" WE CHANGED THE NAME AFTER PA PUT HIS TWO-TWENTY RIG OUT THERE""

A ROTOR ON MY VERTICLE TO MAKE IT WORK BETTER

WHAT THE -HECK YOU GOT HERE ?

– from Fresno SKIP
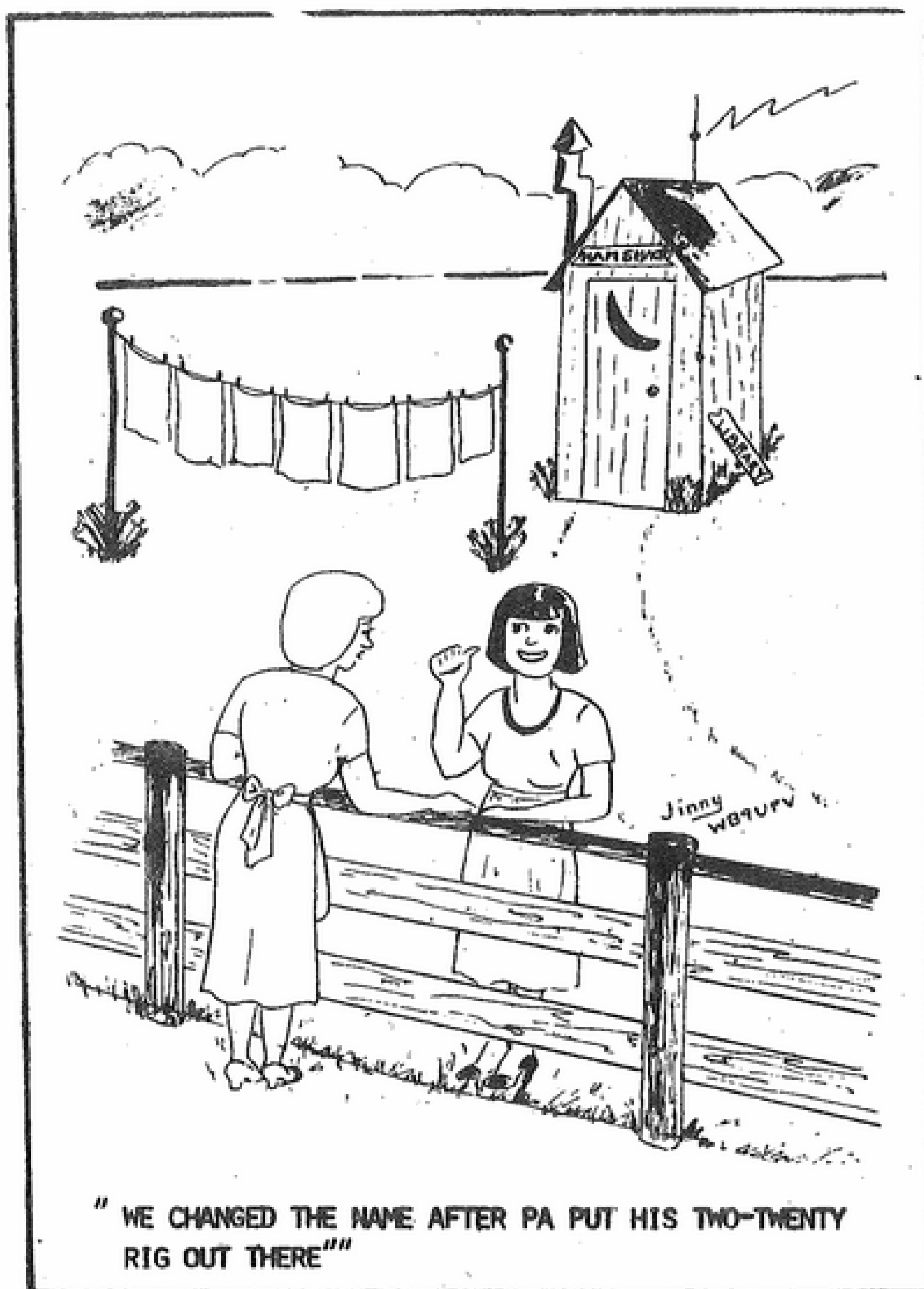
CARTOON???

I heard that he was dishonorably discharged

DIGITAL CAPACITY METER

If you have a counter that measures both frequency and time you may be interested in the super-simple circuit below. It is very accurate and has a range of about 2 to 100,000pf as shown. The range could be extended with additional switched components.

The circuit is a simple astable 555 osc-illator with the output going to the counter of course. The 20K trim-pot adjusts the calibration so the counter reads the correct value of a precision capacitor. The minimum capacitance of the circuit is perhaps 30-50pf and should be subtracted from all readings (including the calibration capacitor) in final checking.

How does it work? The frequency of the astable is equal to K/CR. This being so, if we make R equal to K, then F would equal 1/C. The inverse of F is 1/T thus we can say, when the time node is used, time will equal capacitance.

Suggest you put the works in a metal box for needed shielding and make the 20K trim-pot one of the 10 turn types for precision adjust-ments. As a final note, the output is quite high and should your counter not be too happy with a high level signal (about 7V), you may want to drop it a bit.
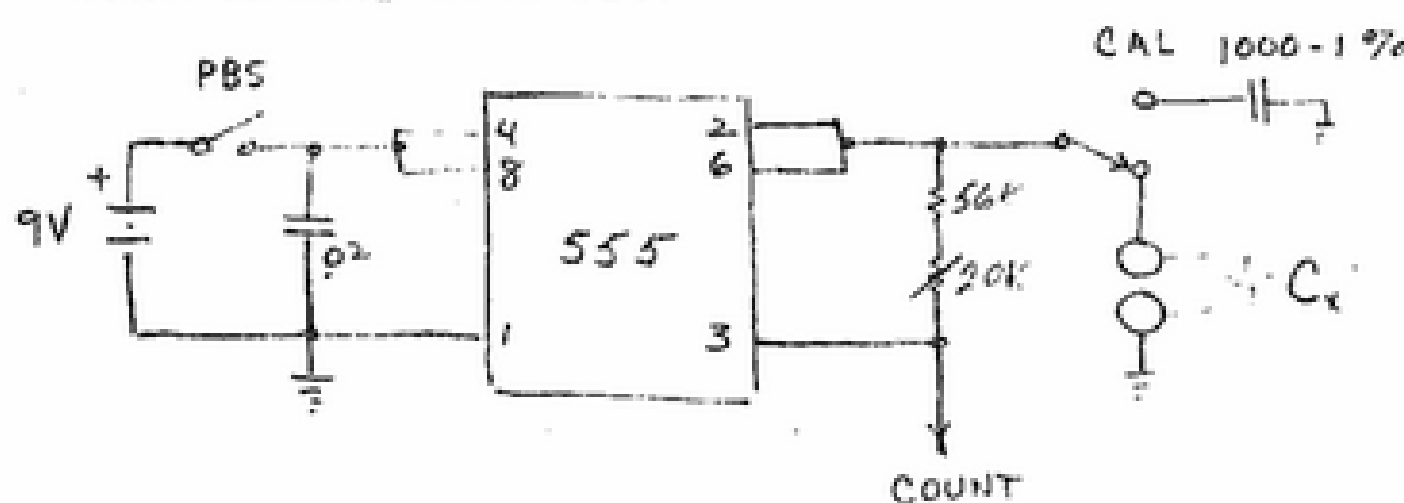
Bill, N5CC

ARE YOU A TROCHODYTE ?

You are a Trochodyte if you can figure out what a Trochodyte does and likes from the clues given below.

A Trochodyte:
    Eats beef, but not pork
    Likes summer, but not winter
    Drinks coffee, but not tea
    Is a runner, not a hiker
    Eats Jello, but not candy
    Swims in the Mississippi River,
        but not in the Ohio River
    Votes for assessor, but not for mayor
    Flies in a balloon, not in a glider
    Likes deer, but not coyotes
    Hunts moose, but not wolves
    Likes apples, but not bananas
    Rides a scooter, but not a bicycle
    Sneezes, but never coughs
    Falls, but never trips
    Shops at mall, never at dept. stores
    Plays tennis, but not hockey
    Likes camellias, but not roses
    Eats spaghetti, but not macaroni
    Likes vanilla ice cream, but not chocolate
    Eats noodles, but not strudels
    Plays in the street, never on the sidewalk
    Uses an adding machine, but not a computer
    Lives in a room, but not in a house
    Walks down the hall, but not on a balcony
    Is always tall, never short
    Likes eggs, but not bacon
    Eats cheese, but not crackers
    Goes   swimming,   but   not   surfing
Are you a Trochodyte ? ? ? ?
                Origin unknown, shared by WA6FAH

APATHY: Moaning and groaning about a clique
           running the club year after year –
           from the back row with your hands
           in your pocket.
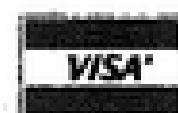
THESE CORA MEMBER CLUBS PROMOTE AMATEUR RADIO

1 AERONAUTICAL CENTER ARC
MEETS: 7:30pm First Thursday Flight
Standards Bldg., FAA, S. Macarthur

PR	WB5SVN	Jack Iman	677-8537
VP	N5ABL	Holly Holcomb	799-2539
Sec	WD5JPW	Gloria Seignious	722-1740
Tr	WA5CJG	Bob Pace	376-3569
EDITOR:	Gloria Seignious,WD5JPW		722-1740

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

PR	KD5IS	Jerry Wetmore	524-5080
VP	KA5MYY	Chris Sartorious	728-0058
SE	K5JB	Joe Buswell	732-0676
TR	W5KE	Ellard Foster	789-6702
EDITOR:	Joe Buswell, K5JB		732-0676

3 MID-OKLAHOMA REPEATER, Inc.
MEETS: 8:00pm First Tuesday. Okla City
EOC. 4600 N Eastern

PR	N5EPV	Bob Allen	Unlisted
VP	WD5ISS	Don Saunders	751-0404
SE	N5BEQ	Jim Buswell	236-0368
TR	W5KOZ	Sid Gerber	737-1050
EDITOR:	Susie Atkinson, KA5FED		842-8014

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

PR	WB5NDO	Kathey Whited	799-1457
VP	WD5CSM	Dennis Patterson	495-0769
SE	N5DLM	Vicki Adkins	722-6195
TR	KE5M	Ron Recer	341-7030
EDITOR:	Kathy Whited WB5NDO		799-1457

5 OKLAHOMA UNIVERSITY AMATEUR RADIO CLUB
MEETS: 7:30pm Second Tuesday (Sep-May)
119 Wilson Center. 1334 S Jenkins

PR	KA5BAY	Luke Noah	325-1775
VP	KE5N	John Wustenberg	325-2382
SE	KA5COI	Peter Richeson	329-3217
TR	KA5LZN	Greg Smith	366-1641
EDITOR:	Greg Smith, KA5LZN		366-1641

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

PR	W5CCV	Joe McDonald	782-3454
VP			
S/T	WA5CBF	Loren Simms	477-0921
EDITOR:	Loren Simms, WA5CBF		477-0921

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

PR	AE5N	Donald Duck	681-0133
VP	WD5JNT	Ted Vanlaningham	262-1675
SE	N5AUH	Jerry Sproul	354-2061
TR	WA9AFM	Tom Webb	737-6716
EDITOR:	Jim Seals, KB5XN		381-2005

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

PR	KA5DUO	Leo Peil	886-2998
VP	WA5FLT		
S/T	K5GG	George Maschino	263-7614
EDITOR:	Marvin Stokes, WA5JHB		893-2221

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

PR	WB5YRN	Delbert Foiles	762-4479
VP	WA5UBO	Marsh Pronneke	363-2526
S/T	KA5PUB	Glenn Bishop, Jr.	
EDITOR:	Dave Land, KO5FX		762-8616

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

PR	WB5ECM	Dennis Painton	764-3599
VP	N5FUP	Steve Schoonmaker	886-3274
SE	N5FMH	Nadine Painton	764-3599
TR	N5FUR	Ruth Simpson	227-2791
EDITOR:	Major Bailey, KI5P		227-2061

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

PR	KA5MIZ	Bob Rabin	360-6996
VP	KA5EFJ	Ken Neptune	321-7789
SE	WD5GTC	Gene Johnson	321-6759
TR	N5BEW	Ken Esadoah	329-4667
EDITOR:	Sam Barrett, WA5RPP		321-2601

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

PR	WB5UIY	Stan Van Nort	Unlisted
VP	WB5MLX	Glen Cochran	942-7148
S/T	WD5DYJ	Kay Northcutt	755-4672
EDITOR:	Mark Northcutt, WD5DYI		755-4672

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

PR	WA5PLW	Windle Hatchett	766-3561
VP	W5KEK	Lewis Patterson	
SE	K5YZK	Jim Phares	254-2319
TR	KA5SDE	James Rockhold	
EDITOR:	Jim Phares, K5YZK		

10 EDMOND AMATEUR RADIO SOCIETY
MEETS: Varies. See club section

PR	KBØOU	Cal Callison	751-3620
VP	WA5ZGM	John Keeling	340-1253
S/T	KC5GN	Bill Wright	341-6076
EDITOR:	John Keeling, WA5ZGM		340-1253

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

PR	WB5VBK	Fred Innis	223-1709
VP	WD5FZD	John W Merlyn	223-9543
SE	W5JCX	Jim Chilcoat	226-6816
TR	W5BLW	Charles Dibrell	226-0589
EDITOR:	Glen Hamilton KE5ES		226-4379

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

PR	WN5NWX	Reggy Whited	799-1457
VP	K2GKK	D. C. Macdnald	672-4947
SE	N5BEQ	Jim Buswell	236-0368
TR	WDOFTM	Linda Callison	751-3620
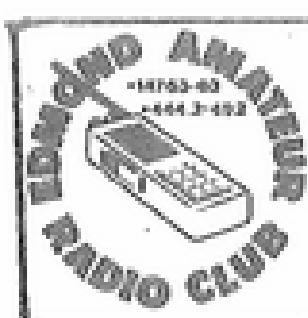
TORCH RUN COMMUNICATIONS

Edmond Amateur Radio Club's 147.63/.03 repeater recently took part in the run of the Olympic Torch through the State of Oklahoma.

Dennis Orcutt, WB5ISN, Trustee of EARC's WD5AII Club Station and WD5AII Repeater, was contacted approximately one week prior to the run through central Oklahoma. The '03 repeater was chosen as one of the official repeaters for use by amateur radio operators manning the huge caravan of vehicles, supplies, personnel, and the Olympic flame.

Orcutt was unsure as to how the repeater was chosen, but speculated its reputation as a high-range repeater was known by a member of the planning staff. Another possibility, Orcutt added, may have been the participation in the nationwide Teleconference Radio Nets, an indication of the Edmond Amateur Radio Club's effort to lead in amateur public service.

