UBB knows OKC.

N 5 BEZ uses 52 simplex lots in Holdenville and leaving for work, early recently, (what's the reason Dean).

73 to all

Yvonne

WARNING: Some General has determined that this issue of the CORA Collector & Emitter may be dangerous to your mental health !

GREAT PLAINS A.R.C.

W5HGH Repeater 146. 13/73

EDITOR: Carla Tice, WBØQGW

Our March meeting was called to order with twelve members and one guest present. Oren Feltenberger WB5E00 bought a new repeater. It is 147.72/12 and is working great. Everyone is sure enjoying it. His old 72/12 repeater was purchased by the GPARC. Many thanks go to Windle Hatchett WA5PLW for putting it in top working order.

Club members Bill Reid WD5DFH and Larry Ellis KØCIO purchased and put up repeater 147.69/09. It is just north of Coldwater, Kan.

Congratulations go to Gordon Richmond KB5XI and his XYL Joy on Their new grandson. Also Ron Tice WBØPGD and his XYL Carla WBØQGW have a new granddaughter. Youth is great but the joys of being a grandparent are as great! Just ask any of us!

On March 4 of this year our first weather watch was called at 4:00 P.M. by net control WD5DFH, Bill Reid. The radar was manned by WB5EGZ, Doug Naupin and N5CMW, Bill Wyatt. Six spotters participated giving a wide coverage. A tornado touched ground just north of Shattuck, Oklahoma but fortunately it was in open country and raised before it got to shattuck.

The weather seminar was held February 23 at the EOC in Woodward, Oklahoma. Mr. Neal Marchbanks from the National Oceanic and Atmospheric Administration NOAA in Oklahoma City presented an excellent program titled Skywarn. The program as excellent and consisted of films and a slide presentation that accompanied his lecture. The lecture was very informative and well presented. Our thanks go to Mr. Marchbanks and to Mr. John Ewing, the northwest director for civil defense for bringing the program to Woodward.

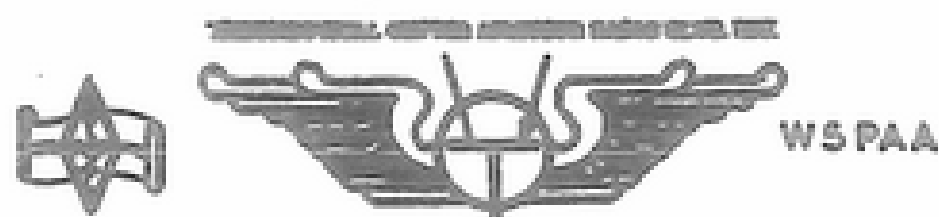
Doug Maupin WB5EGZ, Woodward county civil defense director, reports there will be a full drill at the EOC in Woodward April 24 from 9:30 to 12:00 with the city, county and adjacent countys participating. April 23 is the one hundredth anniversary of the Red Cross. This year is also the thirty-fourth anniversary of the Woodward tornado. Doug is planning to have a display with radios in operation downtown for the public to see. There will be fully equiped emergency vehicles for the public to see. The Civil Air Patrol have been invited. It is hoped they will be able to have a helicopter there for the public to see also.

N5CCV Gerald Bowman is the proud owner of a hand held. WN5LUI David White bought it at the hamfest in Oklahoma City and traded it to N5ZUS Cal Hunter for a new one. After changing hands several times I'm sure the hand held has found a home with a happy owner!

GPARC is holding novice classes with six students attending. Plans are to carry through with upgrade classes. WA5YQQ Doyle Houston and N5CCV Gerald Bowman are teaching code. WD5DFH Bill Reid and N5CMW Bill Wyatt are teaching theory. Keep up the good work!

A continental dinner was held at the REC building in Woodward for the hams and their families. About thirty people attended. Everyone brought a covered dish from a foreign country. Dishes from Ireland, Australia, China, Mexico, France, Germany, Holland and the good old U.S.A. were brought. We had a lot of fun trying new tastes from other countries. Everyone had a very enjoyable evening of visiting and eating.

73 WBØQGW



EDITOR: Bob Graham, WB5NSV 677-8685

MINUTES OF THE MARCH MEETING OF THE ACARC

The March meeting of the ACARC was held on the second Friday of the month instead of the regular first Friday, but will return to its normal schedule next month.

The meeting was called to order at 7:58 PM by President Bob Pace, WA5CJG. Following the usual round of self-introductions, President Pace, asked that the normal repeater, station, and computer reports be dispensed with due to the length of the program for the evening. However, the CORA report was given, announcing that Ham Holiday 1981 will be held at the Myriad this year, and not at Lincoln Plaza as some had thought. Along with this it was announced that the ladies committee had met, and that it was making "his plans."

Rob Runyon, AAØO, announced that Bill Peterson, WB5NXO, is now a Silent Key. He will be missed by many.

Following an announcement that the Lawton/Ft Sill Annual Hamfest will be held April 4 and 5, Rob Runyon introduced Dick Mitchum and Cliff Green, who presented the program for the evening. This was an interesting discussion on the use and limitations of Doppler radar for weather forecasting. Judging from the discussion that followed, this program was enjoyed by all.

The meeting was adjourned at 9:32 PM for coffee and donuts.

73, BOB GRAHAM, WB5NSV, Sec.

FOR SALE: Entire station full of equipment. Collins 51S1 receiver & speaker, TR 4C Drake transmitter (T-4XC), R4C Drake Receiver, L4B Drake Linear Amplifier, MS-4 Drake Power Supply (speaker), Resency 8 channel scanner, Mark 11A power meter, 4X6C Enterprise Frequency Counter, D201-A Tram Transceiver, Assorted Equipment, test gear, spare parts, tubes, mikes, CDR rotor, much much more. This station belonged to Kirby Jones, Dec.

Contact Mrs. Kirby Jones, 685-3760

REQUIESCAT IN PACE

William L. Peterson, WB5NXO, is a Silent Key. Bill was active in Amateur Radio during the 1920s but dropped out to become an attorney. When he retired, Bill started anew, beginning with a Novice, then General, then Advanced, and finally the top spot of Extra Class license. These steps were accomplished against the handicaps of ill health and almost total loss of eyesight.

