

SHARP MZ-80

USERS' CLUB

NEWSLETTER.

VOLUME 1 No. 1

APRIL 1981

(APRIL 1981)

INTRODUCTION

Dear Members,

Welcome to our very first Newsletter. As you already know, this is a new Club especially created for everyone who is addicted to, or wishes to become interested in, the fairly recent art form of microcomputing.

Anyone is welcome to join whether they know how to program or just want to play the games.

We have had five Sharp MZ-80k personal computers for about 8 months now, but it is only since the Club has been formed that the 'disease' has spread. People who had never even touched a computer have become addicted to our games and now our small computer room has become a battleground where future Einsteins jostle for the best position to pounce on the next available machine. Since our advertisement in "Personal Computer World" we have had many people writing to us from all over the country. Some of them want to learn the Basic(!) skills of programming for fun, others have a professional interest, and I would like to take this opportunity to thank these people and I hope that many more people will become interested.

Now I would like to introduce you to our Committee:

PRESIDENT—Paul Chappell—(that's me).
 SENIOR PROGRAMMER—Joseph 'The Brain' Kam.
 RESIDENT PROGRAMMER—Karl Cloake, (who seems to be a permanent fixture in the computer room and who may, one day, finish his Space Invaders).
 Mr. MEMBERSHIP SECRETARY—Tim Jarvis.
 COORDINATOR—B. Thomas.
 NEWSLETTER EDITOR—Rob Jones—(also the business man).
 NEWSLETTER PRODUCTION TEAM—Melanie Tuke, (the person to blame for this Newsletter).

To the members who use the computer facilities: At least one or two of these members are available (Karl is always available(!)) to answer any problems.

To all those pen-tottins members: Please write to us with your problems, and ideas for programs, and any other comments; after all the Club exists for your benefit.

Address all letters to:
 The Sharp MZ-80 Users Club
 Computer Centre (GH2)
 Yeovil College
 Goldcroft
 Yeovil, Somerset

Finally a word about meetings, which will take place on the 2nd Friday of every month, from 4pm, (except July & August), at the above address. Refreshments will be available, & all members, (& non-members who are willing to join), are welcome. Members should give notification of impending visits.

P. Chappell

This Newsletter was typed with the aid of a Text Editor & formatter. The next one will be better, now that we all know how to use the formatter; if demand is great we will use conventional mass-production techniques to achieve a professional finish.
 (Next Publication 1st July 1981).

MEMBERSHIP SECRETARY'S REPORT

At the time of writing the Club has approximately 120+ members, many who come from Yeovil College and the surrounding area. However since the Club was publicised in "Personal Computer World" we have had many enquiries from different parts of the country, and although all these members may not be able to attend meetings and use the Club's equipment, we hope that they will still benefit greatly from the Club.

We offer many advantages to our members: to the beginner, or person who has just purchased a machine, we can give advice on the use of the machines and programming in Basic or Assembly Language. To other members we can again offer advice on programming, listings of Club programs, (useful programs as well as games for your Shares), and the Newsletter.

There are also, of course, the advantages of joint problem solving and keeping in touch with all the advances in software and hardware.

To the member who is near enough to visit the centre in Yeovil we can offer the use of equipment, at present during the day until 6pm, but when demand necessitates we hope to be able to open the centre during the weekends, refreshments will be available.

Finally, the more members we have, the more people there are working for us to produce programs and give help. So if you know anyone else who may want to join, please give them our address, we will be pleased to hear from them.

Tim Jarvis

WARNING TO SHARP USERS

Beware temperamental Cassette Drive Mechanisms. Failure to ensure that both spools move correctly can be costly. Two members of the Sharp Club have lost tapes this way. If Cassette ejection mechanisms jam you will require an experienced surgeon to remove the cassette and mangled tape. Keep heads & all moving parts clean.

PROGRAMS FOR THE MZ-80

First Edition: XTAL v Sharp Basic

Our MZ-80's normally use only the Xtal Basic Interpreter. In this introductory article a number of reasons will emerge, to be expanded in future Newsletters, according to the interest expressed by members of the Sharp Users Club, (you'll have to tell us of your interests).

The claims by the authors of this preferred interpreter are modest: reduced demand on RAM memory, (all our machines are 48K in any case), similar running speed and slightly less arithmetical accuracy, etc.