Initially, the plan to use the repeater was for the day of June 11, which would see the torch pass from Sapulpa, to Stroud, to Edmond, to Oklahoma City, and finally to Norman, where the entire crew was to spend the night.

First contact with the caravan was approximately 10:30 a-m, when Dave Holder, N5GQY, of Bethany, checked-in full-quieting from east of Stroud. His function in the unit was as communicator for the Day Manager, Norm Stupka, of Oklahoma City's chapter of the Telephone Pioneers of America.

The Pioneers, a service and benevolent organization made up of active and retired employees of AT&T and its associated companies, staffed the Olympic Torch Run in its entirety. Holder, a Manufacturing Difficulties Investigator in the Quality Control Department of AT&T Technologies (formerly Western Electric), had been invited to participate as an amateur operator two weeks before the central Oklahoma section of the run.

The job of the Day Manager and his group, which included Dave, N5GQY, was to precede the actual torch cadre by a number of miles, coordinating the route with the plans of the day. Holder also stated that part of the job was to advise the following party of any adverse conditions, road construction, possible security problems, and to visit with onlookers who had placed themselves along the path of the torch run.

"Part of our job was public relations," Holder said. "We would stop along the way where there was a crowd and visit with them, answering questions, showing a sample torch, and providing "props" for photographing the family with the torch -- that sort of thing."

Dave was very impressed with the operation of the Torch Run. "I was overtaken by the quality, planning, and assembly of the operation," Holder said in a phone interview.

Ahead of Dave's group was another unit, tagged "Torch 13", a unit sent a day ahead of the main group, just to make sure facilities, roadways, and personnel were correct.

Amateur radio communication was a vital part of the coordination of the YLK's, the Youth League Kilometer runners. These runners carry another torch alongside the official torch bearer. The three-thousand dollar per kilometer fee paid to be a YLK was a fund raiser, with the money remaining in local area organizations. Getting the right YLK runner to the correct relay point was a constant effort in the more populated areas. Besides the obvious logistics, security became more of a possible threat. One car,

immediately behind the torch bearers, is driven by a former Secret Service agent, charged with the responsibility of protecting the runner from out-of-control crowds or vehicles. Holder indicated there were some problems with non-official runners and bike riders wanting to join-in the cadre.

During the day, the torch is in constant motion, with official bearers being rotated each four miles. Eighteen runners make up the official bearer contingency. The entire crew, runners and support personel alike, are rotated weekly.

Lunch for the group was slated for Stroud, Oklahoma, midway between Tulsa and Oklahoma City. It was from there that the group first started using the .63/.03 repeater completely. Activity swung to the Edmond repeater soon after 1:00 p-m.

Net control for the Torch Run was "Torch One", Marvin Main, WA8YAQ, of Paris, Ohio. The net was maintained throughout the day, keeping the repeater in use almost constantly. The group was never out of range from 1:00 until after Midnight, covering many miles with the symbolic torch.

Dinner break was at MetroChurch, in northeast Edmond. The planning included showers and telephones made available to whomever in the group wanted them. In the caravan are complete mobile kitchen and dining facilities. When meal stops are made, the torch keeps going, with runners rotated back and forth to the meal site. 63/03 Trustee Orcutt relieved net control WA8YAQ for approximately an hour, allowing Marvin a chance to eat.

Present as a volunteer amateur operator during the Oklahoma City coordination was Edmond Amateur Radio Club's own Joe Garland, WA5FLT, of Calumet. Joe is an instructor in the Managed Education Department at AT&T Technologies, in west Oklahoma City.

Garland's responsibility was to coordinate the actual position of the torch with the contingency of state dignitaries assembled at Lincoln Plaza. The state group, which included Governor George Nigh, had to be informed in order to leave the social activity at Lincoln Plaza and travel to the south steps of the Capitol Building, for a ceremony honoring the passage of the torch through the state. Through Garland's efforts, the Governor's party was on-site before the brief appearance of the torch. (Attaboy, Joe!)

Garland and Dave Holder were the only official Telephone Pioneers from the local area taking part in the amateur radio communication through central Oklahoma. Lee Lash, W5VZY, of The Village, OK, was another local operator who spent a week-long stint with the caravan some days earlier, and was to operate again with the group later during the run.

The Olympic Torch, ignited originally in Greece, is never extinguished throughout its journey to the site of the Olympic Games. Once the flame begins its journey each day, the progress of the flame is never stopped. The original flame is maintained in one of the vans travelling in the group. A miner's lantern preserves the Greek flame, and the torch is ignited each morning from this fire. The flame is then transferred to the lantern in the late evening, whereupon the hand-held torch is extinguished, and the entire crew sleeps through a very short night. Communications on the 63/03 repeater quieted around 12:30 a-m.

The Edmond repeater was again used the next morning, following the progress of the flame. Around 9:30 a-m, the net control station contacted EARC Charter Member Mike Salem, N5MS, of Norman, and arranged for the use of the 146.28/.88 N5MS repeater, at the University of Oklahoma. Communications were transferred to that repeater soon afterward for the journey south to Ardmore and Dallas.

"Torch 26," Dennis Howard, WA7GVT, of Glendive, Montana, seemed to be the amateur radio public relations contact in the group.

Mark Northcutt, WD5DYI, of The Village, a control operator of the Edmond '03 repeater, asked Howard for any comments regarding the amateur radio portion of this mammoth endeavor. Dennis responded with the following announcement, read over the repeater:

"Oklahoma City amateurs have asked for a rundown of the Olympic Torch Operation, ham radio-wise: We are probably the longest public service event in the history of this hobby. Sixteen thousand kilometers in length, the Torch Run began May 8th in Manhattan, New York City, and finishes July 28th in Los Angeles, when the Summer Olympics begin."

"Without ham radio, the Torch Run would not be possible. There are approximately 37 vehicles in the caravan, 30 of which are equipped with two meter gear. There are eighteen amateurs aboard as we go through Oklahoma City this week. They are from all over the United States and are all employees of AT&T or the local operating telephone companies. All are taking vacation to be a part of this."

"Most of the rigs are Icom IC-25H's, with a few IC-27A's and a number of IC-2AT's. We are using 5/8 wave antennae."

"Torch One, the net control station, has an Icom IC-25A, a 150 Watt linear amplifier, several antennae, including a crank-up tower with an ultimate height of 40 feet, which is cranked-up when needed. Strict net discipline is our goal to make communications work."

"There are four motor homes that house the sixteen runners, and they are shuttled to and from the running positions by four vans. There are about six caravan vehicles in what we call the "main core" around the runners. There is a lot of security involved around that core. There are also numerous law enforcement officers assisting around them. Core vehicles contain ham radio, business band, and CB."

"There is also a ham in the EMS, Emergency Medical Services van, following the runner. EMS is a mobile hospital, with a doctor, nurse, and physical therapist on board."

"I speak for all the hams on the caravan when I say we are glad to be here and appreciate the local support and use of your repeater. We have two HF rigs in the caravan, but are not using them because we are working 20-hour days and need the three or four hours of sleep we are getting. WA7GVT mobile, clear....Thanks, guys!"

--de WD5DYI--

PATRIOTIC PARADE

Edmond Amateur Radio Club members will be participating in the Oklahoma City Independence Day Parade on July 4. The parade is the now-famous trek up Classen Boulevard.

Members of EARC will provide communications for the parade coordinators. Stan Van Nort, WB5UIY, EARC President, has been involved with the parade for many years.

Sponsors of the event are: The Our American Heritage Committee, Classen Beautiful, and Enterprise Square, USA.

Van Nort's involvement in the parade came through his association with his father's efforts in past years. Both Stan and his father have coordinated the parade through the years.

Various frequencies, including simplex and the club repeater frequencies will be used.

It is estimated the crowd for the parade will be unusually large, due to the fact the holiday falls mid-week, and spectators will be around home, rather than leaving the metro area for suburban playgrounds.

Check next month's edition of the Collector and Emitter for possible photos of EARC club members in action.

--de WD5DYI--

TELECONFERENCE RADIO NET

June's Teleconference Radio Net presented Dr. John S. Belrose, ARRL Technical Advisor, speaking on Multiband, Broadband, and Frequency Independent Antennas. The North American net was presented June 21, on the Edmond Amateur Radio Club repeater, WD5AII, 147.63/.03.

Dr. Belrose, a respected authority on antenna design, carried the net for two hours, from 7:30 to 9:30 p.m. The first half of the net was a presentation by Dr. Belrose, with the second half devoted to questions from the two-way-capable repeater systems across the United States and Canada.

Over 180 repeater systems in North America participated in the Teleconference. Only ten of the participating repeater systems had talk-back capability.

Topics covered by Dr. Belrose included: Basic Properties of Antennas, Tools for Antenna Design, Transmission Lines, Balanced or Unbalanced?, Single Element Antennas, Antenna Arrays, and Traveling Wave Antennas.

Questions were fielded from the following repeaters, which were allowed talk-back provisions:

K1VT/R	Burlington, Vermont
KA4OPM/R	Eustis, Florida
WA1UQC/R	Burlington, Connecticut
K5KD/R	Little Rock, Arkansas
WB4NTB/R	Murray, Kentucky
W8FWG/R	Calumet, Michigan
VE4UMR/R	Winnipeg, Manitoba
K8DRE/R	Columbus, Ohio
W7SP/R	Salt Lake City, Utah
WR7ACE	Spokane, Washington

The North American Teleconference Radio Net is a service of the Honeywell Amateur Radio Clubs of Minneapolis, Phoenix, and Billerica, Mass.

Between nets, CompuServe's "Hamnet" is the recommended source for up-to-date information and communications regarding the TRN. Users are encouraged to check the X10 and XA10 databases, and use the Read Selective (RS) command to search the field "subject" for the "search string", TELECONFERENCE RADIO NET.

Net Manager is Rick Whiting, WØTN, in Minnetonka, Minnesota. Rick can be reached via the CompuServe system, where he holds the CompuServe ID number 71445,377.

The next North American Teleconference Radio Net will be held on the '63/03 repeater on Friday, September 14th, at 7:30 p.m. Topic for the net will be "Microphone Equalization for the Radio Amateur," by Bob Heil, K9EID. Heil, manufacturer of third-party accessories for amateur radio equipment, should present an interesting program.

SQUEAK,SQUAWK

Any ideas on how to stop that infernal sqeak inherent in so many of today's mobile transciever's microphones? The most prevalent seem to be Kenwood, followed closely by ICOM. They're a dead giveaway when they are un-keyed.

Send any ideas you may have to the Collector and Emitter. You won't win a prize, but if the idea is a plausible one, we may all hear quieter QSO's in the future. My ears thank you!

--de WD5DYI--

LAST CHANCE To Pre-register

Minutes of June Meeting

Meeting was called to order at 10:00 A.M. by Vice President Chris, KA5MYY, with 8 members and guests present.

Primary subject of discussion was house-keeping. After discussing various means of disposing of surplus stuff, it was decided to conduct an auction at a later date. Motion passed that the PE-75 generators be junked.

Meeting ajourned at 11:15 A.M. Minutes relayed by Bob, W5HXL. Joe, K5JB, Sec'y

A Packet Terminal Computer Program

As in hardware construction, it is sometimes necessary to scratch build a computer program to do a necessary, specific function. The only serious deficiency of the GLB PK1 terminal node controller is the terminal interruption priority. It is interrupted from its packet duties whenever a character arrives at it's terminal port. If a packet is being received or sent at the same time a key is pressed on the terminal keyboard, the packet is gonzoided by the interruption and it has to be resent.
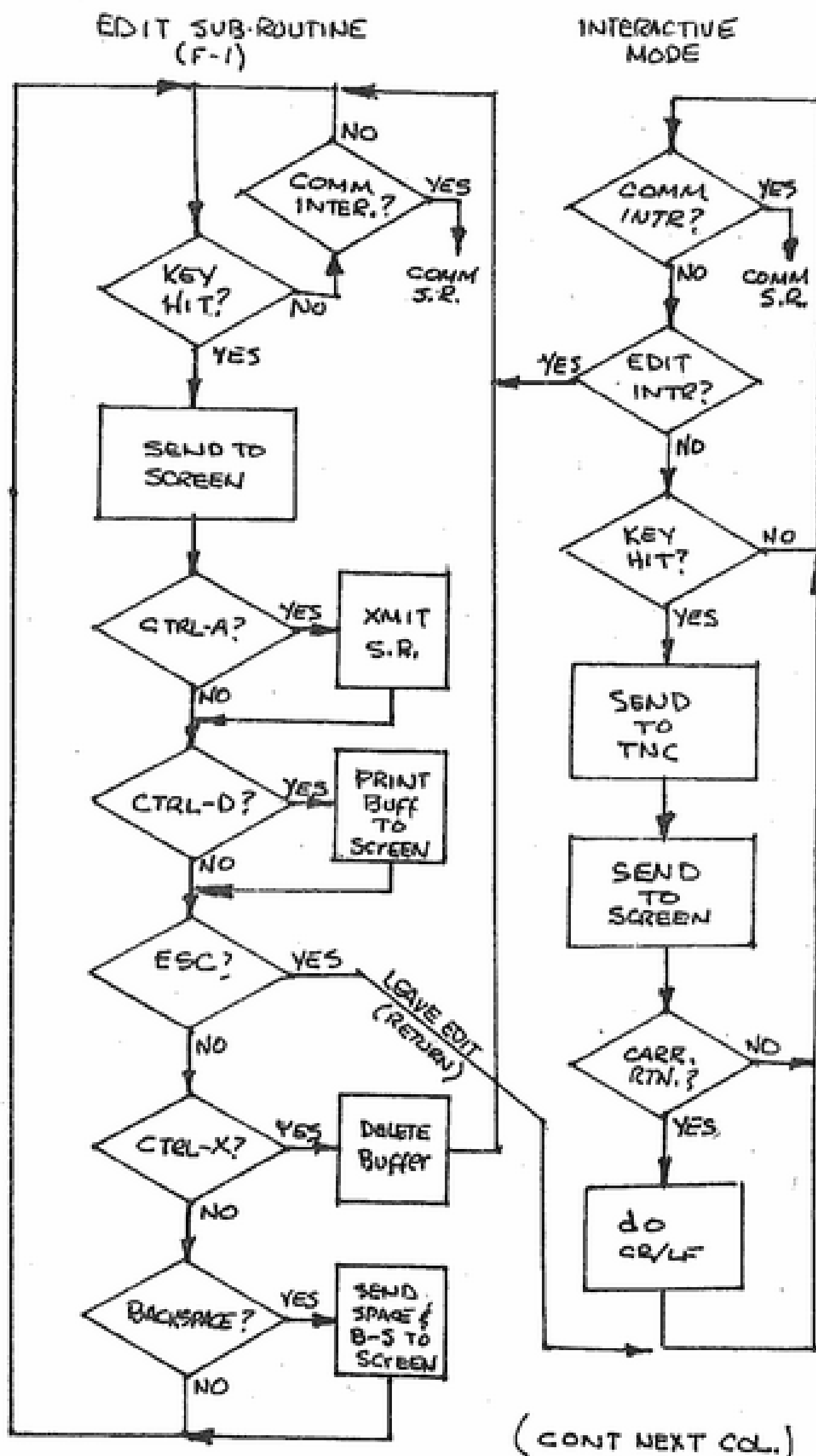