Bill will be remembered as a radiotelegraph operator. He rarely operated on radiotelephony except on 2-m FM. The key was his love, and he excelled as a radiotelegrapher.

Another talent was music. What he could do with an electronic organ was a delight to one's ears!

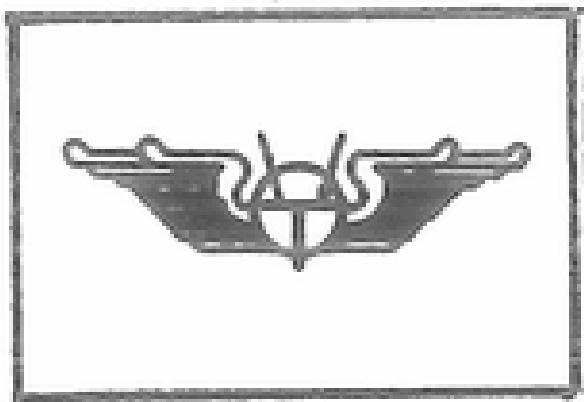
Dominus vobiscum, Bill!

W5JJ

WØRTM VISITS

Glenn A. "Whitey" Watkins, who formerly lived in Bethany and was a "regular" with the retirees who meet at the Warr Acres Senior Citizens Center, returned for a one-day visit with the group. Whitey now lives in Joplin, Mo. in a "high rise" apartment house that affords no provision for an antenna.

W5JJ

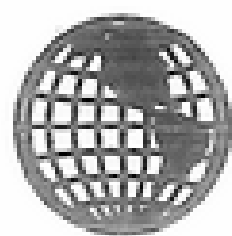


Random Words From The President:

Well even though the meeting was delayed a week we had a very good turn out and the program was a very good one I would like to thank NOAA for putting it on and ask them to come back again. I would also like to thank Robbie AAGO for setting them to present it to us.

Next months meeting will be April the 3. the night before lawton so everybody come on out and join us.

73;BOB;WASCJG.



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WORLD S.P.C.T.E. CONFERENCE MEETS

From a recent world conference of the S.P.C.T.E. has emerged an amazing, but long needed, proposal to restructure our system of technical symbols and abbreviations, forming a totally new systematized transitional concept. This new concept proposes a "systematized logical projection of the true meaning and intent of the functional projection concept."


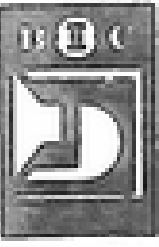
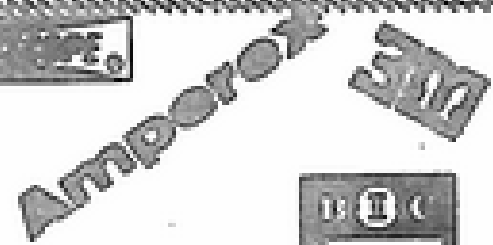





In his keynote address at the conference, Dr. Brew Miller, Phd, stated that "too many prospective technicians and engineers are turning away from our profession, because of the apparent lack of a responsible cohesion in our abbreviation and formula systems." "Why," he asked, "are our young students expected to understand that 'I' for instance stands for Current (or Amperes), instead of for inductance or impedance as might be expected?" "Or why," he continued, "can't 'X' stand for the traditional unknown quantity, instead of for reactance of some type or another?" "It just doesn't make sense!"

The following is a partial list of proposed "logical acronyms" for the electronics industry.

Unit	proposed symbology	present symbology
Potential (volts)	V	E
Current (amperes)	A	I
Resistance (ohms)	O	R
Inductance (henries)	H	L
Capacitance (Farads)	F	C
Reactance (ohms)	jO	X
Impedance (ohms)	O/	Z
Voltage Gain	VG	A
Current Gain	CG	B
Power (watts)	W	P
Earth Ground	DG	Gnd
Chassis Ground	DG	Gnd
Conductance (mhos)	M	T
Insulation Factor	I	

In as much as the conference body as a whole agrees that the need for a totally systematized congruent concept is a real time necessity. Contingent upon functional transitional capability, the entire concept will be phased into immediate operation beginning the first day of April this fiscal year.

Reported by Bob, WB5NSV



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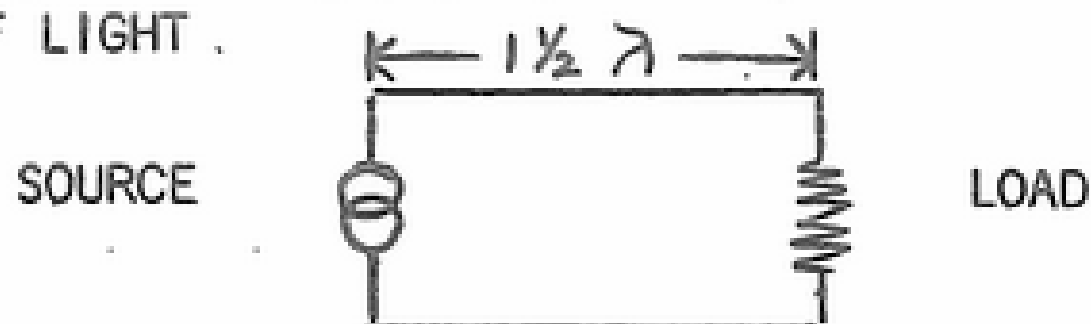
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3-2

WELL YOU WANT TO KNOW ABOUT MICROWAVES. WELL I HAD TO HIT THE BOOKS ON THIS SUBJECT AGAIN TO GET DETAILS BACK IN MIND. THIS COVERS FREQUENCIES FROM 300 MEGAHERTZ TO 30,000 MEGAHERTZ OR 1 METER TO 1 CENTIMETER OR EVEN HIGHER WHERE ONLY 105 CHANNELS FIT IN THE A.M. BROADCAST BAND OF A 10 KILOHERTZ BANDWIDTH 2,700,000 THEORETICALLY CAN FIT INTO THE 3,000 TO 30,000 MEGAHERTZ S.H.F. BAND.

