



# HAM HUM

Published by

AK-SAR-BEN AMATEUR RADIO CLUB, INC.  
Post Office Box 291 — Downtown Station  
Omaha, Nebraska 68101



Vol. XXIX  
No. 1

January 1979

## OMAHA AMATEUR CENTER INC.

2565 Dodge Street Omaha, Nebraska 68131 (402) 346-5530

HAPPY NEW YEAR!



NOW IN STOCK

**HAM HUM** is the official organ of the Ak-Sar-Ben Amateur Radio Club, Inc., of Omaha, Nebraska, mailed monthly to all members and to others upon request.

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Omaha, Nebraska 68101

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Deadline for February issue is January 15th

**Dues-Annual Basis**

(Due and Payable each January 1.)  
New member initiation fee . . . . . \$ 1.00  
Regular member . . . . . \$10.00  
Regular member and spouse . . . . . \$12.00  
Student member . . . . . \$ 4.00

**Dues-Quarterly Basis** (For each quarter or part thereof for balance of calendar year.)

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Regular member and spouse . . . . . \$3.60  
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**1979 BOARD OF TRUSTEES**

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	Frank M. Wolczak, WAØIWF	(1979-80)

\*\*\*\*\*

**ELECTION COMMENTS**

The morning after the annual meeting, a comment was overhead on the repeater that went something like this: "Well, I didn't bother to go to the meeting. All they did was elect officers and it was pretty much cut and dried, wasn't it?"

The member reporting it to the editor suggested that the individual may not have agreed with the selections of the Nominating Committee so he chose not to attend, as what could he do about it.

The fact is that the issue was

anything but cut and dried. There were three members nominated from the floor for Executive Council seats in addition to the four names offered by the Nominating Committee. The vote was fairly close.

If the individual referred to above had been at the meeting and voted

along with others who stayed away for similar reasons, the outcome of the election might have been different.

We have heard the complaint that the Club is run by a "clique" but I wonder how many of the complainers were at the annual meeting and cast their ballots!

\*\*\*\*\*

### NEXT MEETING

WHEN: TUESDAY, JANUARY 9, 1979

TIME: 7:30 P.M.

WHERE: JEWISH COMMUNITY CENTER  
333 South 132nd Street  
Omaha, Nebraska 68154

PROGRAM: COMMERCIAL LICENSING

Communications and electronics are a lot of fun. If they were not, we would not have put the time and effort into getting our amateur tickets.

What about using our talents in these fields for money? Have you ever thought about going for a commercial ticket? How difficult would it be to pass those tests? How much more knowledge is required above and beyond say an advanced amateur class license? When you get it, what can you do with it?

These and many other questions will be explained by Parley "Ley" Applegate, WDØENB, out guest speaker.

CU there.

73s,  
WBØPHP

\* \* \*

VISITORS WELCOME - REFRESHMENTS - EYEBALL QSO

\*\*\*\*\*

year something seems to come up that prevents me from going, I understand that this one gets bigger and better every year. Hopefully, our Club will be well represented at Dayton again this year.

To sum it all up, now is not the time to sit and ponder your involvement. Pick a direction, and go! You'll have a lot of fun, meet new friends, and certainly get a lot more out of your hobby. For most of us, the enjoyment received is directly proportional to the effort expended. Won't you please join me in making this another banner year not only for our Club but for Amateur Radio as a whole?

Tom Thiessen, KØPQR  
\*\*\*\*\*

clubs would not even dream of. And you should be (and understandably are) extremely proud of your accomplishments.

My move to Colorado was a good move for my career, but I long for the Donut Net and sitting at field day watching the chow tent be rebuilt after a tornado blew it down. And let's not forget the "fun" we had trying to DF Red Rider. It's too bad there are people who wouldn't care if Red Rider showed up out here.

That's the key! You Care! If nothing else, remember who you are and what you can do if the need arises. Most of all, continue to care!

73s,  
Bill, WBØTWE  
\*\*\*\*\*

#### KEEP UP THE GOOD WORK

It's been almost a year since I moved away from Omaha and as far as I am concerned, the home of the finest ham radio club in existence. You, the members of the Ak-Sar-Ben Amateur Radio Club, are really something quite special. Many of you whom I grew to know while there will always hold a special memory for me.

It was your club and two members in particular that are responsible for my having gotten my license: Dave, K3CRF, who helped initially and Gary, W9OAK (EX-WØOXT), who gave me some great advice when I was getting down on the code. And there were many others also. My thanks to you all!

Gentlemen and ladies, you have something within your club that I hope you never lose, that is, a unity that allows you to stand straight and proud in the community. It is something that I miss very much. You have taken strides that most other

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1945 Nels Peter Nelson, W7RCF (EX-WØYDC)	*1962 Royal M. Enders; KØLYO
1946 John F. Leeder, WØUFD	1963 Joseph F. Berounsky, KØQDB
1947 Arthur R. Gaeth, WØFQB	1964 Louis A. Cutler, WØVLI
1948 Herbert D. Curry, WØQXR	*1965 Edmond E. Donze, WØYEV
1949 Elmer N. Stein, Ex-WØAVM	1966 Byron J. Smith, Sr., WAØICK
1950 Dr. Leon Becker, W6AID (EX-WØBBX)	1967 Ervan D. Heinz, WAØEFM
1951 Earle E. Olson, WØJKE	1968 Robert C. Lockwood, WAØDHU
1952 John W. Orr, WØPHW	1969 Royce E. Johnson, WAØKIL
1953 Rev. R. J. Strange, WØQHG	1970 Harold E. McClenahan, Jr., WAØDGA
1954 Frank W. Cooper, W3NV (EX-WØIOS)	1971 James C. Droege, WØYCP
1955 Arthur E. Stadler, W9KHD (EX-WØQMD)	1972 Edward F. Askew, WAØRDZ
1956 Dick L. Eilers, WØYZV	1973 Russell A. Minks, WAØVEE
1957 Curtis D. Hicks, KØAMM	1974 Vernard Riportella, WBØGAJ
*1958 Edward Gutmann, WØCQX	1974-75 Marion Wilczynski, WBØBMV
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1960 Max N. McKinney, WØYVV	1977 Robert A. Conley, WBØLYU
1961 John A. Droscher, KØKWB	1978 James R. Peterson, WBØQGV