Figure 1. Terminal Program Flow Chart
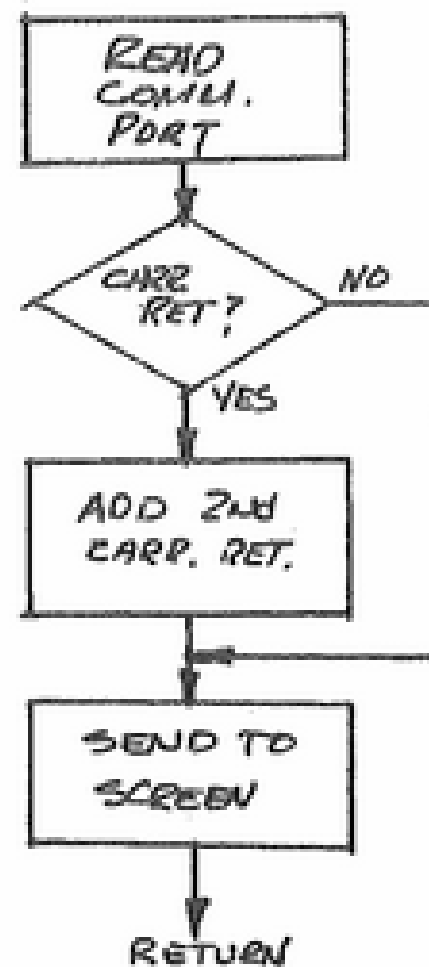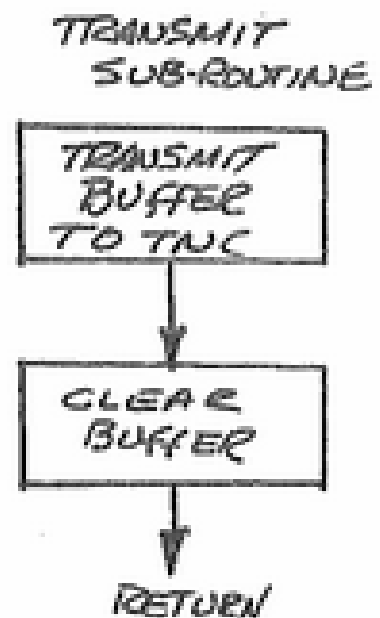

As recommended in the GLB operating instructions, it is desirable to prepare an amount of text material without interrupting the TNC, and send it at a speed that will reduce the interruption potential to a minimum. Also, it is desirable to be able to interact with the TNC on a character by character basis to permit entering set-up commands and see the immediate results.

This started out as a "Three line BASIC Program" I kidded Mark, WD5DYI, about but got a little longer as the minimum features were incorporated. As long as the time was spent developing a program to reduce the problem, I thought I would get additional mileage from the effort by writing it up for you who are learning to manipulate computers. I didn't spend a heck of a lot of time getting this one to perform the way I wanted, and was able to avoid spending more time contributing to its 'creeping elegance' (Remember, my Model-100 doesn't have a lot of memory and I can't afford a lot of excess baggage. The version kept in RAM has all the remarks and cosmetic spaces stripped.)

This shows how to create a program to handle simple text buffering and demonstrates one of the fundamental principles of programming, flow charting.

When a process is going to be converted into computer program, particularlly if it is a complex process, it is essential that the process be converted into a series of steps that follow the process' logical flow.

The flow charting, Figure 1, is the primary programming step, whether it is done formally as I have done here, or mentally, as is possible with a relatively simple process. With a complex process, it is usually necessary and always advantageous to draw a picture of the desired process. A flow chart is such a picture. The Edit sub-routine is an example of a fairly complex process that needs a flow chart while the Transmit sub-routine flow chart could certainly be done mentally.

In this problem, the program is needed to do some string handling. A string is a series of alpha-numeric characters which can be manipulated, much like one does with a pencil and eraser.
The program's primary function is the buffering and limited editing of text before interrupting the TNC. The flow charts in Figure 1 only show the major segments which make up the program. The program listing is shown in Figure 2. It is written for a Radio Snack Model-100 computer which uses a Microsoft BASIC dialect and has some usefull interrupt request routines available. It was uncertain whether the program would operate fast enough in BASIC but it seemed worth trying since I have very

little information about the machine's avail-
able intrinsic sub-routines. It therefore
wouldn't have been practical for me to tackle
in machine language. It seems to handle the
text transfer at 600 Baud without dropping
characters. It will get behind at 1200 Baud.

```
10 CLEAR 1000:MAXFILES=2:CLS:COM ON:KEY ON
20 GOSUB 800:' DISPLAY COMMANDS
30 OPEN"COM:47I1E" FOR INPUT AS 2:OPEN"COM:47I1E" FOR
   OUTPUT AS 1: ' 600 BAUD
40 INPUT"SETUP (Y/N)";R$:IF R$="Y" THEN GOSUB 500
50 ON KEY GOSUB 200,300,,,,,800,700:
   ' EDIT,XMIT,,,,,COMMANDS,DISC
60 ON COM GOSUB 400:          ' COMMUNICATION INTERRUPT
100 PRINT"YOU GOT IT!":    ' INTERACTIVE MODE
110 E$=INKEY$
120 PRINT#1,E$;
130 PRINT E$;:IF E$=CHR$(13) THEN PRINT: ' TIDY SCREEN
140 GOTO 110
200 PRINT"EDIT:"
210 A$=INKEY$:PRINT A$;
220 IF A$="" THEN 210
230 IF A$=CHR$(1) THEN GOSUB 300:' TRANSMIT (F-2 ALSO)
240 IF A$=CHR$(4) THEN PRINT" "+B$;: ' REDISPLAY WITH
   CTRL-D
250 IF A$=CHR$(27) THEN PRINT" LEAVE EDIT": RETURN :
   ' ESCAPE
260 IF A$=CHR$(13) THEN PRINT:A$=A$+" ": ' THROW AWAY
   SPACE
270 IF A$=CHR$(24) THEN B$="":PRINT:GOTO 210: ' CTRL-X
   CANCEL BUFFER
280 IF A$=CHR$(8) THEN PRINT CHR$(32);CHR$(8);:
   ' BACKSPACE CLEANUP
290 B$=B$+A$:GOTO 210
300 ' TRANSMIT IT
310 PRINT#1,B$;:B$=""
320 FOR I=1 TO 100 : NEXT: ' COOL IT A MOMENT
330 PRINT#1,CHR$(10);:PRINT:RETURN
400 ' RS-232 PORT INPUT
410 C$=INPUT$ (1,2)
420 IF C$=CHR$(13) THEN C$=C$+CHR$(13): ' MORE SCREEN
   HOUSEKEEPING
430 PRINT C$;
440 RETURN
500 PRINT#1,CHR$(13);:GOSUB 600: ' GLB INIT. BAUD,ETC.
510 PRINT#1,"S";:GOSUB 600: ' DISABLE ECHO
520 PRINT#1,"E";:GOSUB 600
530 PRINT#1,"D";:GOSUB 600
540 PRINT#1,"SC";:GOSUB 600
550 PRINT#1,"K5JB ";:GOSUB 600:GOSUB 600: ' CHANGE TO
   SUIT...NOTE SPACE FOR SHORT CALL
560 PRINT#1,"1 ";:GOSUB 600: ' SSID...NOTE SPACE
570 PRINT"(ENTER DESTINATION CALL)": ' A REMINDER
580 RETURN
600 FOR I=1 TO 400:NEXT:RETURN: ' TIME DELAY
700 PRINT"DISC":PRINT#1,CHR$(3):RETURN: ' SENT HERE BY
   FUNC. KEY 8
800 ' DISPLAY COMMANDS - FUNCTION KEY 7
820 PRINT TAB(9);"GLB PK1 PACKET TERMINAL
830 PRINT TAB(4);"F-1: ENTER EDIT,     F-2: XMIT
840 PRINT TAB(1);"CTRL-X: SCRUB ENTRY  CTRL-D:REDISP.
850 PRINT TAB(4);"ESC: EXIT EDIT   ESC-ESC: COMMAND
860 PRINT TAB(4);"F-7: DISP COMMANDS  F-8: DISC.":
870 PRINT : RETURN
```

Figure 2. Model-100 Packet Program

The program starts out by displaying the
available commands (sub-routine starting at
line 800) and preparing the communication port
in line 30. If the GLB TNC has just been
powered up, the option presented in line 40
permits initialization starting in line 500.
The GLB TNC cannot handle text at machine
speeds while echoing back to the terminal.
Echo is disabled, its call and secondary stat-
ion identifier are entered and before return-
ing, it reminds me to set the destination
station's call manually. It then establishes
the interrupt sub-routines in lines 50 and 60
and falls into an interactive mode. There it
stays until function key 1 is pressed putting
it into the Edit mode.

With the exception of the interactive mode,
each main program segment is a sub-routine
because the Model-100 requires that the inter-
rupt features be handled as sub-routines. The
major reason for having to flow chart the
thing is the need to keep track of these sub-
routines. If a careless jump out of one

occurs, the program eventually suffers a
clumsy demise.

With the exception of the interrupt handling
nature of this program, the same flow chart
could be used to write the same thing for any
computer. In most computers, a technique
called polling would be used to determine
whether a key had been pressed or if a char-
acter had been received from the communication
port. In that case, the little loop at the
top of the Edit sub-routine would be alternat-
ly checking the keyboard and port status re-
gisters whenever it wasn't doing anything
else.

Each diamond is a decision point in the dia-
gram. The flow takes the path determined by
the answer to the question in the diamond.
Each rectangle is a performed function, some-
times a sub-routine. It is generally unnec-
essary to show a return path from a sub-rou-
tine because it will return via the same path
leading to it. Most of the decisions relate
to questioning which key was hit. Initially,
none of the Model-100's function keys were
used and special keys were used to command the
program to take different routes. Ctrl-A is
used to transmit the buffered text because it
is the same command I have been using on the
TAPR TNC, even though the GLB normally uses a
Ctrl-J (linefeed). See line 330 in the pro-
gram, Figure 2, for the linefeed which actual-
ly causes the GLB to transmit. Later, I added
function key 2 to perform the same service as
a Ctrl-A. The function key is the neatest
method but old habits die hard. I actually
refrained from making extensive use of the
function keys because it is too hard to remem-
ber a large number of them.

I elected to let the GLB interrupt my editing
if a packet was received. This was done in
the interest of speed because I initially had
a problem with lost characters while buffer-
ing the received text. The disadvantage is
that one may lose track of exactly where he
was when ready to resume entering text. The
Ctrl-D was used as a command to redisplay the
entered text.

The Escape key was chosen to leave the edit
function (line 250). It is the only 'Return'
in the Edit sub-routine and it sends the pro-
gram back to the interactive mode where key
entries are sent immediately to the TNC.

The Ctrl-X is used to cancel entered text.
The backspace character, Ctrl-H, is grabbed
and sends a space to the screen to erase the
last character, then sends another backspace
to put the cursor where it belongs. The back-
space characters is left in the text sent to
the GLB because it doesn't hurt anything and
the string handling to remove it is avoided.
It only takes one BASIC statement to remove
that character but I'll leave it to the pur-
ists to add that statement. There are a
sprinkling of other screen cleanups that were
discovered while operating the thing. The
Model-100 has some apparently inconsistant
display procedures and the only way I can fix
missing characters on first lines, missing
linefeeds, etc., is to patch them as they are
discovered. Some of these screwy commands can
be left out of other computers, (which will
probably have their idiosyncrocies anyway).

There are two function keys used by the pro-
gram but not included in the flow chart illus-
tration, F-7 and F-8. F-7 calls up the sub-
routine starting at line 800 to redisplay the
commands for convenience. F-8 calls up a dis-
connect sub-routine in line 700 which sends a
Ctrl-C to the TNC. In its conversational
mode, the GLB TNC expects a Ctrl-C to start
the disconnect cycle. The Model-100 usually
intercepts Ctrl-C's and ends the program.

Ctrl-C is used to actually end the program.
Flipping the switch off serves the same pur-
pose and that is what I am going to do now.
Joe, K5JB

KAY COUNTY AMATEUR RADIO CLUB NEWS

Greetings from your new editor, this is KD5FX. It's a real privilege to apear in the same pages as Q.R. Zedd, N5MS, AD1S, and all the other famous Oklahoma hams. The big news from Kay County is that the 10 Meter FM Repeater is on the air! Tune in 29.52/29.62 for a real ear full. Who said that 10 meters is dead?

By the time you read this Field Day will be over, I hope it was a good one.

The other big news is not to forget Ham Holiday coming up on July 20-21-22 in OKC. Be sure to get that preregistration in, and don't forget to stop by the KD5FX table at the flea market. I have some unusually choice fleas for sale this year, my dog, Radar, has been working on them for months now.

Some more big news from Kay County is the new ham club in the area. It is the Oklahoma Independent Amateur Radio Club (OIDAR or radio backwards, very clever, no?) There are about 12 members so far, and they will be having their own field day this year and going for points. The main purpose of the club is to support the new repeater that will appear soon down in the sub-band, it will be linked to 145.23 (N5ANV/R) in Blackwell and also to 145.29 (WA7UIB/R) in Enid. It will be a repeater for experimentation, i.e. cross linking, RTTY, Packet?, etc.

I would like to remind all the Kay County Hams that the KCARC meeting is the third Thursday of the month at 7PM in the Ponca City Parks Department building at Hartford and Ash.

+++++JUNE MEETING NOTES+++++
The W5HZZ 146.37/97 repeater was discussed. The point was made that it does not seem to have as much coverage towards Blackwell as other directions. This causes problems during weather nets. The decision was made to try a couple of things to improve coverage toward Blackwell. The easiest is to change the antenna configuration so that all four loops (of the DB ant.) are pointed west. This should increase the sensitivity towards Blackwell. But first, a coverage test will be made by voluteers of the club.