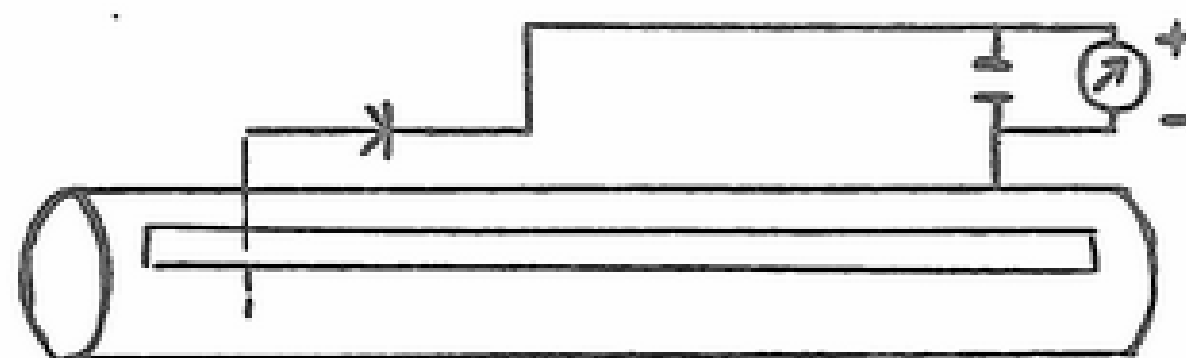
AS FAR AS MEASURING POWER IS CONCERNED $P=EI$ IS GREAT FOR D. C. AND LOWER FREQUENCIES OF A.C. AND R.F. BUT AT U.H.F. THINGS CHANGE THE ELECTRON DOESN'T HAVE TIME TO TRAVEL EVEN 1 OR 1 1/2 WAVELENGTHS AS ELECTRON FLOW EVEN AT THE SPEED OF LIGHT.



BEFORE ANOTHER CYCLE BEGINS AND THE CURRENT REVERSES AND VOLTAGE POLARITY CHANGES. IN A CAPACITOR ELECTRICAL ENERGY CAN BE STORED IN AN ELECTROSTATIC FIELD. AS CURRENT FLOWS AN ELECTROMAGNETIC FIELD IS CREATED. THIS ELECTROMAGNETIC FIELD ALSO STORES ENERGY. WE CAN THEREFORE MEASURE POWER AS A PRODUCT OF THE ELECTROSTATIC AND ELECTROMAGNETIC FIELDS AND THE IMPEDANCE CAN BE EXPRESSED AS A RATIO. THAT IS RATIO OF THE ELECTROSTATIC FIELD TO THE ELECTROMAGNETIC FIELD, THAT IS, E DIVIDED BY H . E IS THEREFORE SIMILAR TO VOLTAGE AND H TO CURRENT.

WE CAN THEREFORE TRANSFER POWER BETWEEN TWO RADIO ANTENNAS IN THE FORM OF E AND H . THESE SAME E AND H FIELDS CAN BE CONFINED IN A COAXIAL LINE FROM WHICH IT CAN NOT RADIATE.

FROM THIS AS THE FREQUENCY INCREASES TO A HIGH ENOUGH LEVEL THE CENTER CONDUCTOR OF THE COAX IS ELIMINATED AND WE END UP WITH A HOLLOW TUBE KNOWN AS A WAVEGUIDE. THE WAVEGUIDE HAS NO INSULATION OR CENTER CONDUCTOR IT HAS LESS LOSS THAN COAXIAL LINES. IT CAN ALSO CARRY MORE POWER FOR THE ABOVE REASONS. TO KEEP WAVEGUIDES TO A PRACTICAL SIZE THEY ARE GENERALLY LIMITED TO 3000 MEGAHERTZ OR HIGHER. S.W.R. IS MEASURED BY CUTTING A SLOT IN THE WAVEGUIDE. A PROB IS INSERTED JUST ENOUGH TO PICK ENOUGH ENERGY TO GET A READING ON A MICROAMMETER.



IF THE SLOT IS LONGER THAN $1/2 \lambda$ A E MAX. AND A E MIN. WILL OCCUR. SWR IS THEN EQUAL TO E MAX DIVIDED BY E MINIMUM.

MICROWAVE SIGNALS TRAVEL DOWN A WAVEGUIDE BY REFLECTIONS, THE ANGLE OF WHICH IS

$$\cos \theta = \frac{\lambda}{2b}$$

WHERE θ IS THE ANGLE BETWEEN THE WAVE AND A LINE PERPENDICULAR TO THE SIDES OF THE GUIDE, λ IS THE WAVELENGTH AND b IS THE DISTANCE BETWEEN THE SIDES OF THE WAVEGUIDE.



THE WIDER THE WAVEGUIDE THE FEWER REFLECTIONS OCCUR AS THE R.F. TRAVELS DOWN THE WAVEGUIDE. AS THE ANGLE θ APPROACHES 90° THE WAVE IS NO LONGER REFLECTED.

DECREASING THE WIDTH ALSO REDUCES THE ANGLE θ THIS INCREASES THE NUMBER OF REFLECTIONS DOWN THE WAVEGUIDES. ONCE YOU REACH THE $1/2 \lambda$ LENGTH POINT θ BECOMES ZERO AND NO REFLECTIONS DOWN THE WAVEGUIDE OCCUR AND WE NOW HAVE 100% ATTENUATION OF THE SIGNAL.

AS THE WAVE TRAVELS DOWN THE WAVEGUIDE IT DOES TRAVEL AT A SLOWER SPEED THAN IT WOULD IN FREE SPACE. ALSO RADIO WAVES ARE REFLECTED WHEN THEY ENCOUNTER A MEDIUM HAVING A MARKED DIFFERENT INTRINSIC IMPEDANCE. INTRINSIC IMPEDANCE WAS MENTIONED PREVIOUSLY AS THE RATIO OF E FIELD TO H FIELD. ALTHOUGH THIS MAY NOT HAVE OCCURRED TO YOU THIS IS ALSO THE BASIC WAY WE TALK AROUND THE WORLD. REFLECTIONS OFF OF F AND E LAYERS AND THE EARTH.

(CONTINUED)

BECAUSE THE H FIELD TENDS TO BE SMALLER IN VALUE IN SPACE THAN THE E FIELD THE IMPEDANCE TENDS TO BE HIGHER. IN A WAVEGUIDE OR IN PARALLEL LINES WE CAN CONTROL AND ALTER THE IMPEDANCE OVER A WIDE RANGE.