\*Deceased

\*\*\*\*\*

## ADDITIONS TO ROSTER

Parley Applegate, WDØENB  
5033 South 90th Street  
Omaha, Nebraska 68127  
Phone: 339-4339

Michael G. Essex, ADØL  
4620 Chicago Street-Apt. #1  
Omaha, Nebraska 68132  
Phone: 553-3054

Mitchel H. Gagne, KAØCSO  
4026 Nebraska Avenue  
Omaha, Nebraska 68111  
Phone: 451-6757

Charles N. Jack, WØKVZ  
6228 South 39th Street  
Omaha, Nebraska 68107  
Phone: 731-0580

George R. Whitney, KAØBDT  
6258 Sprague Street  
Omaha, Nebraska 68104  
Phone: 455-2766

Joane E. Whitney  
(XYL of KAØBDT)  
6258 Sprague Street  
Omaha, Nebraska 68104  
Phone: 455-2766

\*\*\*\*\*

## REPORT FROM SANTA

December 18 was a terrific day for Santa Claus. Mrs. Claus and I talked to many boys and girls in Omaha.

Ami wanted a doll, Jason wanted a mickey mouse hat, and Tim talked of a train. But most of all, and perhaps the more touching of all the contacts, was Aaron; he wanted to go home from the hospital.

73s from the North Pole  
Santa, NØAIH

\*\*\*\*\*

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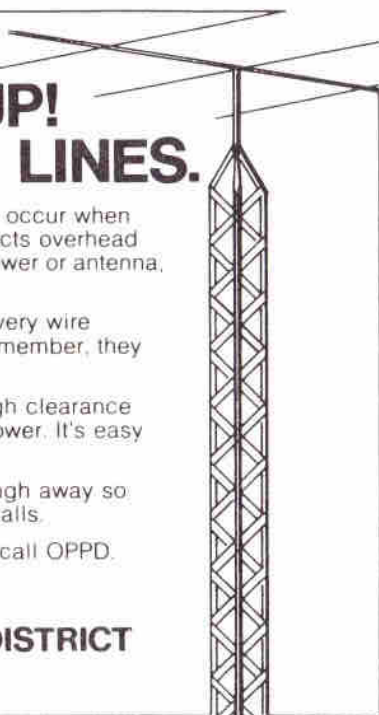
## **STOP! LOOK UP! AVOID POWER LINES.**

Serious and even fatal accidents can occur when an antenna or any metal object contacts overhead power lines. If you are putting up a tower or antenna, observe these rules:

1. Check for overhead power lines. Every wire should be considered dangerous. Remember, they are not insulated.
2. Make sure there's more than enough clearance for carrying, raising or lowering the tower. It's easy to misjudge this clearance.
3. Erect the antenna or tower far enough away so that it will not hit any power line if it falls.

If power lines are a possible hazard, call OPPD. We are interested in your safety.

**OMAHA PUBLIC POWER DISTRICT**



## RECENT CONTRIBUTORS

### Ham Hum Postage

Frank Beach, Jr., WAØOVU  
Walter J. Brown, Jr.  
Glen H. Byars, WØBNF  
Robert H. Neben, K9BL

### Repeater 34/94

Lloyd L. Burks, WBØNGD  
Chester L. Doll, KØPTG  
Fred G. Groce, WBØBLR  
Robert C. Lockwood, WAØDHU  
Arthur R. Mahon, WBØMUL  
Thomas D. Mickus, WBØWKI  
Robert H. Neben, K9BL  
F. Hilton Norton, WBØHPP  
Jon J. Penner, WBØGQT  
Scott Edward Persson, WBØQPP  
James E. Sanford, WDØCSC  
Kenneth W. Walker, WBØPDJ  
Charles B. Wolfmeyer, WØKH

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Sincere thanks to one and all!

\*\*\*\*\*

## CQ SWEEPSTAKES

During the weekend of November 18-19, the WØEQU skyhooks were put to a good test. For that was the weekend of the ARRL Sweepstakes. The station was in operation for 24 consecutive hours and made 60 contacts with 69 out of 75 possible multipliers.

The operation provided the opportunity for the inexperienced contest operator to gain some invaluable operating experience. Everyone involved with the operation seemed to have enjoyed themselves, until it was his turn to keep the dup sheets. The dup sheets were a real hassle and really slowed down the operation. I think we would have made a better showing if the dup sheets were done away with altogether during the operation and the duplicates were sorted out after the contest. If we again participate in sweepstakes, a committee set up before hand to plan out operating strategy might help bring about a much improved score.

During the contest it soon became evident the potential the club station has. It was a rare occasion that a desired station had to be called twice, no matter which direction the antennas were pointed. Sure would like to see a similar operation set up for the DX contests, HELLO WORLD!

In closing I would like to thank all who donated their valuable weekend hours to participate in the sweepstakes operation; WBØLXP, WØQFY, WDØGIL, WDØHBY, WAØDHU, KØDKM, KØPQR, WBØVLL, WBØYOD, WBØWOT, WBØPPE, WBØFWB, NØAIH, WDØBVH, and anyone whom I may have left out.

Mike Gann, WØMQ

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Mike Gann, WØMQ

\*\*\*\*\*



## CONTEST COMPUTER

The use of a computer as a valuable contest aid was demonstrated recently by a group of hams in Omaha.

Gathering at the home of Dave Milton, WD0DLN, the group operated for a 24-hour period during the 1978 ARRL Sweepstakes, the weekend of November 18-19, 1978, using the call sign of Dick Jugel, K0DGD.

The idea for participation in the contest came from Mike Bruening, N0AON (formerly WD8LOQ). However, he needed a station to operate; thus Dave's shack came into use. Mike and Dave used the California QSO Party in October as a warmup for the event although the computer, used for logging purposes during the Sweepstakes, was not yet available.

Dick Jugel borrowed the 40K personal computer from a friend, and then, during a six-week period, built a teletype interface and programmed the machine for contest use. "It was the first time for all of us in the use of a computer for a contest," Dick said. The computer was programmed to provide a running score total including multipliers, sections worked, sections needed to be worked, and whether or not the contact was a duplicate. That, perhaps, was one of its greatest advantages—the immediate recognition of duplicate contacts. As soon as the operator punched in the call sign of the station, the video display immediately indicated if it was a duplicate contact, and if so, allowed the man at the mike to go to another station.

