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MID ILLINOIS COMPUTER RESOURCE  
ORGANIZATION  
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BLOOMINGTON - NORMAL MICRO NEWSLETTER  
APRIL 1985, VOL. 3, No. 4

Welcome to the age of the computer in the home! Future meetings will be held the third THURSDAY of each month at 7 P.M. in room 200 Turner Hall, ILLINOIS STATE UNIVERSITY, Normal, IL. Future dates include April 18, May 16, and June 20, 1985.

\*\*\*\*\*

The program for April will consist of:

- \* Our normal business meeting.
- \* Game demonstration by Sid Smart
- \* Library program demo by Sam Shank
- \* Weight and Nutrition cartridge demo by Steve Maupin
- \* Special Interest Group (SIG) Meetings

\*\*\*\*\* PRESIDENTS NOTES \*\*\*\*\*

For those members who did not attend our March meeting, Bill Hull announced at the meeting he was leaving the club. We certainly appreciate all the work he did for the club, especially as President and newsletter editor. Being the nice group we are, we will forgive him for leaving us to spend all of his time on his Commodore 64 (well, we'll almost forgive him).

Since Bill left us without an editor, by default I am the new editor. If anyone else is interested in the job, I would be more than happy to relinquish it. If I remain the editor, I hope I will get some help in writing it. For those of you not helping with club activities, I hope you read the part in TIPS FROM THE TIGERCUB concerning "freeloaders".

We are going to start our SIG groups again at the next meeting. Sherwood Smith has volunteered to work with the basic group. We need suggestions for topics for the advanced group.

I bought all of Bill Hull's TI equipment which included many issues of Home Computer Magazine. I plan on bringing them to next meeting and selling them for a nominal fee with all proceeds going to the club.

Out of room. See you April 18. Brian McFeeters

Sam Shank announced at the March meeting that he could get four tickets to the Consumer Electronic Show (CES) at McCormick Place in Chicago. He thought the show was June 2-5. At the CES, electronic companies exhibit their latest merchandise including computer hardware and software. A "99/8" computer has been rumored to be shown for the first time. The CES is not open to the public. See Sam for more information.

\*\*\*\*\*

Sam is in the process of making a library trade with the W.W. Pipers Users Group in Champaign-Urbana. It's been some time since we have had a trade. Hopefully, we will get many new programs.

\*\*\*\*\*

Currently, MICRO has 23 paid members. In 1984, we had almost 100. We briefly discussed last month changing the location of our meetings. Since the membership has shrunk, we could meet in a smaller room. A training room at IAA has been suggested (no cost for it). We will discuss it more at the April meeting.

\*\*\*\*\*

For the March newsletter, I spent about an hour typing a program demonstration survey. I asked everyone to fill it out and bring it to the March meeting. Only one member, Steve Maupin, bothered to turn one in. I will ask everyone again, will you please fill it out and bring it to the April meeting. A club can't survive without participation by all of its members!

\*\*\*\*\*

Last month, Herb Beer demonstrated his 6 port cartridge expander that he had made. It works as well as a Widget, but Herb stated he is not making any more. This one took him several months to complete.

\*\*\*\*\*

Sid Smart mentioned that PC'S LIMITED has half-height DS/DD Teac drives for \$99 (no shipping charges). Two of them fit nicely in the expansion box. Sid, Sam and myself have ordered drives from them without any problems. Their number is: 1-800-426-5150

\*\*\*\*\*

Sid also mentioned the availability of a cartridge connector for the console. If you are having system "lockups" when modules are inserted or removed, the connector may need cleaning (rubbing alcohol and lintless swab) or replacing. The connector is available from TI for \$5.94+\$1.50 shipping. The part name is GROM Ext. Assembly and the number is 1049693-1. The address is Texas Instruments Inc., Dealer Parts Dept., P.O. Box 53, Lubbock, TX 79408.

## COPY PROGRAM COMPARISION

The copy program comparision was done by Jim Lewis, W.W.99'ers Users Group. He used a full 360 sector DS/SD disk with 15 files for the test. Also, he used a CorComp controller card set at 3ms. access time. All programs need 32K memory.