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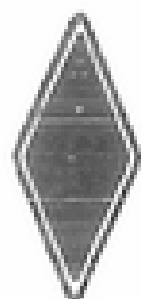
147.33	147.45	147.54	147.63	147.66	147.72	147.81	147.84	147.90	147.96	147.99	149.17
147.09	147.09	147.91	146.73	146.67	146.55	146.37	146.31	146.19	146.07	146.01	142.65
147.21	147.30	147.03	146.85	146.79	146.67	146.49	146.43	146.31	146.19	146.12	143.77
	147.12	147.21	146.94	146.88	146.76	146.58	146.52	146.40	146.28	146.22	148.75
		146.94	147.03	146.85	146.67	146.61	146.49	146.37	146.31	146.22	143.86
			146.85	146.79	146.67	146.61	146.49	146.37	146.31	146.22	148.51
				146.85	146.79	146.67	146.61	146.49	146.37	146.22	143.98
					146.85	146.79	146.67	146.61	146.49	146.22	148.39
						146.85	146.79	146.67	146.61	146.22	144.04
							146.85	146.79	146.67	146.22	148.21
								146.85	146.79	146.22	144.13
									146.85	146.22	148.15
										146.22	144.16
											148.03
											144.22
											147.91
											144.28
											147.85
											144.31
											145.49

OR

HOW COME I HEAR 07-67 ON 52 ?

WHEN TWO SIGNALS ARE PRESENT IN A NON-LINEAR DEVICE, OTHER SIGNALS ARE PRODUCED (SEE "TWO TONE TEST" IN ARRL HANDBOOK). JOE BUSWELL (K5JB) TAUGHT ME AN EASY WAY TO FIND THE FREQUENCIES WHERE THIRD ORDER DISTORTION PRODUCTS MAY APPEAR. JUST SUBTRACT THE LOW FREQUENCY FROM THE HIGH FREQUENCY AND ADD THE DIFFERENCE TO THE HIGH FREQUENCY AND SUBTRACT THE DIFFERENCE FROM THE LOW FREQUENCY. EXAMPLE: 146.82 MINUS 146.67 EQUALS 0.15, 146.82 PLUS 0.15 EQUALS 146.97, THE OTHER POSSIBILITY, 146.67 MINUS 0.15 EQUALS 146.52. SEE CHART ABOVE FOR SOME OF THE OTHER LIKELY POSSIBILITIES IN THE OKLAHOMA CITY AREA. SO, IF A STRONG SIGNAL AT 146.82 AND A STRONG SIGNAL AT 146.67 ARE BOTH PRESENT IN YOUR RECEIVER AT THE SAME TIME YOU MAY HEAR THEM BOTH ON 146.97 AND 146.52. THE STRONGER THE SIGNALS, THE MORE SEVERE THE PROBLEM BECOMES. TRY IT SOMETIME ON NORTH KELLY, BETWEEN WILSHIRE AND BRITTON ROAD.

73 CY (WB5TKG)



THE AMERICAN RADIO RELAY LEAGUE, INC.

OFFICE OF THE
SECTION COMMUNICATIONS MANAGER

LEONARD HOLLAR WA5FSN

ARRL
OFFICIAL ORGAN

I READ WITH INTEREST, THE COMMENT IN THE LAST C & E ABOUT NET CONTROLS.

IT IS VERY INTERESTING TO MONITOR THE VARIOUS NETS THAT OPERATE THROUGHOUT THE STATE (AND OUT-OF-STATE) ON THE VARIOUS BANDS. WE HEAR SOME WHO ARE VERY STRICT AND REALLY ENFORCE THE SUGGESTION; THAT NO ONE SPEAKS UNLESS DIRECTED BY NCS. OTHERS ARE JUST THE OPPOSITE AND SOMETIMES ALMOST LOSE CONTROL BECAUSE OF TOO MUCH "FRIENDLY" HELP.

SOME NET CONTROLS SEEM TO BE MORE INTERESTED IN SEEING HOW MANY STATIONS THEY CAN GET CHECKED IN, REGARDLESS OF WHETHER THE PRIMARY BUSINESS OF THE NET IS TRANSACTED OR NOT. THERE IS A HAPPY MEDIUM, BUT DUE TO MANY VARIABLES, THERE CAN BE NO HARD AND FAST RULE OF THUMB FOR RUNNING A NET. I CAN ONLY RECOMMEND THAT EACH NCS DO THE JOB TO THE BEST OF THEIR ABILITY. AFTER ALL, THE SATISFACTION OF HAVING DONE A GOOD JOB IS THEIR ONLY PAYMENT.

I DO NOT LIKE TO CRITICIZE ANY ONES OPERATING HABITS AND TRY MY BEST TO KEEP FROM DOING SO. IF AT ALL POSSIBLE. ANYTIME I DO COMMENT ON OPERATING HABITS, ETC. I HOPE THAT IS TAKEN AS MEANING TO BE HELPFUL. NO TWO OF US READS THE SAME BOOK ALIKE, NOR DO WE LIKE TO BE REGIMENTED.

I AM ALL TOO WELL AWARE THAT THERE ARE THOSE AMONG OUR AMATEUR RANKS WHO DISLIKE 'NETS' IN VARYING DEGREES. BUT, THE VERY FOUNDATION OF ALL OUR EMERGENCY PLANNING AND TRAFFIC HANDLING IS MADE SO MUCH MORE EFFICIENT BY THE PRESENCE OF ORGANIZED NETS.

FEBRUARY NET AND TRAFFIC OPERATIONS SHOW A DECREASE DUE IN PART, TO THE SHORT MONTH AND, I BELIEVE, A NORMAL WINTER LULL.

NET	SESSIONS	QNI	QTC	WX
O.P.E.N.	4	260	8	
O.F.O.N.	20	389	85	
S.T.N.	24	461	145	
O.T.W.N.	24	421	292	276
O.L.Z.	28	220	77	
O.N.O.N.	28	626	97	
Q.C.W.A.	4	154	16	

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EDITORIAL COMMENT
LONG-EARRED BURRO

This editorial comment is being written by an IGNORANT, BOMBASTIC, ILLITERATE JACK-ASS, who doesn't mind for one minute being called a "HAM RADIO OPERATOR", in rebuttal to Mr. Carl Drumeller's editorial comment on page 24 of the March issue of the Collector and Emitter.