Data stored in the computer was transferred to the teletype. A separate written log was also kept in case of any problem.

"The only real problem we experienced," Mike said, "was from RF getting into the machine while

operating on 40 meters."

Others who assisted Dave, Dick and Mike during the contest were: Frank Wolczak, WA0IWF; Rick Stansbury, WA0ROP; Chuck Sudds, K0TVD; and Bill Fehrman, KA0AAA.

Along with Mike, the only other with real contest experience was Frank who turned in the high score for Nebraska in the 1978 September VHF contest. Training in the techniques of contest operation was provided by Mike.

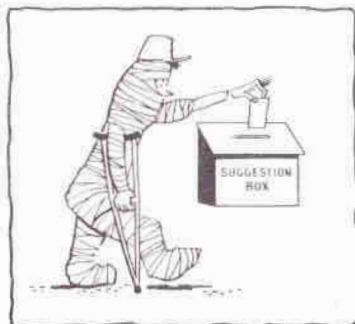
"We had a lot of fun with it," Mike said. "We also learned a lot," he added, "and we made a respectable showing." The group had approximately 750 contacts with 74 (all but one) multipliers.

\*\*\*\*\*

The Club station at the Jewish Community Center, W0EQU, also was operated a full 24 hours during the contest. Its operators also had little, if any previous contest experience, but now know what it's like with QRM coming in from all directions. It was the first time the station had been used during a contest.

Joe Niemann, WB0FWB

\*\*\*\*\*



CW is the oldest method of radio communication – and I find it rather unpleasant and inconvenient. CW is hard work. Have you ever seen someone leaning back in his chair, feet on the desk, and in the process of sending CW? Probably you have not; it's just too difficult. It requires total concentration. Also it's slow compared to other means of communicating such as voice or RTTY. It's just not relaxing. I've seemed to have painted a very negative picture of CW and I don't mean to; it has a very important attribute—it's required to pass amateur exams.

Remember when you first learned CW? It was work, but after you learned it at about 5 WPM, it wasn't really all that hard to go to 6 WPM. Then after a little more practice you went from 6 to 7 WPM. It isn't any harder to go from 12 to 13 WPM or 19 to 20 WPM than to go from 5 to 6 WPM. But where do you get that practice?

It doesn't take a long time or long sessions to increase your code speed. I went from under 10 WPM to 20 WPM within three weeks and I never spent over eight minutes per day practicing. The idea is to practice every day and only copy CW that is sent faster than you can comfortably copy. If you're going after the General or Advanced, start out copying 10 WPM. When you can copy 80% of this, copy 13 WPM and keep practicing with 13. If you're going after the Extra, begin with 15 WPM. When this becomes somewhat comfortable, change to 20 WPM. Copying at speeds greater than you're used to is hard work. Eight minutes of copying doesn't sound like much, but pushing a pencil that fast for that long will change your mind. I recommend copying every day for only eight

minutes.

One of the best sources of code practice is WIAW. They broadcast every day, and the speed, pitch, pauses, etc. are exactly like the FCC exam. The times and frequencies broadcast are published monthly in QST. ARRL code cassettes are great too. If you miss WIAW, copy the cassette for eight minutes instead. I found records aren't the same spacing between letters and I didn't like the sound. These methods of CW practice are all for individual study. If you would like to learn as a group, join our code and theory classes.

The Ak-Sar-Ben Amateur Radio Club will conduct free code and theory classes at Creighton Prep, 74th and Western Ave. Classes will be held for Novice, General, Advanced, and Extra class. Text for the Novice are Tune in the World and ARRL License Manual. Text for the other classes are the ARRL License Manual and the appropriate Tab book. Classes meet every Monday and Wednesday evening at 7:30.

The time to begin work on those increased privileges and new call signs is now. Maybe you like CW better than I do – or maybe not. In either case, after you've upgraded that ticket you have a choice on what mode you want to operate.

73s,  
Bob Neben, K9BL  
\*\*\*\*\*

Every great advance in science has issued from a new audacity of imagination.

JOHN DEWEY—*The Quest for Certainty*

Would you like to learn the life saving techniques of CPR? Douglas/Sarpy County ARES has begun a large scale program to teach its members these valuable procedures. We are looking for five volunteers to attend the Red Cross classes on CPR during January and February. This includes three 3-hour classes beginning January 4th or 8th and then two more 3-hour classes to become certified instructors. These five instructors will then teach the ARES membership CPR. For more information, contact me at home or on the ARES net 9:00 P.M. Sunday on 3/4/94.

73s,  
Bob Neben, k9Bl

\*\*\*\*\*

#### MEMBER ADDRESS CHANGES

Capt. Kevin J. Clatanoff, WAØYCC  
PSC # 2, Box 2771  
Kirtland AFB, NM 87117

Martin John Griffin, WAØGEH  
1647 E. Geddes Circle N.  
Littleton, Colorado 80122

SSgt. Carl J. Quijas, WBØTUE  
PCS #1, Box 2323  
Offutt AFB, NE 68113

\*\*\*\*\*

Thought I would pass along a tip I got from a Tech at Kenwood Trio on the popular Kenwood rigs, such as TS-520, TS-820, and T-599d.

When replacing final amp or driver tubes in these rigs always use Japanese tubes, such as the Toshiba 12BY7-A, S-2001. The circuits are designed around the Japanese tubes and a malady of problems can arise using American manufactured tubes.

I have had a drive problem with my T-599A for two years and cured it simply by plugging in a Toshiba driver tube.

These ideas could even help owners of the FT101 series FT901 transceivers as they use 12BY7-A drivers.

Final amp tube life can be increased notably by reducing bias from recommended 60 MA to around 25 MA with no noticeable distortion on SSB.