A Saturaday afternoon will be decided upon in the July meeting to have a net that will send out mobles throughout the county to locate dead spots. So be sure to attend the July meeting. After the antenna change is made, another test will be done to see if an improvement is noticed. If not, the next thing that will be discussed is raising the antenna on its own tower. W5ZWM and WN5LUI will run a sensitivity test on the repeater to make sure it is presently up to specs before the first coverage test is done. Field day was discussed and all the plans finalized.

A special event station was discussed with two possibilities brought up. The first is a special event station at the Marland Mansion later this fall and/or a special event station to be set up at the Kay County Free Fair. More details on this will be discussed at the July and August meetings, BE THERE!

EMERGENCY COMMUNICATIONS TRUCK PROGRESS REPORT The interior is nearly complete. The fire and CD radios are in hand and waiting on crystals. The club will have a sanding party at DOC's house soon to get the cab ready for painting. The club will try to have it ready for use at the Kay County Free Fair special event.

WD4CEP Rick has moved to Denver, CO and WD5EAA Tony has moved to Idaho somewhere on his way to the North Slope of Alaska.
                    W5HZZ 146.37/97 REPEATER

NEWS
The little Keebler Elf who does all our repeater work informs me that the new auto-patch board is coming along very well and should be installed soon. It will have a more sophisticated three tone access. He also tells me that it will have a NET identifier so that when we are doing a weather net it will tell listeners that a net is in progress. So listen for .-. - during bad weather, and you'll know that a weather net is in operation. Also, there will be a courtesy beeper, so wait for the beep before you key up.

ICOM 2AT RAMBLINGS OR MODS FOR THE MODERN. BY KD5FX

This is the first in a short series of articles on minor modifications that you can do to your little 2AT to make it work the way Americans would like it to. When they installed a talking clock on our repeater I couldn't hear the clock when I called it up because there is a time delay built into the 2AT's tone pad circuit. This time delay allows you to type out several numbers without holding down the PTT button after the first tone is sent. Well, by the time the delay turned the receiver back on the clock had already told its time and I missed it. So, I got to looking at the tone pad circuit and found out (after a couple of other tries) that if you change C74 which is a 10 mfd capacitor to about 1 or 2 mfd the delay is gone. The only bad thing is that you have to remember to hold down the PTT button the whole time you are dialing a number. This cap is located on the main unit board just below L7. You can look it up on your circuit board layout diagram that you got when you bought your radio. You did keep all that didn't you? Ok, now where did you put it?

Next month- How to make your 2AT tune from 150.00 to 160.00 mHz. If you have some mods for the 2AT I would like to hear about them, call me on 145.29 (WA7UIB/R) in the evening. Or, if you want to keep Ma Bell in business, you can try 405-762-8616.

FOR SALE
MOSELEY TA-33, 4 months old, $200 or B.O., SEARS (Yeasu) 3880 24ch. 146-148 10W 2 meter radio $100 or B.O. CALL KA5PUB Glen Bishop at 405-767-1031 or on the WA7UIB/R 145.29 repeater.

FOR SALE
KENWOOD TS-520 120VAC/12VDC TRANSCEIVER. MINT CONDITION. $400 OR B.O. CALL KD5FX 405-762-8616 EVENINGS OR CATCH ME ON 145.290 THE WA7UIB/R REPEATER IN ENID.

Hold this rectangle to your face and blow on it. If it turns green, call your physician. If it turns brown, see your dentist. If it turns purple, see your psychiatrist. If it turns red see your banker. If it turns black, call your lawyer and make a will.

If it remains the same color, you are in good health, and there is no reason on earth why you should not make it to Ham Holiday on 21-22-23 July in Oklahoma City. Lincoln Plaza Inn. Free parking. Send in your preregistration form(s) today.

Q. R. Zedd

HIGH SPEED MEETS HIS MATCH

It was a day or two after spring commencement at the University of Oklahoma when the telephone call came from the great man himself, Q. R. Zedd.

"Come on down to the ranch, boy," roared A5A in his best pileup voice. "My cousin High Speed, from California, is coming over for some tea with my momma and Tondelayo and me. You might want to record it for the ages."

Naturally we tore down there, parking in the late-afternoon shade of one of Zedd's 500-foot sterba curtains, and on the deck on the shady side of the ranch house we found Zedd, Tondelayo Schwartz, his blonde, nubile, 20-year-old QSL secretary and constant companion, Momma Zedd, and a tall, red-haired young man wearing surfer shorts and thongs who could only be the son of Momma's sister, High Speed himself. (High Speed recently graduated from OU with a double degree in Electrical Engineering and French Pastry Baking.)

Zedd made the introductions and we all settled down for some Lipton's Instant on the rocks, which Tondelayo, fetching in a pink bikini and string sandals, served on an old serving tray made out of a discarded mother board from a mainframe computer.

"High Speed, here, was just telling us how great he is," Zedd told me with the tilt of an eyebrow. He turned back to the young graduate. "Pray continue."

High Speed crossed tanned legs, tossing his thong on the toe of his right foot, and fired up a Swisher Sweet. "I'm a modest guy," he told us. "If I keep on talking about some of my accomplishments, it might sound like I was bragging."

"Oh, do go on," Zedd encouraged, a dangerous light in his eye. "Us peasants don't get a lot of excitement."

"Well, as I was saying," High Speed smiled, "it isn't everybody who's worked Brazil on 75."

"No, it certainly isn't," Zedd agreed.

"Of course I've worked just about everything," High Speed continued, blowing smoke rings. "Us Californians just naturally do better than most. My home there in Big Sur has a nice antenna location, on the cliffs overlooking the ocean, and it keeps you in good nervous condition, running over to Pebble Beach to knock a few balls up on the green whenever radioing has you frazzled a little."

High Speed paused and looked at Zedd. "You ever play the game, Uncle Q. R.?"

"DX?" Zedd asked.

"Golf."

"I've tried it once or twice," Zedd understated.

"I guess you're not quite as good at it as you are at DXing, then?"

"Well --"

"Because," High Speed cut in, "after all, you are second-best in the whole world at DXing, right?"

Tondelayo made a little hissing sound and started for the cake knife, but Zedd stayed her with a magnanimous gesture, never taking his eyes from his nephew. "You being the best?" he asked with deceptive quiet in his tone.

"In all modesty, yes," High Speed smiled. "After all, Uncle Q. R., you are sort of over the hill, right? I mean, even Pete Rose has slowed down."

"Yes, I'm sure you're right," Zedd said.

"And I have two college degrees," High Speed added.

Zedd sighed. "Indeed. Yes. You must know everything."

"Not everything," High Speed corrected him. "After all, there are things that doesn't interest me and I haven't looked into some of them hardly at all."

At this point an alarm system began to wail outside the main radio shack.

Tondelayo looked up sharply. "That's the rare Asian DX alarm."

Momma Zedd stood. "Maybe I'll go work it."

Zedd punched in some digits on the computer keyboard at his side. The LCD display lit up. He read it. "Seems to be an XV and also an XW upband a little," he said calmly. He started to unwind from the chair.

"The pileup must be tremendous," High Speed said, his tension showing. "Maybe you'd better let a younger man go work them."

"That's a fine idea," Zedd smiled. "Help yourself to the shack."

High Speed went running, thongs slapping the pavement. The door to the radio room slammed behind him.

"I swanee, son," Momma Zedd said crossly. "Are you going to let that whippersnapper use your station to work that DX before you do?"

"Who needs another XW or XV?" Zedd yawned.

"It's the principle of the thing!" Momma said indignantly. "That squirt really believes he's greater than you."

"Momma is right," Tondelayo chimed in. "Oh, Q. R., how **could** you?"

Seeing the tears in Tondelayo's darling eyes, Zedd was moved. He heaved another sigh and squinted at the sun, now lowering in the sky. "Clouds are interesting," he murmured. "Looks like a barnburner of an inversion, for sure."

Thoughtfully he took the small screwdriver out of his shirt pocket and popped the back off his Icom handi talkie. Squinting inside, he poked around with a nail file. "Ought to be easy enough to grind this off a little and add a bit of earwax and bring it down in frequency...."

While Zedd meddled, signs betrayed High Speed's frantic activity inside the shack. The auxiliary power generating plant down the hill whanged into action. Four 10-over-10 monobanders began to sweep toward the west atop their 600-foot towers to the south. We could hear the receiver coming online, and the pileup was already horrendous, with more than the usual cussing and name-calling.

The patio lights dimmed a bit as High Speed began to tune.

"Hurry, darling, whatever you're doing," Tondelayo entreated.

"Almost finished," Zedd murmured, jerking a small component out of the handi and looking around the deck. "Momma, hand me that TV remote control, will you?"

Up in the wispy clouds over the antenna farm, the tips of the wide-spaced monoband yagis began to glow red. The linear was tuning up.

"Q. R.!" Tondelayo begged.

Zedd smiled and clapped the back onto the handi again. He turned it on, keyed it, and read the digital frequency readout on his Dick Tracy wristwatch. Satisfied, he scanned the clouds again and tilted the handheld so that the rubber duck was at a 45-degree angle to the horizon.

"Got to have just the right angle of deflection," the great man murmured.

Lightning bolts blasted off the yagis overhead as High Speed began screaming into the pileup. When he unkeyed, the roar of the pileup was unbelievable.

"And," Zedd said, smiled again, "timing is important."

He listened to the yelling and shouting and megawatt name-calling for another few seconds.

"Then, making sure his rubber duck angle was correct against his supersonic perception of the level of the ionosphere, he keyed the handi.

AMSAT News

Dick Ruhl WD5GLD Area Coordinator

I hope everyone has sent in their pre-registration for Ham Holiday '84 because by the time you read this the deadline will be near. This should be a great time with lots of good programs available for everyone and the hospitality at the Lincoln Plaza should be enjoyable.

Ham Com in Dallas was a great success with the Amsat booth being well represented by KO5I, WB5PMR, N2CF and W5IU who are to be congratulated for the excellent programs and super job they did in organizing the events that went off so smoothly. The hard work paid off from the final number of new members who signed up and from the final dollar count they were able to contribute to Amsat.

We here in Oklahoma are planning on having a booth set up at Ham Holiday for those of you who are wanting more information about Amsat, or for those of you wanting to contribute to Amsat just by becoming a new member. Many new and exciting projects are on the drawing board for the future of Amateur radio in the way of satellite communications. The PacSat project, Phase III C and possibly even a geo-statioary satelitte are proposals that need your input. These projects all require enormous amounts of funds for the design and launch. You can become a contributing partner of this new horizon by becoming a member of Ansat and help encourage others to do so also.

Jim, K5PER is putting together an excellent program for Ham Holiday dealing with the station and tracking requirements for using Oscar 10. Allen, WB5PMR who is the area coordinator for the state of Texas will be on hand with an excellent slide presentation he has made up showing these topics in greater detail. Al is an avid DX chaser on the Oscar satellites and will be on hand to answer questions at the end of the program. Several video tapes dealing with the design and launch of the new PacSat/Vita project have been ordered from Amsat but I am not sure they will arrive before the July 21st due to the national convention being held at the same time. We want to encourage everyone to set aside that one hour on Saturday afternoon to attend this program by Amsat which should be super.

The status of Oscar 11 looks very good at this time with it coming back to life on the 14th of May. The data is being looked at to determine more exactly what caused the beacon to fail but early indications show satellite temperatures may have reached below -11C which might have caused the problem. UO-11 may well yet fullfill its destiny, one of the most ambitious amateur space education tools ever conceived, and being built in the record amount of time. (6 months).

The Amsat/ARRL proposal for a second astronaut in space has been forwarded to NASA for evaluation. Tony England, WOORE will be aboard mission 51F-spacelab 2, scheduled for March 1985. The proposal builds on then W5LFL efforts and suggests new and interesting aspects for the 51F mission. More equipment with different frequencys and possibly automated RF devices so 100% astronaut presence may not be needed for experiments are some of the proposals.

Thats all we have here now so looking forward to seeing you at Ham Holiday and if you have time stop by the Amset booth and ragchew for a while.

73 Dick

(Editors note: How about typing this each month? Keep it 4.6 in wide X 14")

LAST CHANCE

CIMARRON A.R.A.

Field Day anyone? It's almost that time of year again. Are you ready for it? Come on now, be honest. You've sworn for the last year to have your code speed up to 30 WPM and now that the time is close at hand it's still a struggle to copy 15 solid. Don't feel alone. Procrastination is a large part of the hobby. HI. The CARA group is planning one of the largest field day efforts in the West-Gulf division. Fourteen transmitters will be on hand with twelve planned for simultaneous operation, six operating with two Kw. amps behind them and the remainder running barefoot into tri-banders and mono-band verticals. The Field Day committee is chaired by K15P and procurement is being handled by N5AGB and N5FUP two able and very qualified hands. The radios to be used are; 4 IC-720A, 3 IC-745, 1 IC-740, 3 IC751, 2 IC-730 and 1 KWM-380 for a stand-by rig. The generator is being furnished by WB5ECM, it's a 4.5 Kw. which will be more than enough to power all the radios and run the 25 ton air conditioner being used at the Field Day control center.

Logging this year will be easier than ever before thanks to the four IBM personal computers which have been graciously lent to the club.

Not leaving anything to chance, we've divided the operating duties into two-hour shifts with an alternate being designated for each control operator just in case they become too fatigued to finish their assigned shifts.

Dennis, WB5ECM will butcher and barbeque a calf for the Saturday evening meal with left-overs to be served Sunday. For anyone showing up on Saturday morning for set up operations, Ken's Daylight Donuts from Fairview will be dropping off 20 dozen of his calorie laden gems at 5:30 AM. Be there early before they're all gone.

The location of this years efforts will be 20 miles west and 2 north of Fairview at the Lazy P ranch with the actual site located on the highest point in all of Major county some 1815 feet above sea level. From this very location quite often Dallas repeaters can be accessed with full quieting signals from a hand held.

One more note before closing, please don't park your cars on highway 60. There is room for about 200 vehicles at the ranchhouse and shuttle service will be provided to the Field Day site. 73, K15P

MORE Q.R.ZEDD

"Alpha five alpha," he said quietly.

Inside the shack, the reciever boomed with a high-pitched Asian voice. "Alpha five alpha! Alpha five alpha! This is great honort, sir! You are five and nine, five and nine! QSL?"

Zedd's eyebrow drooped with the old pride of an old warrior. Being sure to hold the rubber duck correct, he keyed again. "Roger. I QSL the five and nine. You also are five and nine at Honor Roll Ranch. QSL?"

The XW QSL'd. High Speed has gone back to California, where it was reported that he is telling everyone DX is dumb anyway, and he is going into computers.

Zedd has his Icom back on two meters again, and is usually listening on the /06 machine.

-- KU5B

GOOD FOOD - GOOD COMPANY - GOOD TIME
HAM HOLIDAY '84 BANQUET

We would like to extend an invitation to all attending HH '84 to join us Saturday night at 7:00 pm for dinner.