However it does offer:

(1) Greater control over the MZ-80, using Xtal 'bus' which is loaded with the interpreter; now we can freely modify the interpreter and make copies of it; moreover we can access and tabulate any area of memory as well as using the cassette device for reading and writing programs in Machine Code. For this reason alone we would use Xtal Basic exclusively. (see Basic listings which uncodes a user specified area of memory).

(2) IF...THEN...ELSE statements are a useful feature, (some semblance of structure then appears in our programs, is less number of GOTO statements), especially when we wish to use programs written for the APPLE(?), TRS-80 & PET. The syntax, (& possible limitations of this statement), will be explored and examples given in the next Newsletter.

(3) Convenience of translation: We are finding programs written for other computers translate easily, so much so that we are developing an automatic translation program, (with the assistance of a RML3802 & a serial interface board), in this respect PRINT @ X,Y,A# deserves special mention. It offers a useful measure of control of the moving cursor. All our programs make use of it for reasons of convenience: SET, RESET, POKE, PEEK are still available.

(4) Exit from subroutine using FOP statements to any line number.

(5) User defined functions in Machine Code.

(6) As well as all the original features & graphic characters of the Sharp Basic.

Special note:

(1) AND, OR, NOT may be used in logical expressions.

(2) CLEAR is required for string space.

(3) To accept a single character from the keyboard use INCH or KBD

(4) INP, OUT, WAIT can be used in conjunction with laboratory equipment.

We use the versatile SHARP printer, which requires a suitable subroutine to be written into the interpreter, which at present, (subject to change), occupies 1200H-3900H. Basic text programs now load at 3900H; this can be changed easily. A conversion program CONU can be used to convert programs written in SHARP format. It is true that we struggled with the SHARP tapes, (Assembler & Machine Code), for a few days before we abandoned them in favour of XTAL & ZEN.

Future articles will:

(a) Give samples of all available statements & functions.

(b) Look at available software applications.

(c) Explore all possible applications which will aid the hobbyist to make use of the M280 computer.

(d) Suggest ideas for peripheral devices & communication with others, & examine the many advertisements which offer extras for the M280 computer.

Brian Thomas

**** Xtal Basic is available from : ****

Crystal Electronics
40 Masdalene Road
Torquay
Devon
England
Tel: (0883) 22699

TECHNIQUES TO SPEED UP BASIC PROGRAMS

As you can see by the title, the topic to be discussed is how to exploit BASIC for every MICRO-second of its Execution.

Tech.1: NEVER place inside a loop any instruction that need only be carried out once.

Tech.2: NEVER use a constant where a variable will suffice.

Tech.3: ONLY erase the variable after the program is working.

Tech.4: ADDITION & SUBTRACTION are carried out quicker than multiplication or division, & these in turn are quicker than +, SQR, SIN, LOG etc.

Tech.5: USE multiplication to replace exponentiation.

Tech.6: TRY TO USE BASIC OPERATIONS EFFICIENTLY & EFFECTIVELY & TO THEIR FULLEST EXTENT.

Examples in next Newsletter.

Special functions available on other machines

```
PET : PRINT"R" ;print the following characters in reverse field
      PRINT"_" ;return from reverse field
      PRINT"S" ;move cursor Home
      PRINT"Q" ;move cursor down one line
      PRINT"]" ;move cursor one character to the right
      PRINT"@" ;Clear screen
**All the above symbols are in reverse field
PRINT TAB(X) ;move cursor to the Xth column instead of printing X spaces
POKE 59468,14 ;change to lower case characters(a-z)
POKE 59468,12 ;change to upper case characters(A-Z)
SCREEN MEMORY ;32768-33767 (8000H-83E7H)
More information of this nature will be given in future editions.
```

PROGRAM LIBRARY

At the moment, the club's library is categorised into 10 volumes, as listed below:

<u>VOLUME</u>	<u>PROGRAMMES</u>
1	Games written in Basic
2	Business Games
3	Business/Economic Packages
4	Statistics
5	Mathematics
6	Science
7	Engineering
8	Music/Graphics
9	Machine/Assembly Language
10	Special Applications

LETTER PAGE

As with all good papers/Newsletters we intend to give you, the reader, the opportunity to participate in this Newsletter. Although Marjorie Proofs was not available, I'm sure Brian T. will do an excellent job in answering your letters. If there are any questions or comments you wish to put forward about any aspect of computing, including the Club, just drop a note to Brian. All letters will be answered if a S.A.E. is enclosed, and any letters of interest to other members will be published in the next edition, (providing that they are suitable!) Please do participate, even if it is only to tell us how bad the letter is! For openers, how about comments on having a membership fee?