PROGRAM	TIME	COMMENTS...
CorComp disk mgr	1:11	Loads fast, works fast(with CorComp card only). Copies individual files to the destination disk without overwriting what's already there. Won't overwrite sector 0. Displays sectors copied vs. sectors left. In individual mode, tells which file it's on and how many files/sectors are left to go. Won't copy proprietary, garbage sector 0 or dead sectored disks. Full on-screen prompts.
MassCopy ver 3	2:25	Medium load time. Runs from E/A, Mini-Mem or XB. Supports 3 drives. Will make backup to 2 drives at once. Will copy prop., dead sectored/weird track/sectored disks. Will do simple initializing. Some flexibility of master and copy drives. Tells sectors copied vs. sectors left. Full on-disk instructions and on-screen prompts. This is a "freeware" program, in that the author encourages you to pass it around. If you like it, he requests you send him \$10.
Floppy Copy	2:27	Slow load time. Runs from E/A, Mini-Mem or XB. Supports 4 DS/DD drives. Will copy to 2 drives. Copies prop. and weird track/sectored disks. Allows sophisticated and fast initializing with selective tracks/sector. Full on-screen prompts. Tells passes and sectors to copy, which pass and which sectors have been copied and how many of each are left. Allows selective ending sector for weird disks.
Quick Copier I	2:25	Fast load. Different versions for E/A, Mini-Mem and XB. Supports 3 drives. Won't copy prop. or dead sectored disks. No frills.
Quick Copier II	2:23	Medium load. Loads with E/A, Mini-Mem or XB. Supports 4 DS/DD drives. Selective file copy. Won't destroy sector 0. Will initialize. Copies prop. disks. This is only one that sounds a tone when done(very nice feature). Won't copy dead sectored disks. Writes over programs on destination disk.
Copy-Cat	4:45	Slow load. Supports 3 drives. Copies prop. disks. Won't copy dead sectored disks. Extremely slow. No frills. Takes many passes. Worst of the lot!
FORTH BACKUP	2:54	Fast load (when BSAVE'd). Copies prop. disks.

## TI TIPS

-----

1. If you want to print more than 80 columns on your printer, you must change your printer open statement. You can have up to 132 columns by adding ",VARIABLE 132". However, the length can be any number as long as it does not exceed 132 (DEFAULT IS 80).

```
OPEN #1:"PIO",VARIABLE 132
```

2. To center screen printing in EXTENDED BASIC.

```
DISPLAY AT(ROW,14-LEN(A$)/2):A$
```

ROW - refers to row you want the printing on  
A\$ - variable to be printed

3. Various sounds using TERMINAL EMULATOR II

```
"KKKKK" OR "QQQQQ" - steam locomotive  
"UUUUU" OR "WWWWW" - helicopter  
"VVVVV" OR "YYYYY" - small plane  
"JJJJJJJJJJJJJJJJJJ" - machine gun  
"XXXXXXXXXXXXXXXXXXXX" - SEWING MACHINE
```

4. To line up and fix number of decimal points during printing.

```
100 X=INT((X+.005)0)/100  
110 X$=STR$(X+.001)  
120 X$=SEG$(X$,1,LEN(X$)-1)  
130 PRINT TAB(C-POS(STR$(X)&"."),".";1)-(X<0));X$
```

C - COLUMN  
X - NUMBER TO PRINT

In this example, line 100-120 fixes decimal places and line 130 lines them up. Line 100 rounds off to two decimal places. Line 110 and 120 adds zeros to make sure two decimal places are shown. The numbers in lines 100 and 110 can be changed to vary the number of decimal places.

5. Inverse video for EXTENDED BASIC - add the following 2 lines to your program. Any time you print a lowercase letter, it will appear as a inverse video uppercase letter. The colors used are blue and white, but they can be different by changing the CALL SCREEN and CALL COLOR statements.

```
10 CALL SCREEN(6) :: FOR I=65 TO 90 :: CALL CHARPAT(1,A$) :: CALL  
CHAR(I+32,A$) :: NEXT I
```

```
20 FOR I=9 TO 12 :: CALL COLOR(I,6,16) :: NEXT I :: FOR I=1 TO 8 ::  
CALL COLOR(I,16,6) :: NEXT I
```

6. When an error is made with RUN "DSK1.EX",SAVE DSK1.EX or LOAD DSK1.EX, FCTN REDO will bring the command back for editing(EXTENDED BASIC ONLY).

# DISKETTE FACTS

Diskettes consist of three separate parts brought together to form one complete unit. These three parts are: a non-woven liner, a protective jacket, and a flat, oxide coated, mylar (plastic) ring. These three parts are present in all diskettes regardless of size, 8", 5¼", 3½" or 3", or configuration, single side, double side, etc.