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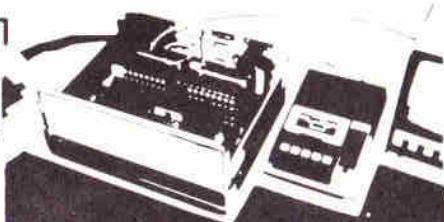
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### SWEEPSTAKES LOGGING PROGRAMS

After the TTY/microcomputer demonstration at the November club meeting, I was asked by our Honorable Pres., WBOQGV, to supply a hard copy print out of the program for reprint in Ham Hum. Actually, I was "resting my eyes" on the living room couch after a long session of installing the computer system at Dave Hamilton's QTH the night before the request was made. My XYL, Marlene, fielded the request from James via the LL, and there is nothing she enjoys more than volunteering my efforts for me. So here goes.

The computer is a 40,000 character memory IMSAI 8080 North Star floppy disk system using a lear-sigler ADM-3A CRT terminal. The CRT terminal, a serial input-output device, is strapped to operate at 9600 baud. The entire set-up was loaned to us by Tom Klamt in exchange for building an interface from the computer system to 5-level Baudot code TTY loops so he could develop an economical hard copy output device (model 19 or 28 TTY).

The sweepstakes logging programs (there are three of them) are written in North Star BASIC version 6. This fact is mentioned because there are minor differences between different manufacturer's versions of the basic interpreter.

Program one will initialize and reset the disk files used to store the contact log information as it is entered via the CRT.

Program two is the actual logging program. As information is entered by the logger, the computer will check call sign entries against previous call sign entries to eliminate any duplicate contacts. It will then store all contact exchange information on disk, including our contact number, date and time, station worked call sign, his precedence, his CK (year first licensed), his contact

number, and frequency band. In addition, a running total score will be kept and continuously displayed on the CRT. Then, when the computer is not busy with any of these things, it will occupy it's remaining free time keeping track of which sections we have worked and gently reminding us occasionally of the sections we still have not worked. (Now if this were only a CW contest, maybe it could still find time to run the key—?)

Program three will read the log file, print the log on Dave's 100 wpm TTY, and compute final statistics for us.

In terms of capacity, the TTY log will hold 1000 contacts. Each contact entry consists of 29 characters of information. Therefore, if we plan to work more than 1000 stations, we will periodically have to dump the log to TTY (and maybe paper tape), clear the log, and start again at the beginning of the disk file with new contact entries. The duplicate check table, consisting of only 6 characters per contact (call sign only), will hold 4000 contacts. These records are organized in a directly accessible fashion keyed by call area (O through 9). There is room for 400 entries per region for a total of 4000 (10 X 400). If we contact more than 400 stations in a single call area, we will have to perform a manual duplicate check on the stations over number 400.

For those of you with similar computer systems, we used an entry floppy disk for the programs and files, structured as follows:

FILE/ PROGRAM	DISK ADDR	# BLOCKS	TYPE	DESCRIPTION
DCI	004	010	000	Operating system
BASIC	014	060	001	BASIC interpreter
SWTLOG	050	035	002	Logging program
INITLOG	054	005	000	Disk initialize program
TFILE	094	110	003	Duplicate check file
TTYPRINT	210	005	000	tee print program
STNUM	218	001	003	Starting number file
TTYIMAGE	219	125	003	Detail log entry file

PROGRAM ONE - INITLOG

```

10 DIM C$(2416)
20 DIM P$(75)
30 X$=""0123456789"
40 Y=LEN(C$)
50 M=0
60 P$=""
70 FOR I=2 TO 75
80 P$=P$+" "
90 NEXT I
100 X=2400
110 OPEN #0,"STNUM"
120 J7=1
130 WRITE #0,J7,M,P$
140 CLOSE #0
150 OPEN #0,"TTYIMAGE"
160 X3$=""1"
170 WRITE #0,X3$
180 CLOSE #0
190 OPEN #1,"TFILE"
200 FOR I=0 TO 9
210 N=1+1
220 C$(1,1)=X$(N,N)
230 C$(X,X)=X$(N,N)
240 ! "WRITING BLOCK ",I," ",C$(1,1)," ",C$(X,X),"!"
250 !L
260 WRITE #1 X*(Y+1)+1,L,C$,N$ENDMARK
270 NEXT I
280 FOR I=0 TO 9
290 C$(1,1)=" "
300 C$(X,X)=" "
310 READ #1 X*(Y+1)+1,L,C$
320 ! "READ BLOCK ",I," ",C$(1,1)," ",C$(X,X),"!"
330 !L
340 NEXT I
350 CLOSE #1
360 STOP

```

## PROGRAM TWO - SWPL0G

```

10 DIM J$(72)
11 DIM R$(75)
12 DIM J6$(29)
13 DIM T$(2416)
14 DIM Q$(50)
15 !CHR$(26)
20 OPEN #0,"STNUM"
21 READ #0,C,R9,R9$
22 CLOSE #0
30 OPEN #0,"TFILE"
31 OPEN #1,"TYIMAGE"
40 INPUT "I=INIT LOG, A=ADD TO LOG? ",K5$
50 IF K5$="I" THEN 80
51 IF K5$<>"A" THEN 40
60 IF TYP(1)=0 THEN 70
61 READ #1,J6$
62 IF LEN(J6$)=1 THEN 60
63 L7=L7+1
64 GOT0 60
70 !L7," ENTRIES ON LOG FILE."
80 INPUT "Y=LOG ON TTY, N=DO NOT LOG ON TTY? ",H8$
90 IF H8$="Y" THEN 100
91 IF H8$<>"N" THEN 80
100 !"STARTING CONTACT NUMBER=",C,"."
110 INPUT "Y=PROCEED, N=ENTER NEW NUMBER? ",K5$
120 IF K5$="Y" THEN 140
121 IF K5$<"N" THEN 110
130 INPUT "NEW NUMBER? ",C
140 INPUT "TIME (DDHMM)? ",Z4$
141 IF LEN(Z4$)>6 THEN 140
150 FOR D6=1 TO 6
160 IF Z4$(D6,D6)<"0" THEN EXIT 140
161 IF Z4$(D6,D6)>"9" THEN EXIT 140
162 NEXT D6
170 Z5=Z4$
171 Z35=Z4$
172 Z05=Z5(1,2)
173 Z15=Z5(3,4)
174 Z25=Z5(5,6)
180 IF Z15>"03" THEN 140
181 IF Z25>"59" THEN 140
190 IF Z5<"182100" THEN 140
191 IF Z5>"200259" THEN 140
192 !" "
200 !"DATE NOV ",Z05,", TIME ",Z15," ",Z25,", STARTING NUMBER ",C,"."
210 !" "
211 INPUT "BAND (80-40-20-15-10-06-02-01)? ",U5
220 IF LEN(U5)<>2 THEN 210
230 IF U5="80" THEN 260
231 IF U5="40" THEN 260
232 IF U5="20" THEN 260
240 IF U5="06" THEN 260
241 IF U5="02" THEN 260
242 IF U5="01" THEN 260
250 IF U5="15" THEN 260
251 IF U5<>"10" THEN 210
260 !" "
270 INPUT "CALLSIGN? ",C$
280 IF LEN(C$)>6 THEN 310
281 IF LEN(C$)<4 THEN 300
290 IF LEN(C$)=6 THEN 360
291 C5=C$+" "
292 GOT0 290
300 IF C5="X" THEN 320
301 IF C5="S" THEN 1790
302 IF C5="B" THEN 210
310 !"ERROR - ",C$," INVALID CALLSIGN!!!",CHR$(7)
311 GOT0 270
320 CLOSE #0
321 CLOSE #1
322 OPEN #0,"STNUM"
323 WRITE #0,C,R9,R9$
324 CLOSE #0
330 !" "
331 !"LOG CONTAINS ",L7," RECORDS."
332 !" "
340 !"NEXT CONTACT NUMBER IS ",C,"."
341 !" "
350 !" 73 AND GOOD LUCK IN THE CONTEST!!!"
351 !" ",CHR$(7)