Let me point out at the very beginning, that I have a great deal of respect for Carl and his knowledge of Amateur Radio. I consider him a good friend and he is one of those who was willing to give me a helping hand when I needed help in studying for my Extra Class license back in 1971.

However, to lump all the people in this world together in one big pen of jackasses, who don't mind the use of the term "HAM", is pretty strong language.

I don't know where or when the term "HAM" came into being, and could really care less. I know it has been around for many more years than most can remember, and more than likely will be around for several years to come. It appears this is a term used not only by us "HAMS", but people who know absolutely nothing about any type of radio. To say that people use this term in disrespect to this wonderful hobby of ours is absurd.

Let me list a few quotes from the World Book Encyclopedia:

"Thousands of persons enjoy the useful and interesting hobby of amateur radio. These radio amateurs, or 'HAMS', send messages on their home radio stations to new friends in the next block or half-way around the world."

"Many successful electronic engineers first learned the basic facts about electronics by becoming interested in 'HAM RADIO'."

"'HAMS' in the United States have their own organization, the American Radio Relay League, with headquarters in Newington, Conn."

"More than 350,000 amateurs operate radio stations in the United States. About 10,000 new 'HAMS' take up this hobby every year."

In thumbing through my March, 1981 issue of QST, the official publication of the ARRL, I found some interesting things. The first article in this issue is about a survey of Amateur Radio, 1980, written by David Sumner, K1ZZ, who just happens to be the assistant General Manager of the ARRL. This is an interesting article, and, for the most part, he refers to "Amateur Radio" and "Amateurs". However, he did slip up a few times and called us "HAMS". On page 15, the question is asked, "How Did You Become a Ham?" On this and the following page, I find the term "HAM" used at least four times.

According to Dale Clift, WA3NLO, of the ARRL staff, a very nice gentleman and one of our guests here last year at HAM-holiday, there must be a bunch of blankety blank jackasses running around Bristol, Conn. He has an interesting article about facing antenna regulations on page 54 of QST. In this article, they are referred to as "AMATEURS" 7 times, and "HAMS" 16 times, if I counted correctly.

In the Washington Mailbox, Richard Palm, K1CE, who by the way is the Assistant Manager, Membership Services, ARRL, talks about Call Signs - What the Well Dressed "HAM" Will Be Wearing This Year.

Then, there is the QST Profiles, about Mr. Bill Leonard, W2SKE, who just happens to be the President of CBS News, on page 62 of QST. Undoubtedly, Mr. Leonard possesses some sort of knowledge about broadcasting and is a rather well respected gentleman to hold the position he has. Unfortunately, no one ever told Bill that you don't refer to yourself as a "HAM". Sure, occasionally, he mentions "AMATEUR RADIO" and "AMATEURS", but for the most part, he considers himself a "HAM" and he is a "HAM RADIO OPERATOR".

I notice as I scan through the magazine, there are several advertisements for all kinds of "AMATEUR" equipment. However, one does notice several outlets that have the audacity to call themselves "HAM RADIO STORES" and sell "HAM" equipment. You know, I have never thought about it before, but I wonder, is there a difference?

Last, but not least, I find that on page 169, you can actually order both "AMATEUR" and "HAM" publications from ARRL. True, most of it is for the "AMATEUR", but what about that package they offer for seven bucks, entitled, "Tune in the World with 'HAM' Radio" and the "Basic Book of 'HAM' Radio" that costs a mere \$4.95?

Let's see, isn't there a publication called "Ham Radio"? I wonder if only "HAMS" subscribe to or read this magazine? Surely they wouldn't publish or pay for any article submitted to them by anyone other than a "HAM".

So, all you Ignorant, Bombastic, Illiterate Jackasses (including myself) out there, take heart, we are in a pretty select group. You know, it can't be all that bad if the ARRL and World Book Encyclopedia refer to us as "HAMS".

I happened to be one of the Charter members of the "MONKEY" club. Anyone interested in starting a "DONKEY CLUB"?
CHUCK WILHITE, K5NK

***** EDITORIAL COMMENT *****

Dear Friends,

I have just been appalled by an editorial in my "OM's" Collector and Emitter. I cannot believe that a pompous, sour, old bigot was allowed to write an editorial about "hams". And, most of the gentle people my husband associates with have more knowledge than that old windbag. Amateur radio is a hobby not a vocation, and most amateurs enjoy light, humorous phrases to break the mundane routine of a tedious job or boring life.

If man cannot have fun with his hobby why have a hobby!

As for my husband, he's an advanced class operator as well as holding a first class phone license. If he wants to say "why shore" or "bo-jive" it certainly does not make him a hippie or a drug addict.

He's a business man, leader, minister, husband, father, musician, amateur (HAM), homebrewer, and a rather "nice" guy.

Sure I'm prejudiced "I love him". I don't love his hobby, but I've learned that it brings him peace and some joy. I have even contributed to his pleasure - not because I'm unselfish, but because he needs an outlet. It sure beats bar hopping or women chasing! At least I know where he is! With his "HAM" friends! He has never been a "CBer", but maybe he should have been so he could relate to the illiterate, ignorant "amateur" who wrote that bigoted article.

Sign Me

Doc's XYL

PS: I'M not ashamed of my "ham" ignorant bumpkin.

ANOTHER

***** EDITORIAL COMMENT *****

I am compelled to respond to the editorial comment of W5JJ in the March issue of C&E. I agree with Carl that the language and discipline in some corners of our bands cries for improvement; however my agreement ends at that point.

For some reason, Carl chose to unleash a broadside at the term -"ham". To my knowledge, "ham" is not now nor has it ever been a pejorative epithet (really, Carl!) among amateur operators. In fact, over 20 years ago my "Elmer", W3BM told me that ham was a cw constriction of the French words l'amateur - pronounced le hām-a-tour.

When W5JJ compares a "ham" to an illiterate, bigoted jackass, it is an affront to me and other amateurs who have earned our privilege to operate and who cherish recognition as a ham radio operator.

Finally, I must ask why an author would bother penning the ridiculous comments found in the last paragraph of this article. Frankly, Carl - who cares about your definition? I'll settle for Webster's Revised Dictionary which defines a "ham" as an amateur radio operator. Maybe the author should stick to "Old Time Radio".