The non-woven liner serves a twofold purpose. First, it acts as the bearing surface for the mylar ring (media), allowing it to spin freely within the protective jacket. Second, it keeps the diskette free from lint and dust and also prevents the build-up of static electricity. This liner, through a process of both heat and pressure, is bonded to the inside of the protective jacket.

The protective jacket also serves a dual purpose. First, it protects the media from scratches and dirt. Second, it adds rigidity to an otherwise flimsy mylar ring, thus protecting it from folding or bending.

The mylar ring is the final link in the assembly of a diskette. A metal oxide coated piece of mylar is die cut to the desired dimensions, ranging from 8" to the more recent 3" diameter rings. These mylar rings are then lubricated. The lubrication process is of extreme importance since diskettes are **contact media** (the head actually rides on the surface of the mylar) and are prone to a great deal of wear.

The media is now ready to have the sector notches cut into it (see **Figure A**). The sector holes (if it is hard sector) are cut through the media, either around the inner diameter or the outer diameter. The number of holes cut into the diskette correspond directly to the number of sectors the disk will possess (i.e. 8 holes = 8 sectors, 10 holes = 10 sectors, etc.)

The media itself has only a certain band width on its surface upon which information can be stored (recorded). The band closest to the outer edge of the diskette is track 00, the innermost band is track 76 (see **Figure B**). In order to allow for head/disk contact, the protective jacket has an oblong hole cut into it called the head access hole. The disk and jacket also contain an index hole which serves the purpose of aligning the first sector with the read/write heads. The two small notches cut in the jacket on either side of the head access hole are referred to as strain relief notches which keep the jacket from pinching down on the media and hampering its free rotation when it is in use. The last notch cut in the jacket is the write protect notch. This notch, only present in diskettes that are specified "write protect," is only utilized by certain drives. This notch when left uncovered prevents accidental writing over the existing data.

A diskette is either hard sectored or soft sectored. A **hard sectored** disk has physical holes punched in it (8 holes for 8 sectors, etc.). A **soft sectored** diskette magnetically "cuts" the diskette into sectors using the computer's own inter-

nal software or an external formatting disk. Either way, sectoring is a process of dividing the diskette into quadrants.

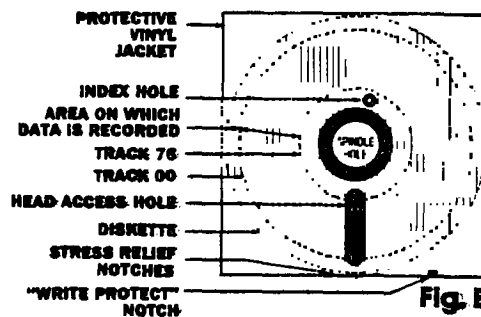
These quadrants represent the beginning and end of each sector. By sectoring, either hard or soft, a specific location can be addressed on any part of the disk (i.e. sector 2 track 17). The process of addressing tracks and sectors is called **formatting**. A **preformatted** diskette is a diskette on which the manufacturer physically addresses the tracks/sectors. An **unformatted** diskette is one on which the user addresses the tracks/sectors magnetically.

Some equipment may use any of several diskette types. In most cases, the differences between the diskettes is in formatting or in the number of sectors. In these cases, the user must specify the correct sectoring based upon past experience or information contained in the equipment or software documentation.

In certain cases, the manufacturer gives the purchaser of the equipment the option of using software that utilizes either hard or soft sectored storage. When the customer chooses either hard or soft the appropriate software is implanted within the computer itself. However, the user usually has the option to reverse this decision by going from hard to soft or vice versa. The correct diskette can often be determined by examining the reference holes punched near the hub or around the circumference of a diskette in current use. A single hole (two in the case of dual-sided diskettes) indicates soft sectoring; multiple holes indicate hard sectoring.