```

```

352 END
360 FOR J=1 TO 5
370 IF C$(J,J)<"0" THEN 380
371 IF C$(J,J)>"9" THEN 380
372 EXIT 390
380 IF J=6 THEN EXIT 310
381 NEXT J
390 V$=C$(J,J)
391 T=VAL(V$)
392 IF F=0 THEN 400
393 IF T=T1 THEN 420
400 T1=T
401 READ #1 (LEN(T$)+T)+1,I
410 READ #0 (LEN(T$)+T)+1,I,T$(I,(I+1)*6)
411 F=1
420 FOR J=1 TO 1
421 IF C$=T$(J*6)-5,J*6) THEN EXIT 430
422 NEXT J
423 GOTO 450
430 ! " ",CHRS(7)
440 ! "*** DUPLICATE CONTACT *** DO NOT REWORK *** ",C$," ***",CHRS(7)
450 GOTO 260
460 ! " "
470 !V$, " AREA CONTACT",I+1," ",C$," ",U$, " METERS NUMBER",C
480 IF C$(1,1)="N" THEN 510
481 IF C$(1,1)="A" THEN 510
482 IF C$(1,1)="V" THEN 510
490 IF C$(1,1)="K" THEN 510
491 IF C$(1,3)="VEB" THEN 880
500 IF C$(1,3)="VY1" THEN 890
501 IF C$(1,2)="VE" THEN 830
502 GOTO 910
510 J1=T+1
511 ! " "
520 ON J1 GOTO 530,570,610,640,660,700,740,780,810,820
530 !"MINNESOTA" 12 KANSAS"
540 !"09 NORTH DAKOTA 13 MISSOURI"
550 !"10 SOUTH DAKOTA 14 NEBRASKA"
560 !"11 IOWA 15 COLORADO"
561 GOTO 900
570 !"16 CONNECTICUT 20 NEW HAMPSHIRE"
580 !"17 EASTERN MASS 21 RHODE ISLAND"
590 !"18 WESTERN MASS 22 VERMONT"
600 !"19 MAINE"
601 GOTO 900
610 !"23 SOUTH NEW JERSEY 26 EASTERN NEW YORK"
620 !"24 NORTH NEW JERSEY 27 N.Y.C. & LONG ISLAND"
630 !"25 WESTERN NEW YORK"
631 GOTO 900
640 !"28 DELAWARE 30 WESTERN PA"
650 !"29 EASTERN PA 31 MARYLAND/DC"
651 GOTO 900
660 !"32 TENNESSEE 36 VIRGINIA 39 NORTHERN FLORIDA"
670 !"33 KENTUCKY 37 ALABAMA 40 SOUTHERN FLORIDA"
680 !"34 NORTH CAROLINA 38 GEORGIA 41 WEST INDIES"
690 !"35 SOUTH CAROLINA"
691 GOTO 900
700 !"42 ARKANSAS 46 NORTHERN TEXAS"
710 !"43 LOUISIANA 47 SOUTHERN TEXAS"
720 !"44 MISSISSIPPI 48 OKLAHOMA"
730 !"45 CANAL ZONE" 49 NEW MEXICO"
731 GOTO 900
740 !"50 SAN DIEGO 54 SANTA BARBARA 57 STANTA CLARA VALLEY"
750 !"51 ORANGE 55 LOS ANGELES 58 SACRAMENTO VALLEY"
760 !"52 EAST BAY 56 SAN FRANCISCO 59 SAN JOAQUIN VALLEY"
770 !"53 PACIFIC"
771 GOTO 900
780 !"60 ALASKA 63 OREGON 66 WYOMING"
790 !"61 IDAHO 64 WASHINGTON 67 UTAH"
800 !"62 MONTANA 65 NEVADA 68 ARIZONA"
801 GOTO 900
810 !"69 MICHIGAN 70 OHIO 71 WEST VIRGINIA"
811 GOTO 900
820 !"72 ILLINOIS 73 INDIANA 74 WISCONSIN"
821 GOTO 900
830 ! " "
840 !"01 ALBERTA 05 ONTARIO"
850 !"02 BRITISH COLUMBIA 06 QUEBEC"
860 !"03 MANITOBA 07 SASKATCHEWAN"
870 !"04 MARITIME-NFLD"
871 GOTO 900