GEORGE, AD1S

EDITORS COMMENT

It appears to me that Carl W5JJ has stirred up a mess of worms. I have not seen this much goings on since an article about free-loaders. For once I'm glad to see someone else catch a little flack. The unfortunate part is that I must agree with the multitude, and not condone the writings and repeated erroneous statements contained in JJ's article. Carl, if you are going to use slang be sure it's right, otherwise you may not recognise an insult when it comes your way.

Remember, keep the "spades" in the garden, the "honky's" in the cars, and contrary to popular belief "bohunk's" last name is not Derek.

WE GOTTA DA ENGLISH

N5IH

EDITORIAL COMMENT

WHO IS "PEJORATIVE EPITHET" — AND WHY IS HE SAYING ALL THOSE TERRIBLE THINGS ABOUT ME???

This letter is being written in response to the "Editorial Comment" submitted by W5JJ and printed in the March'81 issue of the C&E on page 24. Mr. Drumeller entitled his contribution "Nah Suh We Ain't Got No English Nohow" and I agree with his first paragraph: "a certain portion of radiotelephone operators choose to use a style of language that reflects sorely upon the whole of Amateur Radio". However, I feel that this "certain portion" are, thankfully, very few in number.

The first paragraph of that "editorial comment" is the only one with which I can find any agreement at all. Suddenly, the writer jumped subjects and, after an apparently jaundice-eyed shot at "emigres from the Citizens Band", went into that same old song about "the pejorative epithet 'ham'". (derogatory nickname) - - -

Therein lies the reason for this editorial rebuttal, if you will. I have read no less than four other articles by that same individual concerned with what he feels is the disgusting use of the nickname "ham" in place of "amateur radio". Permit me a few lines to examine his complaint in greater detail.

Quoting his last paragraph: "You want a further definition of 'ham'? Just set up this equality: 'ham' is to Amateur Radio as 'nigger' is to Negro, as 'greaser' is to Mexican, as 'wop' is to Italian, as 'dago' is to Greek, as 'bohunk' is to Hungarian.....etc. etc."

Okay — here it comes: YOU WANT A FURTHER DEFINITION OF HAM??? Then don't look for it in a 22 line "editorial comment" — get it from the dictionary! Mine is a 1974 Funk & Wagnalls and on page 290, definition number 6 of the noun ham states: (informal) An amateur radio operator.

It is interesting to note that, of those other nicknames which we are to find as equally offensive as "ham": "greaser", "wop", and "bohunk" weren't even in the dictionary; "dago" was labeled U.S. Slang; and only "nigger" was considered a word in the English Language — and also carried, following its definition, the tag: "a vulgar and offensive term". I personally don't find the nickname "ham" to be offensive at all — and the thought that "ham" has any vulgar connotation to it is utterly ridiculous!!!

Yes, you read all the time about the selfless good works of Ham Radio Operators in time of emergency. CBS Television News even did a short series which they titled Help From Hams and you often see first-hand TV interviews of disaster victims saying such things as: "Thank God for those wonderful Ham Operators — without their efforts I know my child would have died!" or "Those two Hams reported the crash. Their fast action saved many lives."...etc. etc.

My point here is simple. The public knows us as Ham Radio Operators. Our record of service goes back almost to the turn of the century. Generally speaking, our public image is very favorable. Sure, we are members of the Amateur Radio Service, but I doubt that Mr. Average Citizen would have much idea what that means (and I'm quite sure he has never heard of, let alone read FCC Part 97).

I don't find "ham" to be a "pejorative epithet" at all. Furthermore, my given name is William but my friends call me "Bill" — Yes, I'm an Amateur Radio Operator, but my friends call me a Ham Operator and that suits me just fine, too.

One final reference from that dictionary of mine. On page 20, definition number 3 of the noun amateur states: One who does something without professional skill or ease. OH BROTHER — now that's a derogatory concept to which to adhere, isn't it?

In conclusion, you can call me William — or you can call me "Bill" — or you can call me Amateur — or you can call me Ham — but don't you call me "pejorative epithet"!!!

Wm "Bill" Riddles, N5WM
Ham Radio Operator

+ + + 30 + + +
For the uninitiated "30" means the end in publishing - in other words
there won't be any more comment on the "Ham" - "Amateur" opinions.
Joe Harding, WA5ZNF

I HEARD: ZNF is planning on growing a garden on his head.....FKG fell in love with a nurse.....FXP is a man of his word.....NSV is the world's worst speller.....IS is hearing bells ringing for some reason from Enid.....SW has a 20 foot tower for sale.....FKF loves his backyard neighbor.....IH is applying for a job as a waiter at Sambo's on Northwest Highway.....ETB has a bad habit of blowing his finals.....CJG has reached his goal with his diet and now become a real heavyweight.....RJR was involved in a bad helicopter accident.....ABL thinks he has his computer about set to call bingo at Ham Holiday.....Ø0 is now known to his friends as Frenchie.....CIJ is a real yoyo.....GL has noticed oil in his ice.....PTQ has gone into the plumbing business... KFT didn't wear green on St. Patrick's day so someone would be sure and pinch her (anywhere she says).....VRL is a real Sherlock Holmes.....JNT has been known to have lice in his beard.....OZE is known for his recordings.....GE loves to be called by Tommie.....TKG always knows when .22/.82 goes down.....JB looking for a skunk.....NKC never did like to handle all that traffic.....QPI has been known to break the speed limit now and then.....YGM isn't much of a fighter on his cycle.....WM can't buy a friend.....GOM has never owned a new radio in all his life.....ROU was seen snooping around at Channel 9.....JYT is always clear.....HBX struck water on her farm.....M won't talk to AQY on club meeting nights.....AWI has learned how to play dominoes.....CR wanting a ride.....DDE won 2nd place in the World cw contest.....DSH wants to buy a house for resale.....GKK loves for people to lay their hands on his cycle.....ADN took first place in the World cw contest.....CXW is a thief of artistic works.....CZN is concerned about someone noticing his tower has grown over 50 feet.....AAY's programs go nationwide.....and a whole lot more after 4-1.....K5NK