We know there will be "GOOD FOOD" with an extensive menu which includes: Ham, B-B-Q Brisket, Chicken Cacciatore, Tossed Garden Salad, Assorted Condiments, Relish Tray, Melon Basket with Fruit Salad, Marinated Mushrooms, Waldorf Salad, Shrimp & Rice Salad, Potato Salad, Broccoli w/cheese sauce, Glazed Carrots, Buttered New Potatoes, Assorted Desserts, Tea or Coffee

Along with our guest speakers, Ray Wrangler (ARRL) and Sandra Morris (FCC), and with your presence at the Banquet that will make for "GOOD COMPANY".

With entertainment from our MC, singing from the "Good News Quartet", super door awards and much more a "GOOD TIME" should be had by all.

Won't you join your fellow amateurs for a interesting and fun eveing.

Price for the banquet is $ 14.00 per person, be sure to fill in the necessary information on the registration form and send along with your check.

HAPPY EATING!
Kathy Whited, WB5NDO

P.S.   PRE-REGISTRATION REQUIRED IF YOU PLAN ON ATTENDING THE BANQUET.

Pre-Registration Award to be drawn at the banquet.

HOSPITALITY ROOM OPENS AT HAM HOLIDAY-84

To greet your friends at Ham Holiday this year, CORA Directors and Mori will provide a Hospitality room with coffee and cookies, for a place to meet your Amateur Radio friends and their wives in comfort. This room will be located just inside the front door (to the left). Hours will be as follows: Friday 4:30 to 8:00, Saturday; 8:00 to 5:30; and Sunday 8:00 AM to 12:00 Noon. Eyeball QSO's and gabfests will be the style, in the comfort of this room.

Bobbi and Fred Taylor N5GTP, with Bobbi in the lead are contacting the clubs in CORA and others to make sure the donated cookies and other sweets will be enough for the three days. We are urging that XYL's and YL's come loaded with thier favorite cookie recipe, or other sweets for the snacks in the Hospitality Room Since the room is open to all this year we will need dozens and dozens. Call Bobbi at 677-3910 and let he know what you can donate and how many, please. We wish to make the room a success!

HAM HOLIDAY SUNDAY WORSHIP

A time of worship for all amateur radio operators is being planned as a part of the Sunday morning Ham Holiday activities. The meeting, which will be held in the Rotunda of the Lincoln Plaza will begin at 9:00 am and will be over at 10:00 am, and will be hosted by the Oklahoma Baptist Phone Emergency Net.
Although the services will be led by members of the net, it is planned as a worship opportunity for all amateurs and their families who will be participating in Sunday morning Ham Holiday events.
The devotion for the morning will be presented by KB5SS, Dr. Tom Owens. Dr. Owens has held an amateur license since 1976 and presently is pastor of the First Baptist Church of Fairland OK.

BINGO BINGO BINGO BINGO BINGO BINGO

That exciting pastime that is so profitable and fun is back again! We all look forward to th HAM HOLIDAY BINGO every year with MORI coming up with those wonderful prizes, $$$$$$ for the winners... The facility on SATURDAY will be great! IN THE THEATRE FORUM, and SUNDAY we will be in THE CONFERENCE ROOM. Join us this HAM HOLIDAY for BINGO...9:30 on Saturday and 9:00 on Sunday!

HAM HOLIDAY STYLE SHOW
PRESENTED BY: ROTHSCHILDS OF CROSSROADS MALL
STYLE CONSULTANT: PAT SHOCKEY (NARRATOR)
PRESENTS

THE LATEST SUMMER AND FALL FASHIONS MODELED BY THE BEAUTIFUL LADIES OF CENTRAL OKLAHOMA RADIO AMATEURS, YL'S AND XYL'S ALL! THESE GRACEFUL LADIES OR HI-TEENS WILL HIGHLIGHT THE WOMENS AND FAMILY CENTERED PART OF HAM HOLIDAY-84. DON'T FAIL TO BE THERE TO SEE YOUR FAVORITE YL OR XYL IN THE SHOW! REFRESHMENTS WILL BE ON HAND FOR THOSE REGISTERED AND ATTENDING.

SPONSORING CLUB: MID OKLAHOMA REPEATOR INC
CLUB COORDINATOR: BOBBI TAYLOR (XYL OF N5GTP)
CO-CORDINATORS FROM OCAPA, OCACARC, & MORI

We hope that ladies or HI-Teens interested in participating that wear 5-7? (with or without modelling experience, but preferably with) size will contact Bobbi at 405-677-3910 or 521-1537, to schedule the free appointment at Rothchilds to style thier hair, and fit the gowns or outfit on Wednesday prior to the show. Let us know as soon as possible for publication and program.

SAFETY IN THE HOME
Ralph Hanley of the Okla. City Fire Dept. Public Relations Department will present a "In Depth" short program for all the family, in Home Safety. The rapidly changing technology of electrical appliances, heating devices, fire alarms and new chemicals that eanter our homes challenge us will new dangers if improperly used. Attend this program to hear and see methods to make your home safe for you and your children!

SATURDAY in the ROTUNDA ROOM AT 10:00AM

EVERY THING YOU WANTED TO KNOW ABOUT COMPUTERS (BUT WERE AFRAID TO ASK)
This program is presented by Monte Maker to acquaint the family with the magical new world of computers in language everyone can understand. The helpful guidelines provided by the lecturer will expose some myths, and fascinate one and all with the potential uses of computers in the home and away. You too could be a computer buff!
ROTUNDA ROOM 3:30 SATURDAY

MAGIC WITH CANDY
We will be introduced to the wonderful world of candy making by Billie Tutor! She will display new techniques that will provide simple and easy candy for holidays and those special occasions for your family.

SATURDAY at the CONFERENCE ROOM at 4:30PM

COMMON SENSE

COMMON SENSE SELF DEFENSE
Officers Rick Jarman, Charles Owens and thier OCPD Community Relations Team members will demonstrate basic devices to show us how to defend ourselves and our children from potential harm. We read everyday about attacks on citizens, and abductions committed by lawless persons or groups. Dont miss this great program for the family and you!
SATURDAY in the ROTUNDA ROOM AT 4:30 PM

CAKE DECORATING
Marie Chase will show us all about this new art for the homemaker. Cake decorating as a hobby is a useful and functional art form that our instructor will charm us with. The numerous techniques and sources for the tools of the craft will be covered. Don't miss this one, ladies!
SUNDAY in the CONFERENCE ROOM at 11:00 AM

CONTINUED ————→

USE THIS FORM TO PRE-REGISTER

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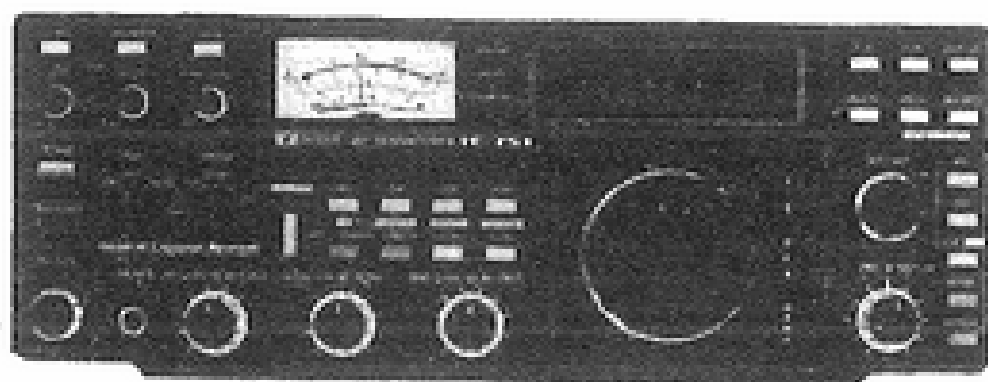
Last Name .... First Name ....

Address .... Call ....

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Please pre-register me .... @ $8.00 $ ...8 . 00
I will be attending the following activities
BANQUET - Buffet style, prizes, etc... @ $ 14.00 $ ... . ..
QCWA BREAKFAST - Everybody welcome ..... @ $7.20 $ ... . ..
Reserve ... Flea market tables (Saturday)@ $5.00 $ ... . ..
(Tables at door $8.00 if available)
Strictly Non-commercial   Total amount enclosed $ ... . ..

Entries must be mailed no later than July 6, 1984.
Registration at door is $10.00! Save! Mail your form today!
Mail check to: CORA, PO Box 44091, Oklahoma City OK 73144

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

GRAND AWARD

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proudly invite everyone to attend

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State Convention

LINCOLN PLAZA INN
JULY 20–21–22
Oklahoma City

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

TRANSMITTER RESTRICTION: In order for any ticket holder to be eligible to win an amateur transmitter, the ticket holder must hold a valid amateur license or there must be a licensed ham in the immediate family.

PRE-REGISTRATION: $8.00 with attached form. All envelopes must be postmarked not later than July 6, 1983 to be eligible for the pre-registration awards. Registration packet with necessary tickets will be held at the door. No limit on number of tickets. No refunds or confirmations. Winner need not be present for this award only.

ADMISSION: $8.00 pre-registered; $10.00 at the door. This price is for everyone attending - visitors, wives and teenagers - licensed or not. Children age 12 or under admitted free with parent, but are not eligible for awards. Badges must be worn as proof of registration for entry into ANY area, including exhibit halls, program areas, flea market, coffee lounge and banquet.

FACILITIES: Ham Holiday/ARRL State Convention will be held in the Convention Center of Lincoln Plaza, 4445 N Lincoln Blvd, Oklahoma City OK. Commercial exhibits may be set up Friday night. Security has been arranged. Flea market exhibitors will set up at 7:30am, Saturday. The hospitality room will be open to everyone.

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

FLEA MARKET: (Non-commercial only) Every pre-registrant may buy one table for $5.00. Additional tables available on pre-registration form. The 30,000 sq. ft. area is indoors and airconditioned, with easy-access loading doors for setting up.

ACCOMODATIONS: The Lincoln Plaza has offered special rates. Be sure and tell them that you qualify for these special rates.

PARKING: There is plenty of free parking surrounding the convention site. Several eating places are near by. Free parking for SELF CONTAINED RV's.

Preregistration Award

See Other Side

The Program

SCHEDULE OF PROGRAMS

FRIDAY - JULY 20, 1984

4:00	Cherokee, Congress and Senate Rooms	Dealers allowed to set up displays and equipment.
4:00	Gold Crown Room	Arrangement of Flea Market Tables (No dealers).
5:00	Gallery	Hospitality Room Opens.
6:00	Lobby	Registration Tables Open.
7:00	Blue Room	QLF Contest - K5NK
8:00	Blue Room	Krazy Antenna Contest - K5NK
8:00		Hospitality Room Closes.

SATURDAY

SATURDAY - JULY 21, 1984

7:00	Gold Crown Room	Open Flea Market Tables for set-up of merchandise.
8:00	Gallery	Hospitality Room Opens.
9:00	Cherokee, Congress and Senate Rooms	Commercial Exhibits open.
9:00	Gold Crown Room	Flea Market opens.
9:00	Dealer Area	Home Brew Contest - WA5JGU.
9:30	Conference Room	Sandra Morris (FCC) Volunteer Examining.
9:30	Forum	Bingo
10:00	Rotunda Room	Safety in the Home.
10:30	Seminole Room	Air Force Mars.
10:45	Conference Room	A.R.R.L. Forum Ray Wangler, W5EDZ
1:00	Blue Room	Packet Radio - K5JB Joe Buswell
1:00	Conference Room	Trends in Modern Transceivers - Al Markworth, W5PXH.
1:00	Rotunda Room	Severe Weather Program, Rick Tasetano, KTOK Radio.
1:00	Seminole Room	Baptist Radio Operators.
1:30	Forum	Ladies Style Show
2:00	Conference Room	EPA - Power Restrictions for Amateur Radio in the Future. Ray Wangler, W5EDZ.
2:30	Rotunda Room	Computers for the Family.
3:00	Blue Room	Computers for Amateur Radio. N5GOH.
3:00	Conference Room	Satellite Communications. K5PER - Jim Jones.
3:00	Seminole Room	Oklahoma Repeater Society.
3:00	Rotunda Room	Magic With Candy.
3:30	Rotunda Room	Self-Defense For the Family.
4:30	Rotunda Room	Commercial Exhibits Close.
5:00		Flea Market Closes.
5:00		Hospitality Room Closes.
5:30		Banquet.
7:00	Forum	Night Owl Net Meeting.
9:00	Blue Room	

SUNDAY

SUNDAY - JULY 22, 1984

8:00	Forum	QCWA Breakfast.
8:00	Gallery	Hospitality Room Opens.
9:00	Cherokee, Congress and Senate Rooms.	Commercial Exhibits Open.
9:00	Conference Room	Bingo
9:00	Rotunda Room	Church Services Tom Owens, KB5SS
9:30	Blue Room	Jarvis Island DXpedition. George Adkins, AD1S.
10:00	Seminole Room	A.R.E.S./R.A.C.E.S.
10:30	Blue Room	Don't Callem Antenna Tuners, Callem Line Flatteners. Al Markworth, W5PXH.
11:00	Rotunda Room	Cake Decorating.
12:00		Hospitality Room Closes.
12:00	Forum	AWARD DRAWING.
3:00		Commercial Dealers Close.

Perry, N5GOH and some of his associates are planning an interesting program on the use of computers in Amateur Radio, dealing with RTTY and other H.F. uses.

We feel we have some very interesting programs this year which should be of interest to all. To kick off Ham Holiday, we will once again have the QLF contest for those cw buffs who have been practicing with their left foot ever since Ham Holiday 1983. This will be held on Friday evening in the Blue Room, beginning at 7:00 p.m. One restriction this year from in the past, and that is that past winners are ineligible to participate this year. We welcome you to show how it is done but we feel it is good to pass the grand prize around.

One new feature this year to also be held on Friday evening is a Krazy Antenna Contest. This will be held immediately following the QLF contest. This is open to everyone who desires to enter. The object is to come up with the craziest two-meter antenna you can dream of that will actually work. The judges will be looking for originality in design and the lowest swr reading. Transmissions will be made on 146.550 simplex.

The Saturday programs should be of interest to everyone and we have allowed you 30 minutes to make the best buy in the flea market area before the first programs get underway. We are pleased to announce that Sandra Morris with the FCC office in Dallas, will once again be with us. She will bring us up to date concerning the Volunteer Examination program. Immediately following Sandra will be Ray Wanger, W5EDZ, Director of the South Gulf Division for the A.R.R.L. Forum.

Packet Radio appears to be the hot item for Amateurs in the future, and Joe Buswell, K5JB will be presenting an interesting program on this subject.