```

```

880 1" V
890 1"75 NORTHWEST TERRITORY/YUKON"
900 1" "
910 INPUT"TIME? ",Z$
911 IF Z$="X" THEN 260
912 Z3$=Z4$
913 IF LEN(Z3$)=6 THEN 990
920 IF LEN(Z3$)=5 THEN 1000
921 IF LEN(Z3$)=4 THEN 970
922 IF LEN(Z3$)=3 THEN 980
930 IF LEN(Z3$)=2 THEN 960
931 IF LEN(Z3$)=1 THEN 950
940 !"ERROR - INVALID TIME!!!",CHR$(7)
941 G0 T0 900
950 Z3$(6,6)=Z5
951 G0 T0 1010
950 Z3$(5,6)=Z5
951 G0 T0 1010
970 Z3$(3,6)=Z5
971 G0 T0 1010
980 Z3$(4,6)=Z5
981 G0 T0 1010
990 Z3$=Z5
991 G0 T0 1010
1000 Z3$(2,6)=Z5
1010 FOR X=1 TO LEN(Z3$)
1011 IF Z3$(X,X)<"0" THEN EXIT 940
1020 IF Z3$(X,X)>"9" THEN EXIT 940
1021 NEXT X
1030 IF Z3$(3,4)>"23" THEN 940
1031 IF Z3$(5,6)>"59" THEN 940
1040 IF Z3$>"182059" THEN 1060
1050 !"TIME PRIOR TO CONTEST START!!!",CHR$(7)
1051 G0 T0 940
1060 IF Z3$<"200300" THEN 1080
1070 !"CONTEST IS OVER?????",CHR$(7)
1071 G0 T0 940
1080 IF Z3$>Z4$ THEN 1120
1090 !"INPUT TIME ",Z3$," LESS THAN LAST TIME ",Z4$,".",CHR$(7)
1100 INPUT"Y=ACCEPT,N=RE-ENTER?",Z$
1110 IF Z$="Y" THEN 1120
1111 IF Z$="N" THEN 910
1112 G0 T0 1100
1120 Z4$=Z3$
1121 Z0$=Z3$(1,2)
1122 Z1$=Z3$(3,4)
1123 Z2$=Z3$(5,6)
1130 INPUT"HI$ NR? ",N1$
1131 IF LEN(N1$)<1 THEN 1150
1132 IF N1$="X" THEN 260
1140 IF LEN(N1$)<5 THEN 1160
1150 !"ERROR - NR INVALID!!!",CHR$(7)
1151 G0 T0 1130
1160 IF LEN(N1$)=5 THEN 1170
1161 N1$="0"+N1$
1162 G0 T0 1150
1170 FOR X=1 TO LEN(N1$)
1171 IF N1$(X,X)<"0" THEN EXIT 1150
1180 IF N1$(X,X)>"9" THEN EXIT 1150
1181 NEXT X
1190 INPUT"HI$ PRECEDENCE? ",P$
1191 IF P$="X" THEN 260
1200 IF P$="A" THEN 1220
1201 IF P$="B" THEN 1220
1210 !"ERROR - PRECEDENCE MUST BE A OR B!!!",CHR$(7)
1211 G0 T0 1190
1220 INPUT"HI$ CK? ",C1$
1221 IF C1$="X" THEN 260
1222 IF LEN(C1$)=2 THEN 1240
1230 !"ERROR - CK INVALID!!!",CHR$(7)
1231 G0 T0 1220
1240 FOR Y=1 TO LEN(C1$)
1241 IF C1$(Y,Y)<"0" THEN EXIT 1230
1250 IF C1$(Y,Y)>"9" THEN EXIT 1230
1251 NEXT X
1260 IF C1$>"78" THEN 1230
1261 IF C$(1,1)="V" THEN 1310
1270 IF C$(1,1)="K" THEN 1310
1271 IF C$(1,1)="N" THEN 1310
1280 IF C$(1,1)="A" THEN 1310
1281 IF C$(1,2)="VE" THEN 1310
1290 IF C$(1,3)="VY1" THEN 1310
1291 S$="00"
1300 !"SECTION UNKN0'N - FORCED 00"
1301 G0 T0 1500
1310 INPUT"HI$ SECTION? ",S$
1311 IF S$="X" THEN 260
1312 IF LEN(S$)<3 THEN 1330
1320 !"ERROR - SECTION I.D. INVALID!!!",CHR$(7)
1321 G0 T0 1310
1330 IF LEN(S$)=2 THEN 1340
1331 S$="0"+S$
1332 G0 T0 1330
1340 FOR X=1 TO LEN(S$)
1341 IF S$(X,X)<"0" THEN EXIT 1320
1350 IF S$(X,X)>"9" THEN EXIT 1320
1351 NEXT X
1360 IF S$="00" THEN 1500
1361 IF C$(1,3)="VE" THEN 1390
1362 IF C$(1,3)="VY1" THEN 1390
1380 IF C$(1,2)<"VE" THEN 1400
1381 IF S$>"07" THEN 1320
1382 G0 T0 1500
1390 IF S$<"75" THEN 1320
1391 G0 T0 1500
1400 IF S$<"08" THEN 1320
1401 IF T<=0 THEN 1410
1402 IF S$>"15" THEN 1320
1403 G0 T0 1500
1410 IF S$<"16" THEN 1320
1411 IF T<1 THEN 1420
1413 IF S$>"22" THEN 1320
1414 G0 T0 1500
1420 IF S$<"23" THEN 1320
1421 IF T>=2 THEN 1430
1422 IF S$>"27" THEN 1320
1423 G0 T0 1500
1430 IF S$<"28" THEN 1320
1431 IF T>=3 THEN 1440
1432 IF S$>"31" THEN 1320
1433 G0 T0 1500
1440 IF S$<"32" THEN 1320
1441 IF T>=4 THEN 1450
1442 IF S$>"41" THEN 1320
1443 G0 T0 1500
1450 IF S$<"42" THEN 1320
1451 IF T>=5 THEN 1460
1452 IF S$>"49" THEN 1320
1453 G0 T0 1500
1460 IF S$<"50" THEN 1320
1461 IF T>=6 THEN 1470
1462 IF S$>"59" THEN 1320
1463 G0 T0 1500
1470 IF S$<"60" THEN 1320
1471 IF T>=7 THEN 1480
1472 IF S$>"68" THEN 1320
1473 G0 T0 1500
1480 IF S$<"69" THEN 1320
1481 IF T>=8 THEN 1490
1482 IF S$>"71" THEN 1320
1483 G0 T0 1500
1490 IF S$<"72" THEN 1320
1491 IF S$>"74" THEN 1320
1500 I=I+1
1501 IF I<401 THEN 1530