**An X-Ray View of a Flexible Disk**  
8" Soft sector, single sided  
(One index hole)


 Magnetic Media Concealed by Protective Jacket      Magnetic Media Visible Through Holes in Protective Jacket

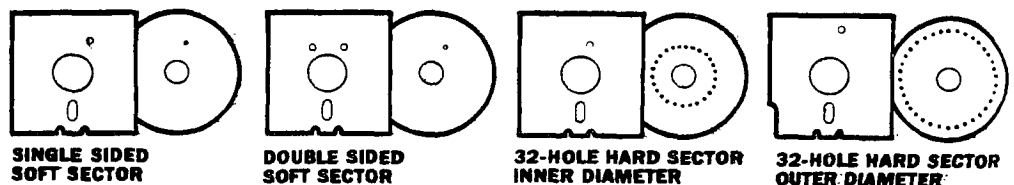


**Fig. B**

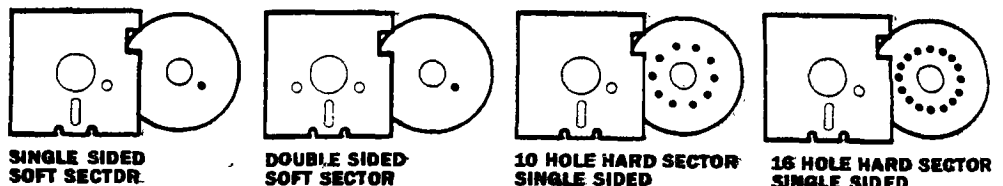
## BUYING THE RIGHT DISKETTE

Our catalog contains several brands of diskettes, and compatibility charts that cross reference computer and word processing systems to the correct diskette for them. Disk drives are often not manufactured by the company that produced the computer; therefore great care should be taken to determine the manufacturer of that peripheral.

## 8" Diskettes



## 5¼" Diskettes



**Fig. A**

# TIPS FROM THE TIGERCUB

#18

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Distributed by Tigercub Software to T1-99/4A Users Groups for promotional purposes and in exchange for their newsletters. May be reprinted by non-profit Users' groups, with credit to Tigercub Software.

My new catalog #5 is now available for \$1.00, which is deductible from your first order. It contains over 130 programs in Basic and Extended Basic at only \$3.00 each (plus \$1.50 per order for cassette, packing and postage, or \$3.00 for diskette, P&M).

The entire contents of Tips from the Tigercub Nos. 1 through 14, with more added, are now available as a full disk of 50 programs, routines and files for only \$15.00 postpaid.

Nuts & bolts is a diskfull of 100 (that's right, 100!) Xbasic utility subprograms in MERGE format, ready for you to merge into your own programs. Contents include 13 type fonts, 14 text display routines, 12 sorts and shuffles, 9 data saving and reading routines, 9 wipes, 6 pauses, 6 music, 2 protection, etc., etc., all for just \$19.95 postpaid!

New programs this month -

TC1-1058 SCRUM, now available in Extended Basic. I'm told that this challenging puzzle-game has been programmed for other computers under the name Merlin. I haven't seen it, but I don't think you can beat my version - it's 511 puzzles in one!

TC1-1137 SOUNDMAKER, a very versatile utility program to develop sound effects, then save them in the form of actual program lines. Requires Extended Basic; disk only.

I must first thank all those newsletter editors and other users' group officers who are trying so hard

to help me keep my kitchen table enterprise alive. One users group reprinted my entire catalog in their newsletter, another is putting it on their BBS, another made me an honorary life member, many others have mentioned and recommended my software in their newsletters.

Unfortunately, all that support hasn't helped very much. From reading the editorials in many newsletters, I can easily see that most users' groups consist of a few dedicated hard-working individuals and a lot of....well, frankly, freeloaders. And freeloaders don't buy software!

To borrow a few quotable quotes from the newsletters, "too many getters and not enough givers", and "users are users!". That is why users groups are fading away, software producers are going out of business, and the T1-99/4A will die before its time.