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- **THREE SCAN MODES WITH AUTO RESUME:** "Sampling" mode pauses at busy channels, then resumes. "Busy" mode stops at a busy channel, then resumes shortly after frequency clears. "Vacant" mode stops at a vacant channel and resumes when signal appears. If desired, auto resume may be prevented by pressing one button. **COMPARE!**
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- **PL TONE OSCILLATOR BUILT IN:** Frequency is adjustable to access PL repeaters.
- **MICROPHONE VOLUME/SQUELCH CONTROL:** Both functions may be adjusted from either the microphone or front panel.
- **NON-STANDARD OFFSETS:** Three accessory offsets can be obtained for CAP/MARS or unusual repeater splits. CAP and Air Force MARS splits are **BUILT IN! COMPARE!**
- **25 WATTS OUTPUT:** Also 5 watts low power to conserve batteries in portable use.
- **GREEN FREQUENCY DISPLAY:** Frequency numerals are green LEDs for superior visibility.
- **RECEIVER OFFSET:** A channel lock switch allows monitoring of the repeater input frequency. **COMPARE!**
- **SUPERIOR RECEIVER:** Sensitivity is better than 0.28 uV for 20-dB quieting and 0.19 uV for 12-dB SINAD. The squelch sensitivity is superb, requiring less than 0.1 uV to open. The receiver audio circuits are designed for maximum intelligibility and fidelity. **COMPARE!**
- **ILLUMINATED KEYBOARD:** Keyboard backlighting allows it to be seen at night.
- **TRUE FM, NOT PHASE MODULATION:** Transmitted audio quality is optimized by the same high standard of design and construction as is found in the receiver. The microphone amplifier and compression circuits offer intelligibility second to none.
- **OTHER FEATURES:** Dynamic microphone, built-in speaker, mobile mounting bracket, external remote speaker jack (head and radio) and much, much more. All cords, plugs, fuses, microphone hanger etc. included. Weight: 6 lbs.
- **ACCESSORIES:** CS-ECK 15-foot remote cable ... \$35.00. CS-6R 6-amp ac power supply ... \$49.95. CS-AS remote speaker ... \$18.00. CS-TTK touch-tone® microphone kit ... \$39.95.

WATTS

ELECTRONIC SALES

HARRY WATTS, WB5DGT 205 S MAIN VICI OK 73859 (405) 995-4761

LET'S GO TO MARS!

Did you ever wonder who is involved in the various MARS (Military Affiliate Radio Service) systems? Ever wonder why, what's in it for them, what do they get out of it? What's it about and what's it mean anyway?

Besides the service it provides, a very big part of MARS is the comraderie, the fellowship with other specialized individuals with at least one common interest among them. It means socializing at times with other men and women with whom one shares a common bond.

You've seen meetings held by special interest groups in conjunction with and at the same sites as hamfests all over the country and all through the year - they're almost expected: VHF, 6-M, 10-10, Alligators, Kadiddlehoppers, Repeaters, YLRL, DX, AMSATs, ATV, ad infinitum - & "leave us not forget" MARS: Army, Navy, Air Force.

Now, here's your chance to meet the people, ask the questions burning on your mind, socialize a little and do it all while in a relaxed atmosphere, but without waiting for a hamfest to appear.

Mark your calendar for Saturday, April 18, 1981 for 11 o'clock in the morning. The location will be at the Midway Restaurant on the Turner Turnpike between Oklahoma City and Tulsa (also known as 1-44). The participants will be Air Force MARS members from Tulsa and Oklahoma City.

And you. RSVP not requested. Come as you are.

Jim AFA4VR

FOR SALE: Mosley Quad, 10-15-20 meters, assembled, unmounted for inspection, with manual, \$75.00 : T.H., W5ESX, 732-6635 .

AGE SAGE: HOW TO KNOW WHEN YOU'RE GROWING OLDER or IS THERE REALLY LIFE AFTER 40 ? : IF YOU TURN OUT THE LIGHTS FOR ECONOMIC REASONS RATHER THAN ROMANTIC ONES.!

jim n5beq

FOR SALE: Icom IC-20 with all the popular 2 meter frequency's \$100.00 call George W5NTL 789-4073.

A NO-TUNE ANTENNA TUNER

A friend, W5IDE, had a Dentron antenna tuner (really, a transmission line tuner) that refused to bring the VSWR of a transmission line to under 2.5:1. With a non-reactive load of 52 ohms, it still indicated a VSWR of 2.5:1.

Inspection of its "innards" turned up one small non-kosher item: A discolored spot around the base of a soldering lug attached to the end-plate (the rotor connection) of a variable capacitor. This capacitor had both stator and rotor above ground potential.

Detailed inspection showed the lug to be riveted to the end-plate, a highly-questionable practice. Fortunately, there was a hole adjacent to the lug. A 4-40 nut plus a tiny bit of wire provided a parallel path of near-zero resistance. That did it: it behaved as a tuner is expected to perform.

W5JJ

ATTENTION : CLUB EDITORS :- Look at the calendar. Edit is now THURSDAY NIGHTS. I will be at the Red Cross by 6:30 pm. Any copy (camera ready, no typing) received after 8:00 pm will be held until next month. If you want to trust the mail, I will check P.O. Box 15013, Okla City OK 73155 Thursday noon.
Joe, WA5ZNF, Managing Editor

Laughing matter

Clothes don't necessarily make the man—but a good suit has made many a successful lawyer.

The young man took his girl for a ride in his new car. When they reached a secluded spot, it sputtered to a halt.

"Oh, oh. Out of gas," he said slyly.

With that the young woman took a very large bottle from her purse.

"Wow," said the swain. "You brought along a fifth. What kind is it?"

"Texaco Firechief," murmured the sweet young thing.

"Did you go to the doctor, John?"

"Yes, I did."

"Did he find out what you had?"

"Almost."

"What do you mean 'almost'?"

"Well, I had \$25.75 with me and he charged \$25.00."

For his retirement, they gave him a watch that winds automatically as you work and move about.

Now he has to work even on Sundays so the watch won't stop.

Cooperation: doing something with a smile that you have to do anyway—like paying taxes.

Bennett Cerf told about two gentlemen being introduced in a hotel lobby.

"Pardon me for not getting up," said one man. "You see, I'm ailing from arthritis."

"Quite all right," beamed the other. "I'm Smith from Topeka."

"Do you mind telling me why you ran away from the operating room?"

"Because the nurse said, 'Be brave, an appendectomy is simple.'"

"So?"