```



```

1510 !"DUPE TABLE OVERFLOW - CHECK THIS ONE MANUALLY!!", CHR$(7)
1520 I=I-1
1530 T$(I*6)-5,I*5)=C$
1540 WRITE #0 $(LEN(T$)*T)+I,I,T$(I,(I+1)*6)
1550 J$=STR$(C)
1551 C=C+1
1552 A7=VAL(C$)
1553 IF A7=0 THEN 1580
1560 IF R9$(A7,A7)="X" THEN 1580
1561 R9$(A7,A7)="X"
1562 R9=R9+1
1570 OPEN #2,"STNUM"
1571 WRITE #2,C,R9,R9$
1572 CLOSE #2
1580 J3$(I,I)="0"
1581 J6$=J3$
1590 IF LEN(J3$)>4 THEN 1600
1591 J3$="0"+J3$
1592 J6$=J3$
1593 G0 TO 1590
1600 J3$=J3$+" "+Z0$+" ":"+Z1$+" ":"+Z2$+" "+C$+" "+P$+" "+N1$+" "
1610 J3$=J3$+C1$+" "+S$+" "+U$+" TOTAL SCORE "
1620 RB=(C-1)*2+R9
1621 RB$=STR$(RB)
1622 J3$=J3$+RB$+"."
1630 !" "
1631 J3$
1640 J3$=CHR$(0)+J6$+" "+CHR$(0)+Z0$+" ":"+Z1$+" ":"Z2$
1650 J3$=J3$+" "+C$+" "+P$+" "+CHR$(0)+N1$+" "
1660 J3$=J3$+CHR$(0)+C1$+" "+CHR$(0)+S$
1670 J3$=J3$+" "+CHR$(0)+U$
1680 J3$=J3$+CHR$(29)+CHR$(29)+CHR$(30)
1690 J3$=" "+J3$
1700 J6$=J6$+Z0$+Z1$+Z2$+C$+P$+N1$+C1$+S$+U$
1710 WRITE #1,J6$
1720 L7=L7+1
1721 IF L7<500 THEN 1740
1722 IF L7>505 THEN 1740
1730 !"WARNING-HOUR PRINT BUILT UP IN LOG!!", CHR$(7)
1740 IF L7<950 THEN 1760
1741 M6=1000-L7
1750 !"ONLY ",M6," SLOTS LEFT ON LOG FILE, DUMP SOON!!", CHR$(7)
1760 IF HB$="N" THEN 260
1761 OUT 3,0
1770 FOR J4=1 TO LEN(J3$)
1771 J4$=J3$(J4,J4)
1772 J3=ASC(J4$)
1780 M6=INP(3)
1781 IF M6<201 THEN 1780
1782 OUT 1,J3
1783 NEXT J4
1784 G0 TO 260
1790 !" "
1791 !" * * SECTION ANALYSIS * *"
1792 !" "
1800 !"SECTIONS WORKED - - -"
1801 !" "
1810 FOR X=1 TO 5
1811 Q$=""
1812 FOR Q=1 TO 15
1813 Q1=$((X-1)*15)+Q
1814 Q1$=STR$(Q1)
1820 IF R9$(Q1,Q1)="X" THEN Q$=Q$+Q1$
1821 NEXT Q
1822 IF Q$="" THEN 1830
1823 !Q$
1830 NEXT X
1831 !" "
1832 !"SECTIONS YET TO BE WORKED - - -"
1833 !" "
1840 FOR X=1 TO 5
1841 Q$=""
1842 FOR Q=1 TO 15
1843 Q1=$((X-1)*15)+Q
1844 Q1$=STR$(Q1)
1850 IF P9$(Q1,Q1)<>"X" THEN Q$=Q$+Q1$
1851 NEXT Q
1852 IF Q$="" THEN 1860
1853 !Q$
1860 NEXT X
1870 G0 TO 260

```

## PROGRAM THREE - TTYPRNT

```

10 DIM P$(29)
20 DIM L$(72)
30 DIM P(76)
40 DIM A$(20)
50 DIM B$(20)
60 DIM C$(20)
70 DIM D$(20)
80 DIM E$(20)
90 N2$=CHR$(45)
100 !CHR$(26)
110 !"
120 !" "
130 INPUT"ENTER Y TO DETAIL LIST ON TTY, N TO BYPASS: ",MIS
140 IF MIS="Y" THEN 160
150 IF MIS<>"N" THEN 130
160 !" "
170 MIS=CHR$(0)
180 OPEN #0,"TTYIMAGE"
190 IF TYP(0)=0 THEN 490
200 READ #0,P$
210 IF LEN(P$)=1 THEN 190
220 C=C+1
230 A$=P$(1,5)
240 B$=P$(6,7)+"!"+P$(8,9)+"!"+P$(10,11)
250 C$=P$(12,17)
260 D$=P$(18,18)
270 E$=P$(19,23)
280 F$=P$(24,25)
290 G$=P$(26,27)
300 H$=P$(28,29)
310 Z=VAL(G$)
320 Z=Z+1
330 P(Z)=P(Z)+1
340 !A$, " ", B$, " ", C$, " ", D$, " ", E$, " ", F$, " ", G$, " ", H$
350 IF MIS="N" THEN 480
360 L$=MIS+A$+N2$+B$+N2$+C$+" "+D$+N2$+E$+N2$+F$+N2$+G$
370 L$=L$+N2$+H$
380 L$=L$+CHR$(29)+CHR$(29)+CHR$(30)
390 GUT 3,0
400 GUT 1,32
410 FOR I=1 TO LEN(L$)
420 X$=L$(I,1)
430 X=ASC(X$)
440 Y=INP(3)
450 IF Y<201 THEN 440
460 GUT 1,X
470 NEXT I
480 G0 TO 190
490 !" "
500 L=0
510 FOR I=1 TO 80 STEP 5
520 A$=STR$(L)+" "+STR$(P(I))+" "
530 L=L+1
540 IF L=76 THEN EXIT 690
550 Z=I+1
560 B$=STR$(L)+" "+STR$(P(Z))+" "
570 L=L+1
580 Z=I+2
590 C$=STR$(L)+" "+STR$(P(Z))+" "
600 L=L+1
610 Z=I+3
620 D$=STR$(L)+" "+STR$(P(Z))+" "
630 L=L+1
640 Z=I+4
650 E$=STR$(L)+" "+STR$(P(Z))
660 L=L+1
670 !A$, B$, C$, D$, E$
680 NEXT I
690 !A$
700 Y=0
710 FOR I=2 TO 76
720 IF P(I)=0 THEN V=V+1 ELSE Y=Y+1
730 NEXT I
740 X=C*2*Y
750 !" "
760 !"TOTAL CONTACTS THIS LOG ",C," , TOTAL POINTS ",X," ."
770 !" "
780 !Y," SECTIONS DOWN, ",V," TO G0. ",P(I)," UNKNOWN SECTIONS."
790 !" "
800 CLOSE #0
810 END