In the last Tips, I mentioned the one remaining bug in my 28-Column Converter. I have found a fix for it. The version published in tips#15 was a horrible example of sloppy programming, so I have rewritten it entirely -

```
100 DISPLAY AT(1,4)ERASE ALL
: "28-COLUMN CONVERTER" :: DI
SPLAY AT(3,12): "by Jim Peter
son"
```

```
110 DISPLAY AT(5,1): "To con
vert a program, saved": "with
LIST "DSK1.FILENAME", ": "i
nto 28-column format which":
"can be merged into the text"
```

```
120 DISPLAY AT(9,1): "buffer
of T1-writer."
```

```
130 DISPLAY AT(11,1): "Optio
nally with transliter-": "ate
d e, &, &, ^ and . for": "pri
nting from formatter": "mode."
```

```
140 DISPLAY AT(16,1): " Progr
am should be RES in": "steps
of 10 starting at 100": "befo
re LISTING to disk."
```

```
150 DISPLAY AT(20,1): " Do yo
u want to print the": "file f
rom the": " (Editor?": " (F0
```

```
160 ACCEPT AT(24,1)VALIDATE(
"EF")BEEP: W$
170 LN=100 :: CALL CLEAR ::
INPUT "what is the FILENAME?
DSK1." : FMS :: FMS="DS
K1." & FMS :: PRINT ::
180 INPUT "what is the new F
ILENAME? DSK1." : PMS :: PMS
="DSK1." & PMS :: OPEN #1:FMS,
DISPLAY ,VARIABLE 80,INPUT :
: OPEN #2:FMS,DISPLAY ,VARIA
BLE 80,OUTPUT
190 IF Q$="E" THEN 200 :: PR
INT #2:".TL 126:94;" :: PRIN
T #2:".TL 123:64;" :: PRINT
#2:".TL 125:38;" :: PRINT #2:
".TL 124:42;" :: PRINT #2:
".TL 92:46;" :: PRINT #2:".NF
"
200 IF EOF(1)=1 THEN 300 ::
LINPUT #1:AS
210 IF LEN(AS)<80 THEN LN=LN
+10 :: GOTO 260
220 LINPUT #1:BS :: IF POS(B
$,STR$(LN),1)=1 THEN FLAG=1
:: LN=LN+10 :: GOTO 260
230 AS=AS&BS :: IF LEN(AS)<1
60 THEN LN=LN+10 :: GOTO 260
240 LINPUT #1:BS :: IF POS(B
$,STR$(LN),1)=1 THEN FLAG=1
:: LN=LN+10 :: GOTO 260
250 AS=AS&BS :: LN=LN+10
260 S=1
270 L$=SEB$(AS,S,28):: IF Q$
="E" THEN 280 :: GOSUB 320
280 IF L$<>" THEN 290 :: IF
FLAG=1 THEN FLAG=0 :: AS=BS
:: GOTO 210 :: ELSE GOTO 20
0
290 PRINT #2:L$ :: S=S+28 ::
GOTO 270
300 IF Q$="E" THEN 310 :: PR
INT #2:".F1:AD;"
310 CLOSE #1 :: CLOSE #2 ::
END
320 DATA (see instructions below)
330 RESTORE 320 :: FOR M=1 T
O 5 :: READ CH$,K$
340 I=POS(L$,CH$,1):: IF I=0
THEN 360
350 L$=SEB$(L$,1,I-1)&R$&SEB
$(L$,I+1,LEM(L$)): GOTO 340
360 NEXT M :: RETURN
```

The DATA elements to be typed in line 320, separated by commas, are - the "at" sign above the 2, the left

aparsand above the 7, the right brace on the front of the 6, the carat sign above the 6, the tilde on the front of the W, the asterisk above the 8, the whatsit? on the front of the A, the period, and the backslash on the front of the Z. If you don't want to revert to FILL and ADJUST, delete the second statement in line 300.

Beware the A6 bug! The asterisk in the above program is transliterated because of an odd quirk of II-writer which causes it to change A\*256 into A6! It happened to me, and I've seen it in two published programs.

It my Autoloader gives you a couple of asterisks instead of the number of sectors, it's because you have files over 99 sectors long. You can change the image in line 170 to ### if you want to.

Here is probably the last word on the challenge to write a 1-line Xbasic program which would scramble the numbers 1 to 255 into a random sequence without duplication. This one runs in 17 seconds!

```
100 * FROM 1150FT (BELGIUM)
NEWSLETTER V.6 #4 JULY-SEPT
84 - ANONYMOUS
110 DIM K(255):: FOR I=0 TO
255 :: R(I)=I :: NEXT I :: F
OR I=0 TO 255 :: RANDOMIZE :
: CALL PEEK(-31808,J):: K=R(I
J):: R(J)=R(I):: R(I)=K :: N
EXT I
120 FOR J=0 TO 255 :: PRINT
R(J):: NEXT J
```

I believe that Craig Miller is due the credit for publishing the PEEK used in that routine. He also found a PEEK to get two random numbers, which I fooled around with until I discovered I had a mosquito trapped behind my TV screen.

```
100 * MOSQUITO by Jim Peter
son from a PEEK by Craig Mil
ler
110 CALL CLEAR :: CALL SPLIT
E(1,42,2,100,100)
```

```
120 RANDOMIZE :: CALL PEEK(-
31808,A,B):: CALL MOTION(1,
A-128,B-128):: GOTO 120
```