Everyone is always interested in the latest of equipment on the market, so before you buy one of those new transceivers on the market, you would do well to attend Al Markworth's program on Trends on Modern Transceivers which will be presented Saturday afternoon. Al, W5PXH, is from Richardson, Texas. He will also be presenting a most interesting program on Sunday morning, entitled, Don't Callem Antenna Tuners, Callem Line Flatteners.

Rick Tasetano, chief meteorologist for KTOK radio in Oklahoma City will be presenting a program on severe weather. Rick is in great demand by schools, civic organizations, and others for this program. It is very informative and gives everyone a better knowledge of what to look for during severe weather season.

Ray Wangler, W5EDZ, will also be giving another informative program Saturday afternoon concerning EPA - Power Restrictions for Amateur Radio in the Future.

Jim Jones, K5PER is very active in Satellite Communications and has a most informative program planned for us on this subject. Jim should have a good display.

The QCWA breakfast will once again be held on Sunday, in the Forum. The guest speaker this year will be Mr. Leland W. Smith, W5KL, the Vice-President of QCWA, from Jasper, Arkansas. You do not have to be a member of QCWA to attend this breakfast.

An added feature this year will be church services, to be held on Sunday morning by Tom Owens, KB5SS, in the Rotunda Room, beginning at 9:00 a.m. This is a nondenominational service and everyone is welcome.

George Adkins, AD1S, one of the most active DX-ers, will be showing slides of his last trip to Jarvis Island on Sunday morning. George has shown these slides to various clubs not only in the Oklahoma City area, but in several other states at ham conventions.

Another new feature this year is a Home Brew Contest. This will be held on Saturday morning in the Commercial Exhibit area. Charlie Greene, WA5JGU will be in charge and will have judges for two different categories. Be sure to bring your favorite project. The two categories will be home brew from scratch, and those built from store bought kits. Nice prizes will be awarded to the winners of each category.

Various meetings will be held throughout the convention. Air Force Mars and the Oklahoma Repeater Society will be meeting on Saturday. The Baptist Radio Operators will be meeting on Saturday also. The A.R.E.S. and R.A.C.E.S. groups will be meeting on Sunday morning. The annual C.O.R.A. meeting will also be held on Sunday morning for those not acquainted with the full meaning and operation of C.O.R.A.
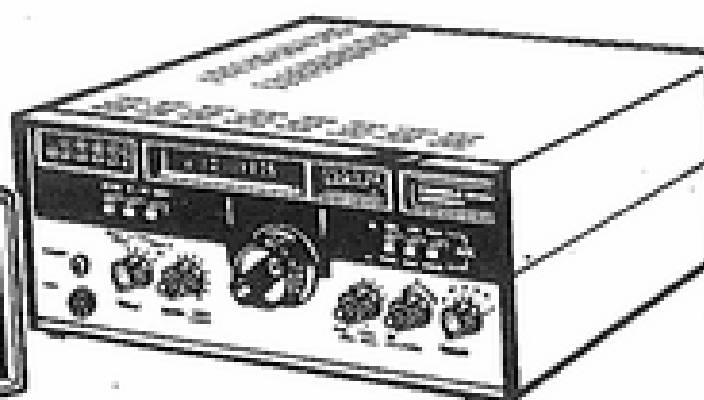
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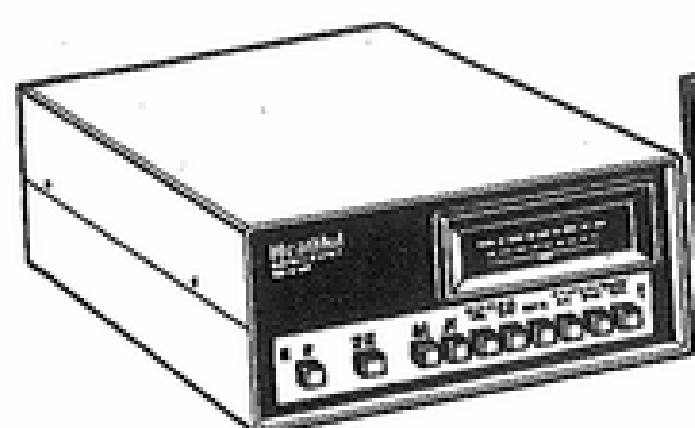
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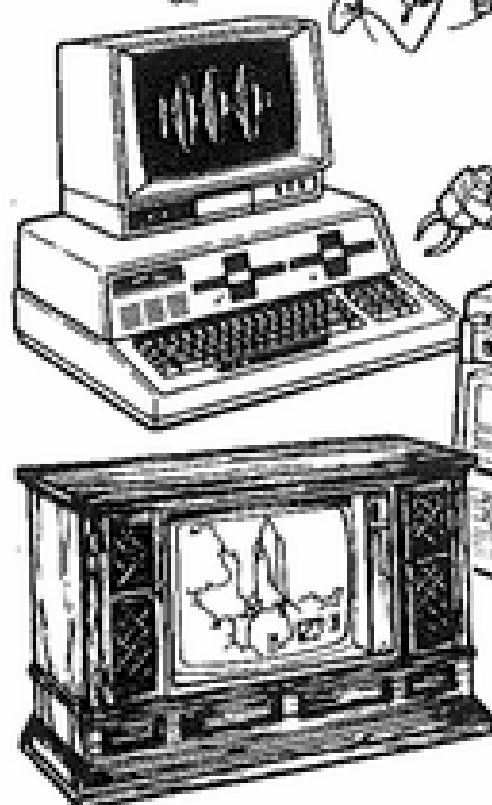
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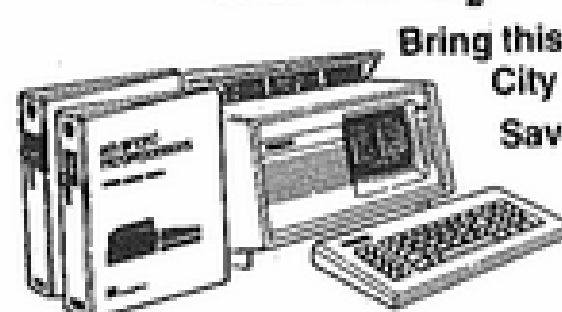- H-100 series Computer!
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IT AINT A SECRET UNLESS IT'S SECRET
(Or the Secret of Computer Software Secrets)

A couple of months ago I spent some time in New York attending a computer software protection seminar sponsored by the U.S. Copyright Office. For anybody who has witnessed the phenomenal growth in the software market, the subject is fascinating. It is especially fascinating (at least to me) to see how the law can change and does change in this technology related field. I have always been a firm believer in the old expression that "People who love sausage and the law should not watch either one being made." But in this instance, the law of copyright protection and the protection of intellectual property in general follows to some extent the fields that it is allied with (science and technology) and there is a semblence of organization that is not necessarily present in other fields because of the interface between the law and science.

Copyright protection is constitution in the United States. It is derived from the United States Constitution which gives the U.S. Congress the power to write laws to protect the writings and inventions of writers and authors. It is found in Article 1, Section 8, Clause 2 which states that "The Congress shall have power to promote the progress science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries." The laws passed by Congress regarding Congress are found in Title 17 of the United States Code, §101 et. seq. The most recent change in the Copyright Statutes occurred with the Copyright Act of 1976 (Public Law 94-535, 90 Statutes 2451, October 19, 1976) which became effective January 1, 1978. Every now and then when Congress sits down to make sausage, er, write a law, they must reexamine the previous law in light of what technology has occurred since the previous enactment and also make decisions as to how that new technology is to be protected, if at all. So, the law changes occassionally as policy considerations of what protection to provide changes, but by and large, the most changes that occur happen as a result of changing technology that forces a rethink about what intellectual property is and how it should be protected.

For example, the 1909 Copyright Act worked pretty well to protect written works until somebody decided to make movies. This new media was definitely something that looked like it need protection, but there was nothing under the statute to account for it. So, the law changed to accommodate those who would be using this new technology and media for intellectual effort. And so on and so until we reached the Computer age when scholars began again scratching their heads to figure out if computer programs could be protected under the old Act and if so, then in what form. Was that program stored in RAM in a coputer a writing? Does it really have a physical embodiment? And can it be copied in such a way that the author can be harmed? Under the new Act, the answer is emphatically yes. Can some protection be extended? Yes, again. the change in the idea of what is an intellectual property brought about a change in the law. The 1976 was also written to anticipate future changes in technology. To some extent, today, it is performing its job.

Computer software is a market extending upwards by some estimates, to over 3 billion dollars and growing. The investment by business (and with the growth of home computers, the individual) is substantial and becoming a larger cost of the price of doing business every day. There must be an economic incentive to the program writers to produce this software which is of obvious benefit to our economy. But nobody will want to write software unless he can exploit it. Exploitation requires disclosures to third persons, but this can not be done without a loss of protection. Under the precopyright law concepts (the Common Law) a person had a right to his ideas only as long as he kept it to himself. It was in a sense, a right of privacy. When the writings were disclosed, whether intentional or accidental, they became public property free for use by everybody. Few people would publish if they knew that their works would no longer belong to them. Yet, experience has shown that scientific advancement and public disclosure go hand in hand. The benefit to society occurs when scientists can look at and examine the work of others. To achieve that result, it was decided by the founding fathers that disclosure would be encouraged in exchange for an exclusive right to the use of a writing or invention by the author or inventor.

The Origins of Copyright

Copyright originally began as a form of censorship. It was intended to prevent dissemination of ideas and thoughts in England and Venice, among others. The basic principle is that, in the dark ages, you did not trust ideas, especially new ideas that might threaten those in power. Thus, materials could not be copied without the permission of the sovereign. Xerox commercials notwithstanding, Brother Dominic could find himself in a lot of hot water, literally, if he was caught practicing his longhand or firing up the old Xerox machine without permission of the king. In fact, it was of such serious conse-quence that in England (not so merry olde England), it was a Star Chamber offense to copy without it being the King's will.

Eventually, copyright shifted from censorship to protection of the author. With the growth of science and technology, came the concept of dissem-ination. Since nobody wanted to take the time and money to write or invent if they could not benefit from it, policy considerations made it necessary to grant certain exclusive rights for a limited period of time.

The 1976 Copyright Act

It is useful to jump ahead to the present copyright act to analyze what it protects and why. Several definitions are found under §101 of Title 17. Since protection can only be offered for works that are fixed in tangible media of expression, we must first decide what is "fixed"? Copyright, unlike patent law, protects only the physical embodiment of the work and not the underlying idea or concept. So one does not have the ownership of the under-lying idea or concept to a "work" but only to the physical or other form. In fact, Section 102(b) of the Act specifically states that copyright does not preclude others from using the ideas or information revealed by an author's work. It pertains only to the literary, musical, graphic, or artistic form in which the author expressed the intellectual concept.

This idea in and of itself is a little difficult to visualize, but it must be realized that one of the benefits that is offered in exchange for the exclusive rights is that scientists and artists must be free to use ideas. So copyright protects only the physical "embodiment" of the work, a particular arrangement or organization. Thus, if you write a computer program and copyright it and it is revealed to the public and after examination, someone writes a similiar program, perhaps in a different language which is not a "copy" or involves "substantial copying" of your work, but follows the idea or concept of what you have done, it may be legal. This does not mean that a person can take your program, code it into a different language or change it slightly and use it and expect to get away with

it. You own exclusive rights that include the use of derivative works. More particularly, the Statutes under section 106 grants certain exclusive rights which include:

(1) The right to reproduce the copyright work in copies or phonographs;
(2) To prepare derivative works based upon the copyright work;
(3) To distribute copies or phonorecords of the copyrighted work to the public by sale or other transfer or ownership, or by rental, lease or lending.

A derivative work is a work based on a preexisting work, such as a translation, musical arrangement, dramatization, fictionalization, motion picture . . . or any other form in which a work may be recast, transformed, or adapted. A work also consists of editorial revisions, annotations, elaborations, or other modifications which, as a whole, represent an original work of authorship and is a derivative work.

With some of the formalities out of the way and knowing the exclusive rights given to an author for the protection of the embodiment of his idea or concept, it is simple to say that if you take a program from a friend, copy it and use it without permission on your own, you have obviously committed a copyright infringment. This would allow the original author or holder of the copyright to sue in Federal Court for the value of the licensing costs, the use of the work, any profit you might have made from it and other measures of harm that you might have caused him, including his attorneys fees. Something like this might take the damper on the whole day. It is really not enough to say that you caused him no economic harm because it was a program you would have not purchased anyway. He has the right to exclude from its use, any use, without permission.

Back when people used to bootleg copies of records on audio tape or bring in copies of video tapes, a lot of copying was self defeating. Nobody had a clean copy of the program, it was always about a 20th generation dub. Usually, somebody after the 3 or 4th generation dub would get tired of watching a program with about 12 to 15 db of noise and just haul out and buy a new program. With digital signals, this is no longer a problem since the 100th dub is just as good as the first dub. The problem can be technologically, a lot more serious since copying can be done so easily and with little degradation.

Fair Use Permissible

Are there any uses that you can make of a program that is copyrighted without running afoul of the author? Well, the answer is yes, under certain specific circumstances. Section 107 of the act provides for the exception to infringment of what is known as "Fair Use." It is not an infringment to use a copyrighted work for "criticism, comment, news reporting, teaching (including multiple copies for classroom use) scholarship or research. There are some rules that are used to determine to what extent you can copy the material:

(1) The purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes;
(2) The nature of the copyrighted work;
(3) The amount and substantiality of the portion used in relation to the copyrighted work as a whole; and
(4) the Effect of the use upon the potential market for or value of the copyrighted work.

Fair use doesn't mean that you can go out and whole-

sale copy a work for your own use, but it does provide for some legitimate guidelines to follow. I suppose that under the proper circumstances that a teacher could purchase a copyrighted computer program such as a spreadsheet or other and copy it for use by students in his class and still be permitted "fair use" under the rules. However, if that student were to take that program and use it for their personal use, then that could be considered an infringment under the rules. There is a possibility that the use of the program in the class could actually create a market for the program since students might be willing to purchase it after having learned to use it. Those are all considerations to be made. Incidentally, the teacher who allows a student to take the program for the students' own use could be a "contributory infringer " or a person who aids in an infringment. About a year ago, J.S. & A Sales offered a device that would allow a person to duplicate Atari Game cartridges so that a person could "protect" the copy in case the original broke. It was fairly odvious that they intended for the device to be used to duplicate the cartridges for either gift or other sale. J S & A had to stop. Another case where they didn't have to stop was the famous Sony Betamax case and Walt Disney. Walt claimed that Sony was a contributory infringer in producing a device which aided others in infringing. The Supreme Court wasn't really willing to extend the doctrine that far without word from Congress, so Sony won that round. Or as the saying goes, "They can have my Betamax when they pry my cold dead fingers off the record button. Actually, that is another story entirely. . .