"So she was talking to the doctor who was going to operate."

One middle-aged man to another: "Here we are at the dangerous age and there's no danger."

If it weren't for optimists, pessimists would never know how unhappy they are.

Two little girls, one Jewish, one Christian, were the best of friends. After Easter, the grandfather of the Christian child asked what her friend had received for Easter.

"She didn't get anything for Easter," replied the child patiently. "You see, I'm Easter and she's Passover. She's Hanukkah and I'm Christmas."

Then, with a big smile, she added, "But both of us are Halloween."

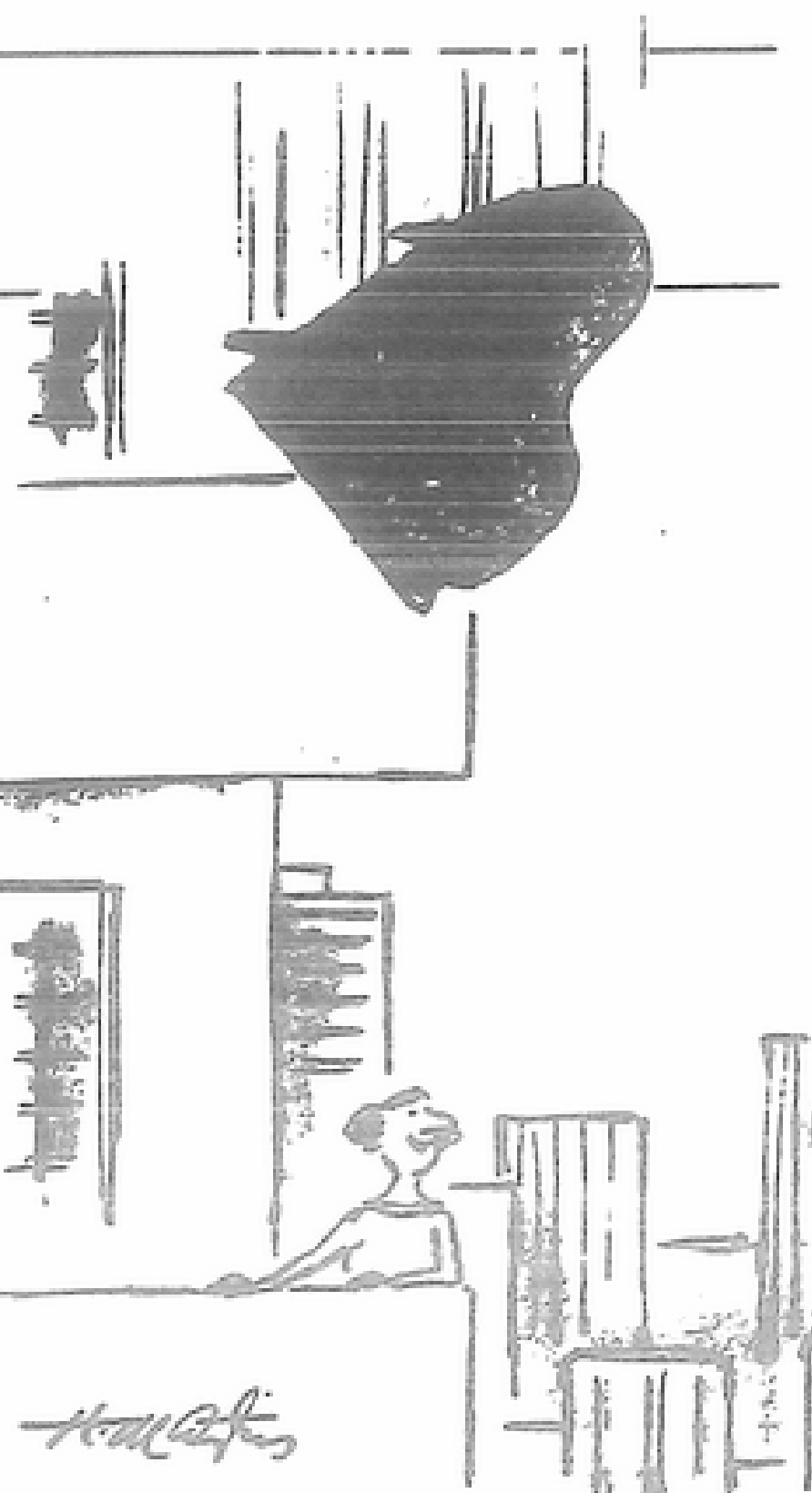
A city man who had bought a farm visited his new neighbor.

"Can you tell me where the property line runs between our farms?" he asked.

The farmer looked him over then asked, "Are you talking owning or mowing?"

The vacationing newspaper reporter went on a fishing trip. When he returned, his friend asked how the fish were in the area.

"I really can't say," explained the reporter. "I dropped them a line every day for three days and got no response."



"Good news, World! Today was my final session with my shrink. At last I'm free of my silly fear of falling pianos."

A feminist boarded a crowded subway train and was offered a seat by a gentleman. As he started to rise, she refused and forced him back into his seat. He tried again with the same result.

At the third try, he said firmly, "Madam, you simply must let me get up. I'm four stops beyond my station already."

There's only one problem with political jokes—sometimes they get elected.

Minutes: the end result of hours of committee talk.

A young man's college football team hadn't won a game in 15 years. When they finally won one, a friend congratulated him. But he was very sad.

When asked why, he replied, "They broke their losing streak. Now I have nothing to brag about."

Second-story man: a fellow whose wife didn't believe his first story. □



"Well, I told you your brains would turn to mush."

Modern Maturity

See individual club sections for times, places & details.

APRIL '81 HAM HAMPERINGS

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					ACARC	
1	4	2	ONE	TO	TREE	FOUR
	Edmond Club Dinner; 6 Tri-City	MORI; Great Plains SEBN	ATE	Altus; ATV NEIN	TIN	flea mkt., SCARS LEBN
WEATSTRAN; Watonga. 12	Choctaw; USAF MARS ()!	76ers; OU; 14 Shawnee	15	KAY County 16	VHF 17	MARS: Midway 18
EARS 19	ARES TWINNY	OCAPA 21	22	EDIT C+E 23	24	25
26	27	Shawnee; CORA 28	29	SCARS, EARS MAIL 30 C+E	31	32

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