```

\*\*\*\*\*

## HAM HUM SWAP

NO CHARGE FOR SWAP ADS (NON-COMMERCIAL) SUBJECT TO SPACE LIMITATION. MUST BE SUBMITTED IN WRITING TO P.O. BOX 291. SEE COPY DEADLINE PAGE 2.

FOR SALE: National radio transceiver units NCS-5 Mark II 200 watts input. I also have rare VX-501 remote VFO, all in mint shape. Will deal on price.  
Charles A. Michel, K0QVL, 8720 Charles St.,  
Omaha, NE 68114; phone (402) 391-3782

- FOR SALE: Kenwood TS-520. Purchased new less than 90 days ago. Transmit never turned on; receive very little. Optional Hustler 4BTV antenna. Potential ham just giving up too quickly.  
Harold Wetzel, W0FHA; phone 572-1337
- FOR SALE: MFJ CWF-2 CW filter-\$15.00; ERC SL-55 audio filter, works great on SSB or CW, variable band pass, peak and notch filters almost new-\$55.00; TRAC-electronic keyer, CMOS design. Keys all grid block rigs-\$20.00  
Joe Nanos, K0KES; phone 339-7865
- FOR SALE: Ten tec KR50 Keyer, mint condition-\$60.00  
Glenn Holder, K0TFT, R. R. #1  
Hinton, IA 51024; phone (712) 239-1749
- FOR SALE: FB Temp VHF/One 2 meter Xcvr with accessory SSB adaptor. Fully synthesized 4 MHz coverage plus 2 diode programmable memory channels. SSB has noise blanker and rcvr and xmtr offset tuning. All for only \$400.00  
Call Fred Groce, WB0BLR: day 271-4607 or nite 322-0788.
- FOR SALE: Hammarlund HQ 129X with Hallicrafters R45B speaker system; Realistic DX 150A.  
George M. Gross, WB0CIH; 1818 N. 73 St.,  
Omaha, NE.; phone 397-2749
- FOR SALE: Conset 11-B transceiver (6M); Conset 50-W amplifier; both in mint condition. Hy-Gain 6M, 5 element antenna and channel master control head-all for \$135.00. DC and AC power supplies for Galaxy 111; balun coils; micro-match; many transformers and chokes, some new; Motorola control heads (new); mikes; Simpson meter model #380; coils for BC-610; heat sets; miscellaneous equipment to give away; old radio magazines.  
Call Lou Cutler, W0VLI, 6227 Florence Blvd.,  
Omaha, NE 68110; phone 455-7143.
- WANTED: Mallard mobile coil; 40 meters, for cash.  
Swap: Kenwood R599 plus cash for Alda 103.  
Sell: New boxed VFO 520-\$100.00.  
Trade: Atlas 215 w/console for FT301 w/ps.  
Glen H. Byars, W0BNF, Box 105, Kearney, NE 68847;  
phone (308)234-2126
- WANTED: 5 band vertical antenna. Must be in good shape.  
Chuck Hoffman, WB0NVL; phone 328-6959

\*\*\*\*\*

#### AREA REPEATERS

Perhaps many local hams do not know that there is an OPEN repeater in Council Bluffs on 147.66/.06. It has been up a little over a year. It is a 2 site repeater with phone link. Transmitter power is 10 watts. It is vox operated-hence it will ID every time the carrier is turned on. Normal practice is to let carrier drop only every 3 minutes-it has squelch hold of 3-4 seconds. It will ID with W0JJK-R.



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Even without its optional "Remote Controller," the TR-7600 gives you

- Full 4-MHz coverage (144 000-147 995 MHz) on 2 meters • 800 channels • Dual concentric knobs for fast frequency change (100-kHz and 10-kHz steps) • 5-kHz offset switch • MHz selector switch for desired band (144, 145, 146, or 147 MHz) • Mode switch for operating simplex or for switching the transmit

- frequency up or down 600 kHz for repeater operation... or for switching the transmitter to the frequency you have stored in the TR-7600's memory (while the receiver remembers on the frequency you have selected with the dual knobs) • Memory channel... with simplex or repeater (plus or minus 600 kHz transmitter offset) operation • Digital frequency display (large, bright, orange LEDs) • UNLOCK indicator... an LED that indicates transceiver protection when the frequency selector switches are improperly positioned, or the PLL has malfunctioned • 10 watts RF output (switchable to 5 watts low power) • Noise-cancelling microphone • Compact size (only 6-7/16 inches wide, 2-7/16 inches high, and 9-3/16 inches deep)

The optional Remote Controller, with a built-in microprocessor, provides more operating features to the TR-7600 2-meter FM transceiver than found in any other rig! With the Remote Controller attached to your TR-7600, you can...

- Select any 2-meter frequency • Store frequencies in six memories • Scan all memory channels • Automatically scan up all frequencies in 5-kHz steps • Manually scan up or down in 5-kHz steps • Set lower and upper scan frequency limits • Reset scan to 144 MHz • Stop scan (with HOLD button) • Cancel scan (for transmitting) • Automatically stop scan on first busy or open channel • Operate on MARS (143.95 MHz) • Select repeater mode (simplex, plus transmit frequency offset, minus offset, or any of six memory transmit offsets) • Select transmit offset (1 MHz/600 kHz)

The Remote Controller's display indicates frequency (even while scanning) and functions (such as autoscan, lower scan frequency limit, upper scan limit, error, and call channel).

SUBJECT TO FCC APPROVAL

HOURS: Tues.-Wed., Fri. - Noon/5 P.M. Thurs.-Noon/8 P.M. - Sat.-9 A.M./5 P.M.