If you're worried about the mosquito getting out, you can put a screen on the window by adding a statement to line 110 - CALL CHAR(32,"FFFFFFFFFFFFFFFF")

Here's one for the kiddies -

```
100 REM - DANCING STICKMAN p
rogrammed by Jim Peterson
110 CALL CLEAR
120 DIM S(26),I(60),NM(60)
130 FOR CH=48 TO 80 STEP 8
140 CALL CHAR(ICH,"000028107C
1028")
150 NEXT CH
160 GOSUB 590
170 FOR SET=3 TO 7
180 CALL COLOR(SET,1,1)
190 NEXT SET
200 DATA " H 000 P", " H
000 F", " H 0 P", " 00
000000", " B 000 e", " B
000 e"
210 DATA " 88 000 ee", " H
HH000PPP", " H 8 e P", " H
b e P", "HHH b e PPP", "
8 e", " a e", " 888
eee"
220 PRINT " dancing stic
kman" :: : :
230 RESTORE 200
240 FOR J=1 TO 14
250 READ A$
260 PRINT TAB(8);A$
270 NEXT J
280 CALL COLOR(3,16,5)
290 CALL COLOR(4,16,7)
300 CALL COLOR(5,5,16)
310 GOTO 690
320 ON INT(3*RAND+1)GOSUB 340
,400,460
330 RETURN
340 CALL COLOR(4,1,1)
350 CALL COLOR(6,16,5)
360 GOSUB 560
370 CALL COLOR(6,1,1)
380 CALL COLOR(4,16,7)
390 RETURN
400 CALL COLOR(5,1,1)
410 CALL COLOR(7,16,7)
420 GOSUB 560
430 CALL COLOR(7,1,1)
```

```
440 CALL COLOR(5,7,16)
450 RETURN
460 CALL COLOR(4,1,1)
470 CALL COLOR(5,1,1)
480 CALL COLOR(5,16,5)
490 CALL COLOR(7,16,7)
500 GOSUB 560
510 CALL COLOR(6,1,1)
520 CALL COLOR(7,1,1)
530 CALL COLOR(4,16,7)
540 CALL COLOR(5,5,16)
550 RETURN
560 FOR D=1 TO 30
570 NEXT D
580 RETURN
590 F=262
600 FOR N=1 TO 25
610 SIN=INT(IF#1.059463094*N
)
620 NEXT N
630 S(26)=40000
640 RESTORE 740
650 FOR J=1 TO 80
660 READ T(J),NM(J)
670 NEXT J
680 RETURN
690 FOR J=1 TO 60
700 CALL SOUND((T(J)+100,S(NM
(J)),0,SIN(NM(J))+5,5)
710 GOSUB 320
720 NEXT J
730 GOTO 690
740 DATA 4,8,4,13,4,13,4,15,
4,17,4,13,4,17,4,15,4,12,4,1
3,4,13,4,15,4,17,8,13,4,12
750 DATA 4,8,4,13,4,13,4,15,
4,17,4,18,4,17,4,15,4,13,4,1
2,4,8,4,10,4,12,8,13,4,13,4,
26
760 DATA 4,10,4,12,4,10,4,9,
4,10,4,12,8,13,4,8,4,10,4,8,
4,6,4,5,4,6,8,8
770 DATA 4,10,4,12,4,10,4,9,
4,10,4,12,4,13,4,10,4,8,4,13
,4,12,4,15,8,13,4,15,4,26
```

I used to sign off with the hackin'', but the vandals and thie have made hacking a disreput word, so

Beowww  
The Iqercub  
Jim Peterson

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EDMONTON 99'ERS USER SOCIETY  
P.O. BOX 11983, EDMONTON  
ALBERTA, CANADA T5J-3L1

```
*****  
*      MMM   MMM   IIIIII   CCCCCC   RRRRRRRR   00000000   *  
*      MM M M MM   II       CC       RR       RR   00   00   *  
*      MM M M MM   II       CC       RRRRRRRR   00   00   *  
*      MM  M  MM   II       CC       RR       RR   00   00   *  
*      MM      MM   II       CC       RR       RR   00   00   *  
*      MM      MM   IIIIII   CCCCCC   RR       RR   00000000   *  
*  
*  
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*****
```