Computer Programs Copied

Can a person who legally owns a program make copies of it? Well, yes, under certain circumstances. You can't make copies to pass among your friends, but you can make, authorize the making, adaptation or copying of a computer program under the following circumstances found at §117:

(1) That such a new copy or adaptation is created as an essential step in the utilization of the computer program in conjunction with a machine and that it is used in no other manner, or
(2) that such new copy or adaptation is for archival purposes only and that all archival copies are destroyed in the event that continued possession of the computer program should cease to be rightful.

So, if you give up your lawful license to a program, you must also give up all copies.

What exactly is a copy? That was addressed earlier just briefly. Since just about every form that the program can be made into is considered a copy, as long as it is fixed, the idea of what can be prohibited is very important, since that defines the extent to which an author can go to to prevent copying. The work must be "embodied" and "fixed" in a tangible media. If you record it on a tape, no body would argue that that is a copy. The same would be true if the program was extracted and reduced to writing on a page. But what if you carried your computer over to a friend's house, plugged it into his computer, dumped the program into the ram storage in your machine installed a battery backup and carried it back over to your house and used it. Did you make a copy? Yes, the Ram is a tangible media and it exists for more than a mere transition. That is a storage just as surely as an Eprom or disk.

These concepts of what is a copy become important because that is the only thing that the author has

the right to control. He cannot control the underlying concept or idea, only the embodiment. So issues such as what is a copy can become very important.

Is a computer program copyrightable? The answer is of course, yes. The new law was specifically intended to deal with computer programs among other things. A computer program is defined as "A set of statements or instructions to be used directly or indirectly in a computer in order to bring about a certain result. How you obtain the copyright depends on notice and deposit.

Copyright Notice Requirement and Deposit

Now, how do you, as John Q. (Hotshot) Programmer avail yourself of protection under the Copyright law for the new exciting computer MX Missle War Game program you just wrote. Actually, it is quite simple. Section 401 provides that protection is obtained simply by publishing the program with an appropriate copyright notice. This consists of the international copyright symbol, C , or the word "Copyright" or the abbreviation "Copr." the year of the first publication of the work and the name of the owner of the copyright or an abbreviation by which the name can be recognized or generally known alternative designation of the owner. The notice must be attached to all publically distributed copies from which the work can be visually perceived, either directly or with the aid of a machine to view it. For a computer program, the notice can be placed on the disk. I have even seen it written on a label on an Eprom. Some put the notice in ASCII in the first part of the program so that if it is dumped, the notice will be seen.

If you do publish a program with notice, you are protected. Under some circumstances, it may be necessary for you to fill out an application and make a deposit of a copy with the Library of Congress. This again emphasizes the disclosure requirement necessity for the copyrighted work. There are various benefits to the deposit requirement. It demonstrates evidentiary proof as to when you created the work. It is also a prerequisite to filing a suit for infringment. After a certain time, certain legal presumptions regarding the existence of your interest in the program are created. It is not necessary to deposit to get the protection. The Library of Congress is given the right under the statute to require you to deposit a copy with them. If they ask for it and you fail to do so, they can seek a forfeiture of $250 for that failure. They can also hit for the costs of going out and buying two copies of your work for their collection.

The deposit requirement for a computer program is slightly different than for regular books and writings. First, software authors are reluntant to simply "publish" their programs in such a way that people can get them and read them. Since they only protect the physical "embodiment", somebody could take your idea and run with it. Frankly, the temptation to outright steal the program is great. To assist the paranoid programmer, the Copyright Office only requires that the first twenty-five pages and the last twenty-five pages of the program be deposited with the application. As such, you are forced to reveal only 50 pages of your program. This is good news for those who would like to protect their "trade secrets" in the program, but bad news if your program is less than 50 pages long. There is a little more bad news. Some programs are written in high level language because it is simpler for the programmer to understand. Machines don't use alphanumeric characters, only numbers produced by a compiler or interpreter. The numbers that operate the machine is called the object code. The language consisting of alphanumeric characters in which the program is written is called the source code.

The Copyright Office is relunctant to register object court since it is very difficult to interpret, read or understand. Later down the line, it might be difficult to determine if there was a copying that took place if the only thing that you had to compare was object code. The Office will register it, but under the "Rule of Doubt" which is essentially an expression by the Copyright Office that a court might not determine the object code to be a proper subject for copyright. So you must send in source code or the programming language. There are a variety of other techniques for "special relief" which allow you to partially register a document without revealing all of even most of the source code. These specialized rules involve more interaction with the Copyright Office.

After the Copyright Office gets your program, what do they do with it? Well, because of the large numbers of filings and the limited use that is made of them, they don't even catalog them, but store the programs for 5 years and then discard them.

Common Law Trade Secret

Copyright protection is useful, but there are others methods of protection that do not involve disclosure of the copy of the program. Copyright is especially important when a person seeks a mass distribution of the program. Other methods for distribution require or dictate the use of Trade Secret Law.

The Federal government has preempted copyright law. That is, they have taken exclusive control over this area of the law because of the Constitution. But the states can write laws that protect trade secrets and if you chose to protect you computer program as a trade secret that is permissible. You just simply keep it as a secret and never reveal it to someone else with obtaining a contractual agreement that they will not disclose it.

Anything can be a trade secret. It has been defined as a "formula, pattern, technique, information that is acquired or used in business and gives an opportunity to obtain an advantage over competition." How you keep the secret is very important. There are six factors that are considered in making a determination whether there is a trade secret or not:

(1) The extent to which the information is known outside the company;
(2) The extent to which information is known to the employees;
(3) The extent to which measures are taken to protect the information;
(4) The value which the information constitutes;
(5) Expenditures made by the company in protecting the trade secret;
(6) The ease or difficulty in obtaining the same information by another source.

It is difficult to tell what a trade secret is unless a court actually tells you what it is. To some extent, a product can be the subject of a trade secret. I have seen companies that wipe all the identifiers off of chips in their products so that it is difficult to reverse engineer the product. By the way, reverse engineering of products is legal. A person can figure out a product that you manufacture and build and sell a similiar product unless that product is covered by a patent.

Reverse engineering of computer programs does occur. There is some question as to whether reverse engineering of a program is permissible since you must use a copy of the program to do so. Nevertheless, there are decompilers and disassemblers around that assist in doing the job.

Dissassembly is a time consuming job.

If you intend to protect a computer program by trade secret law, then you must treat it like a secret and do everything you can to prevent disclosure. So how do you sell something to someone and keep it a secret? Simple, you require the person who buys the program to promise you in a Nondisclosure Agreement that he will not reveal the product to anybody else without your express permission. You might also get him to promise that he will not reverse engineer the product or allow anybody else to reverse engineer it. You should also be careful about who you sell the program to since the Nondisclosure Contract is only as good as the person that you contract with.

Software Licensing

Most computer programs just like most inventions are licensed for use. This means that any person who buys the software buys the right to use the software for a particular period of time or on a particular machine. Software is never sold since that permits the person who bought the software to turn around and resale it under the "First Sale" doctrine. Licensing agreements can take many forms from simple one page agreements that accompany the consumer software to multipage documents that specifically and carefully define the rights and obligations of the parties including things like the location that the software is licensed or the times that is can be used.

There is an increasingly popular method of licensing which involves the so-called :"Blister Pack" license in which it is clearly marked on the outside of the package that opening the blister pack is acceptance of the terms of the license as stated on the outside. This includes no duplication and etc. Some people may say that that is not really a valid agreement since it is difficult to buy software sealed in plastic. But they are quite prevalent in the industry and there have been few, if any court cases dealing with the exact subject.

Generally, you are bound by the terms of the licensing agreement you sign for the use of software. You should read them carefully to see if they interfere with your intended use of the software.

What Protection for What?

If you are seeking to protect an item, which way do you go? Well, that depends upon the product. We have not even begun to discuss patents for devices. A patent will protect an idea or concept, but the test for patentability is rigorous and expensive. Generally, if you have an object that is "new, useful and nonobvious," you may be able to obtain a patent. If the product is common or not patentable, you may want to keep it as a trade secret to take advantage of it as long as you can. If it is a physical embodiment and a writing such as a book, computer program etc., you may wish to copyright it. The type of protection you get is obviously related to whether you can get a copyright or patent or simply leave it as a trade secret. Trade secret is extensive, but you must be very diligent in protecting your secret. Trade secret law, since it varies from state to state because it is state law and not uniform, may not offer all the protection in particular states that is needed.

Since the new Act, when appropriate, the law has made it easier to get both trade secret and copyright protection for your software. If you include your computer trade secret after the first 25 pages and before the last 25 pages of the deposit requirement, you do not have to make a disclosure of that material. It is perfectly permissible to bury material in that

part of the program . So the new technique that you have been working may remain a secret, at least for awhile.

It is difficult to discuss in a short article all the interesting and pertinent points that deal with computer software. There is new law being made every day in the area that answer many unknown questions. It is also important to realize that this article makes no representations that it may be relied upon in any legal sense. It is intended to be a brief summary and no more. Anyone who has questions regarding specific legal questions is invited to consult a specialist in the field.

There are a number of cases that are very interesting and perhaps if anybody is interested in the future, you might let me know and I can look some of them up. My own view of copyright software protection is that enforcement of that right in Court is an expensive timeconsuming occupation. A properly designed program can keep the reverse engineers at bay for a long time. If you intend to market and sell a program, you should build in all the safeguards that you can think of if you want to protect it. And be careful with the demos. People, just human nature, love a challenge. And once the program is out, hackers get right to it. A clever method of protecting a program can be worth a couple of extra sales. WA5JXX told me of receiving a couple of programs for evaluation and after playing with them for a day or so, one of them had a real time clock and just burped and said that the demo period was over and continued use of the program would require execution of a licensing agreement and the payment of a fee. With that, the program summarily erased itself according to instructions. Another instance involved a program that brought its instructions up on the screen. After the demo, the programmer was running through disks following instructions when the screen flashed that a disk should be placed in a particular drive and then punch return. Then the program told the operator to take out that disk and put in the other disk and punch return. That having been completed, the program then announced the end of the test period. And it was, the last step had erased all the disks.

So be clever and maybe the problems will be minimal. It is a jungle out there in hacker land.

Micheal Salem N5MS

NEW PRODUCT

A new product is ready to be marketed which will revolutionize amateur radio as we know it today. Ask yourself these questions:
● Are you bothered by the increasing QRM on the bands?
● Does your monster antenna array have difficulty turning in high winds?
● Does your XYL get after you to clean up bird droppings under your antenna?

With ANTENNA WAX your troubles are over. Just apply to your Yogi or dipole, quad or vertical and you will notice the difference instantly! Read these testimonials:
● With Antenna Wax I can actually see QRM and QRN slide right off of my antenna!
● Antenna Wax lets me turn my 36 element 20 meter array with an ordinary electric eggbeater, even in the fiercest winds.
● Birds don't roost on my beam any more since I started using Antenna Wax.
The secret formula for Antenna Wax is rumored to contain a mixture of ordinary household wax, 38-weight diesel oil, and powdered QSL card from Albania.

Jack Iman, WB5SVN, President called the June 7th meeting to order at 7:30 p.m. with 28 members and guests present.

Bob Pace, WA5CJG, reported the treasury and repeater are in fine shape.

Old business - Don Rooker, N0SM, gave the CORA report. Volunteers are needed for the Hospitality room and for the ARRL booth. Please don't forget your baked goodies.

New business - Plans are being made for the Christmas dinner.

The floor was turned over to our guest Dave Cox, NB5N, who is a candidate for Section Manager of Oklahoma from Broken Arrow. He is an Electric Engineer in public service with a lot of ambitious drive. Good luck Dave, in the upcoming election. Also Art Roberts, W1GOM, was present to speak as the presiding Section Manager. We want to thank him for a job well done and he will be missed.

There will not be a July meeting instead we will see you at Ham Holiday. Remember the August meeting will be the Watermelon feed. Hope to see you there.

Our meeting ended at 8:41 p.m. for refreshments.

Gloria Seignious Secretary ACARC

I think that hamfests are one of the most fantastic things that has ever been invented. I always have a great time and would like to give you some advice that can enhance your enjoyment of this aspect of our hobby.

First, you have to acquire the correct attitude. If you are looking for free equipment or to have fun crammed down your throat, forget it. The hamfest sets the mood for a "Happy Day" and the rest is up to you.

Try to arrive early and attack the flea market first. The best bargains go fast. Some flea market vendors want to get rid of their unused gear at a reasonable price, and some are out to make a profit. If you arrive too late you will only get to meet the second group. The way you walk through the flea market is important.

Upon arriving, a fast walk-through is a good idea. While pondering too long over an infinite supply of ceranic capacitors, a bargain hand-held may be waiting a short distance away. After your first run-through you can do it again, looking for the less obvious bargains. Notice I said "bargains." If someone in a flea market calls you cheap because you haggle over his price, you are not the one who is naive, he is! It's a flea market, not a retail store.

Then again, sometimes it does not pay to shop around too much. If you see something unusual that you really want, keep in mind that if you walk away you may never see it again. Perhaps you should buy it. However, if it's in the "nice to own but I really don't need it" catagory, ofer only what it's worth to you even though it may be only 20 percent of the asking price. Now and then you will be surprised to walk away with a terrific bargain. The key idea is to look at an item and decide quickly what it is worth to you, and what is the most you are willing to pay. So, when it comes to dickering for price at the flea market, be friendly, honest and sincere, and there will be no hard feelings.

Weeks before the hamfest make a shopping list. It gives you a purpose. Then as you walk the aisles of the flea market have a flight plan. Don't wander aimlessly. Try to walk along one side of one aisle to the end. Then turn around and walk the other side.

From RAGS Review (Rochester NY)

REPEATER UPDATE........

The work on the repeater continued this month with the phone line for the autopatch being connected and some tuning work being done to the machine itself. In doing some of the tweaking, it was found that the receiver has a slight problem. While the repeater is not seriously ill, it will have to be off of the air for a short period of time later this month or the first part of June in order to make repairs. The Technical Committee is trying its best to work out a time that is convenient with both the people that must do the work and the weather. In any case, we can look forward to somewhat more normal repeater operation at some time in the near future.

In other repeater news, Ken, N5BEW reports that a remedy has been proposed for the RF holes that are experienced in some places in Norman. By using a remote receiver with a UHF link and a Voter system, the repeater can be made more accessable to talkies located in town.

UPDATED UPDATE!!!!!!!!

The above repeater news was written before I missed the June publication deadline. The repeater has now been deemed to be seriously ill. At this point, it is all but unusable due to what is suspected to be a receiver problem. In talking to the technical committee (N5BEW and KA5EFJ), I have been told that the work to repair the repeater is forthcoming. In the June meeting, the club authorized the committee to have the repeater repaired in whatever manner necessary.

W5QC-SILENT KEY........

Norman area amateurs as well as many others across the state were sorry to learn of the passing of Jay Kelso, W5QC. Jay passed away after a lengthy illness.

Jay was an electrical engineer, and was a former director of the Physical Plant at the University of Oklahoma. Through the 1983 football season, Jay was in charge of directing many of the technical aspects of on field communication for the football team and coaches.

Jay's amateur radio career went back to the earliest days of radio, and he was originally licensed as 5QC. Jay was also very talented with any kind of mechanical device, and persons that knew him well have said of him, "There is practically nothing that he cannot fix."

CLUB STATION ANTENNA WORK........

WB5GTC, KU5B, and WA5RPP removed the tri-band beam from the club tower at the Red Cross building, and now W5MCN and W5MCJ have agreed to try to repair the broken element and make any other needed restoration in hopes that the antenna can be returned to service as soon as possible.

-wa5rpp-

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| Central        |
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| ★ omputer      |
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CLUB OFFICERS

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Chairman      = Tom Stott        324-5086
Vice Chairman = Hollis Holcomb    799-2539
Secry/Treas   = Miles Langmacher  352-4059
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Meeting held at Red Cross Building
SECOND
10 & Hudson
~~First~~ Sat. of the month: 9:00 a.m.
Club Dues: $5.00 per year

Meeting called to order at 9:30 a.m., Saturday, May 5, by R.G. Langmacher. 72 were present.

Hello! Sorry I'm late. I just got back from a l..o..n..g vaction in England. With the Chairman and Vice Chairman gone this meeting, not much happened. Due to these circumstances, R.G. Langmacher led the meeting.

The first thing discussed was Holly's diskettes (the ones that are going to be swaped.) You are to bring a disk FIRST. Then, next month, bring another disk and swap it. More discussion about this next meeting.

There's a new group in Chickasha dealing with CoCos. For more information about this group, such as when they meet, call me at 405-352-4059. I'll be happy to tell you.

Starting in July, in case you have not heard, we are having the meeting on the 2nd SATURDAY of the month.

To operate a BMC color monitor with Bob Graham's monitor card, try the following suggestions:
1) take the ground plug off of the BMC's power cord ... or ...
2) buy Moreton Bay's monitor driver at $25 each.

Flexnet has changed its number. It is now 728-7654.

Does the High Speed Poke work on your machine? If not, try cutting C85 out of the board. A word of caution: Bob Pace does not recommend it.

From the makers of Datalink, we have MABEL! It is a second generation Datalink with more features in it. I suggest you get it.

Well, try to figure this one out: BON TAPER A LA MACHINE ET FAIRE PAS OUBLIER POUR NOURRIR LE CHAT!

FOR SALE: Complete Drake station; T4XC, R4C, MN-2000, AC-4, MS-4, 7075 Mic, 4NB, extra crystals and all CW filters installed in rcvr. Xmiter and rcvr recently factory aligned with all new tubes, relay, etc. Manuals, parts list, bag of accessories, old parts, repair bill, etc. included. Also Collins 30S-1 2KW amplifier with extra 4CX1000 and four 3B28's; complete T.O. also covers other S-Line units. These units are super-clean and electrically perfect. Call Jay, 273-3033 or 736-2230 for special pre-Ham Holiday prices.

With the resignation of Art Roberts, W1GOM as Section Manager, W5REC has been appointed to serve until 30 September 1984. I will do my best to help in any way. The Leadership Team that has been appointed will meet during Ham Holiday to "iron" out how we can be of better service to all of you.

The new multiple year rates for ARRL membership is in two categories. The regular rate is $65 for three years and $47 for two while the annual rate remains at $25. The special rate is for persons 65 years and older or less than 18 years old and they are $50 for three years and $37 for two while the annual rate remains at $20.

Ray Wangler, W5EDZ is the West Gulf Director and will be working hard on the Volunteer Examiner Program here in the Division. The Dallas Amateur Radio Club is expected to be the first West Gulf Division VEC that the FCC approves. How each qualified Volunteer Examiner will fit into the program will come as we get more experience. The Volunteer Monitoring Program is the next agreement with the FCC. It is also complicated. One thing that stands out is that, with de-regulations, the FCC is relinquishing more and more of what we thought would only be Federally controlled functions. The ARRL is going to be the major organization for Amateur Radio operations. It would be well for each of us and every Amateur Radio Club to strongly consider affiliation with the League.

Congratulations to the Ponca City Amateurs for being the first (I am told) to provide an FM 10 meter repeater in Oklahoma! Bennett Basore, W5ZTN, our SEC and his fine Emergency Coordinators have and are doing a fine job, e.g. the Northeast Quadrant during the recent tornados and flood.

I, on behalf of the Section, would like to publicly thank Art and Jane Roberts for all they did for the Section while Art was not so busy. Thanks!
See ya'all at HAM-HOLIDAY!!!

May 1984 Net Report showed good activity. Seven Nets reported 2111 check-ins, 878 messages handled in 127 sessions and the Weather Stations reported 410 WX's.

IF THE SHOE FITS...
OR
HOW TO BE A LID ON TWO METERS

1. Always use high power. Those guys on that repeater across the state line aren't interested in your conversation so it shouldn't bother them.

2. During bad weather, turn it on and immediately ask, "What's going on?" Don't ever listen to find out. Tell all the details about how the rain has stopped.

3. Talk only of your accomplishments, pet peeves, etc. Never ask the other guy about his interests.

4. Yawn, cough or sneeze into the mike. Very entertaining. If you release the mike button long enough to yawn, cough or sneeze, someone else may grab the frequency.

5. Always start talking the very instant you key up. Keeps the gang guessing about that first word or the prefix of your call.

6. Always operate on the same frequency. Those guys on those other repeaters are a bunch of lids. Brag that you can no longer move the frequency knob.

7. When told you have a very noisy signal into the repeater, continue making long, unintelligible transmissions. Keep their curiosity up.

8. Never use a simplex frequency. Caravan with your friends to the picnic and stay on the repeater even though you are only yards apart. Be indignant when asked to move to simplex.

9. Always wait until you are in the car on the way home to call the wife on the patch. Try to time it out talking about the day's events even if you are only 10 minutes from home.

10. Inject some silly comment into someone else's conversation. That's the way you do it on CB. Maybe they'll recognize your voice and invite you to join them this time.

11. When signing off, try to give the call of every station in the conversation. Fumble around trying to remember them all. That dumb FCC never should have removed that requirement; and besides, it's a "courtesy", right?

12. Press the mike against your mouth or hold it just under your nose. Be indignant when given an honest report about mouth noises or breathing into the mike.

13. Use "Q" signals and other CW abbreviations. Very impressive, especially to those listening on scanners during emergency situations. Say "Hi Hi" a lot.

14. Switch subjects in mid-sentence. "...DX on 40 meters...the dad-gummed city sure needs to fix this street... etc." The other guy's attention span is probably shorter than yours anyway, right?

15. Jump right on anyone using the patch without giving the repeater call. Never mind the fact that it's a redundancy no longer required by the FCC. What do those dummies in Washington know about it, anyway?

16. When a visitor to the area asks for street directions, always give him all the details in one long transmission. If he can't remember street directions, he shouldn't be driving.

17. When you hear someone you want to talk to, key up and give him a long transmission. Don't wait to be recognized. Include a long, un-asked-for technical explanation if you can. Reset the repeater several times. Be indignant when no one replies.

18. Use "10-" signals. Better yet, just use the suffixes. "I'm at my work 20". Cute, and makes the old-timers mad.

19. Double or triple transmit. If the other guy doesn't reply immediately, it's a good chance to add something you left out before.

20. By all means, work "DX" on repeater frequencies. If you can hear those guys out there in Powder Gulch, Texas, they probably can hear you. Be indignant when some innocent keys our local repeater and blocks the "DX" transmissions.

21. Always kerchunk at least six times before calling on any repeater. Make sure the darn thing is working today.

22. Don't wait for a squelch tail to start transmitting. When the other guy pauses for a moment, it's OK to talk. Saves time.

23. If the suffix of your call spells a word, always say it that way. "This is N 5 CAT." Never spell it out. Everybody, including the FCC, knows how it's spelled.

24. Intimidate the female operators. If you hear a couple of them exchanging girl-talk, join in. Make fun of their conversation. It's a male hobby, right?

25. Ignore newcomers on your repeater. If you can't ignore them, intimidate them. Get it across that they'd better join up or get off.

26. Slur your own call. Say it as fast as you possibly can. Pronounce the letter "W" as "dubby" or just "dub". Leave out the "A" in "KA" prefixes.

27. Don't slur your own call. Say it very slowly several times. Say it phonetically with long words. "This is Wichita Zero Hippopotamus Cincinnatti Philadephia, Portable Five." Try to time out with your call.

28. Be a "Repeater Dragon". Always be listening and pop into everyone's conversation on 'your' repeater. Never let two other operators have a conversation without your comments.

GENEVA SWITZERLAND - The Swiss government officially opened the newest medical repository. The Bjorn Brain Bank. Brains of all types of workers are available for sale to hospitals and research universities. Typical cost to these schools range from $1.50 lb. for receptionists and waitress' brains to well over $100.00 lb. for brains of university professors. Asked why the brains of Amateur Radio Operators were the most expensive at $1132.00 lb. Bank President Fritz Shuffen replied, "Of course these are the most expensive - do you know how many hams it takes to get a pound of brains?"
From QRZ

THE MOST IMPORTANT ELEMENT FOR A SUCCESSFUL AFFAIR...
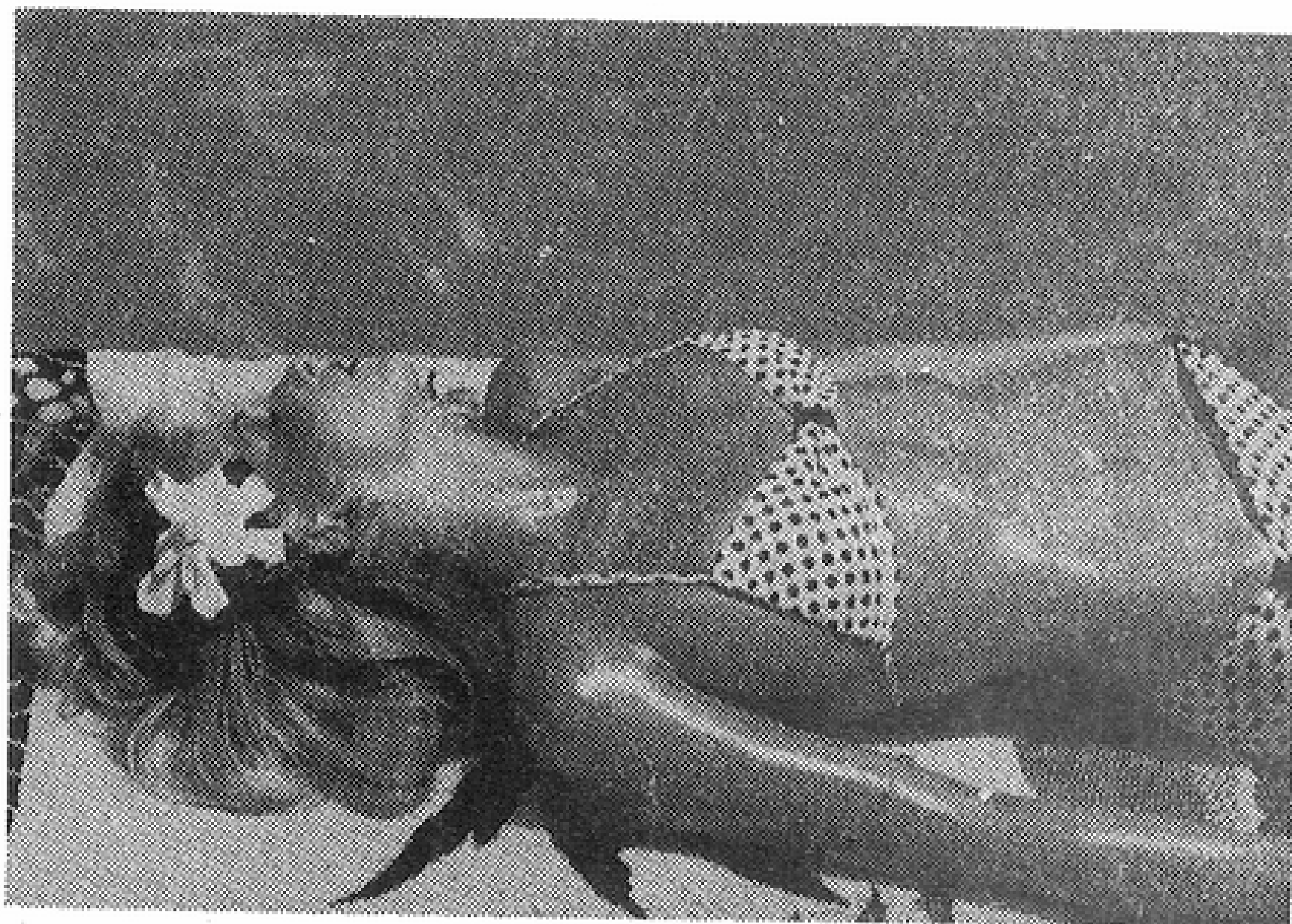
Can't be found just lying around the pool. But you will find it at the Lincoln Plaza Hotel & Conference Center. It's having flexible meeting space, with up to 80,000 sq. ft., including over 50 conference rooms for 15 to 1,500 guests and offering Oklahoma's only fully equipped theatre conference center. It's 330 quiet and spacious rooms and suites. It's having teleconferencing capabilities for nationwide communications, secretarial and notary public services plus 24-hour complimentary ground transportation. Not to mention our golfing and indoor tennis privileges, outdoor tennis courts, swimming, executive exercise center, superlative dining, dazzling entertainment in our Forum Room and of course our Mobil 4-Star and AAA 4-Diamond ratings. Best of all, we're easily accessible, only 14 minutes from the airport, 6 minutes from downtown, 2 minutes from the Capitol and Medical Complexes and 3 minutes from the state's major attractions.

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SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
1	2	M O R I Great Plains 3	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	5	6	7
Wheatstraw 8	EDMOND Club OK-DX 9	76'ers OU 10	11	ALTUS AREA 12	13	C O C O SCARS 14
15	16	AUTOPATCH 17	KAᵧ County 18	19		
23	CIMARRON EDIT COLLECTOR — EMITTER Central Oklahoma Radio Amateurs	24	25	26	27	28
29	30	31			July 84	

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