Competition for the best program

To help encourage good programming within the Club a competition will be run each term. Anyone wishing to enter the Summer Term Competition will have to submit a program, (1 per member), to Mel Tuke by 28:05:81. The program will be judged on the points listed below by the committee, who will not enter the competition, (well, we have to give you a chance!). The results will be published & the best 3 programmers will be notified of their success. There might even be a prize!

<u>POINT</u>	<u>MARKS</u>
--------------	--------------

Originality	30
Practical Use	30
Efficiency	15
Use of language	15
Neatness	10

100

(A copy of your program on cassette would be helpful; it would be returned).

SPOT THE MISTAKE

For the beginner, (or those too lazy to write a WHOLE program!), we have a special competition. Listed below is a program with a number of mistakes in it. The idea of the competition is to find the mistakes, a kind of intellectual Hunt the Thimble! We shan't tell you how many mistakes there are, (Karl can't count!). The final entry date is 28:05:81; entries to be given or sent to Mel Tuke, (Miss) at the Club address.

The Committee's decision is final.

```
0 REM TO SEPARATE NAMES & AGES
1 REM COMPETITION FOR SHARP USERS CLUB
2 REM WRITTEN IN SHARP BASIC
4 CLS
5 PRINT TAB(8); "NAME"; TAB(20); "AGE"
6 PRINT TAB(8); "----"; TAB(20); "----"
10 CLEAR 1000
30 FOR X=0 TO 10
40 READ A$(X)
50 L=LEN$(A$(X)); FOR F=0 TO L
60 X$=MID$(A$(X), F, 1)
65 A=ASC(X$)
70 IF (A>47)*(A<58) THEN Q=F; F=L
80 NEXT X
90 PRINT TAB(8); LEFT$(A$(X), Q-1); TAB(20); MID$(A$(X), Q, L-Q+1)
100 NEXT X
110 PRINT; PRINT "ANOTHER RUN(Y/N)?"
120 GET A$
130 IF A$=ASC("Y") THEN 4
140 IF A$=ASC("N") THEN 160
150 GOTO 120
160 END
300 DATA PETER16, MARK22, PAUL20, BRIAN75
310 DATA MEL18, JOHN33, ROB10, JAMES145
320 DATA JOE90, KAY9
```

(Give the correct line, with the line number, where there is a mistake.)

MESSAGE FROM EDITOR

After setting up the Sharp Users Club it was decided that the committee will have some form of communication with the members, & that everyone will have an idea of the reasons & actions of THEIR club. This first Newsletter has set the scene by telling you about the club, but is made up of many aspects such as the competitions, programming hints & the letter page which we hope to continue. The Newsletter should provide you with information about the club, & through the letter page, the opportunity for you to give your comments on both the club & the Newsletter.

Hope you have enjoyed reading the first edition of the Newsletter & we look forward to the second edition next term.

R. J. Jones

SAMPLE PROGRAM TO DUMP MEMORY IN BOTH HEX. & ASCII (Xtal Basic)

```

10 CLS: CLEAR 100: DIM C$(256), T$(16)
20 FOR I=0 TO 15: READ T$(I): NEXT I
30 DATA 0,1,2,3,4,5,6,7,8,9,A,B,C,D,E,F
35 FOR I=0 TO 15: FOR J=0 TO 15: C$(I*16+J)=T$(I)+T$(J): NEXT: NEXT
40 INPUT "Starting Address (Hex.)=" : S$
50 INPUT "Last Address (Hex.)=" : L$
60 L=L-1: S=S+1: FOR I=1 TO 4: A$=MID$(S$,I,1): B$=MID$(L$,I,1)
70 FOR J=0 TO 15: Z$=T$(J)
80 IF A$=Z$ THEN S=S*16+J
90 IF B$=Z$ THEN L=L*16+J
100 NEXT: NEXT: CLS
110 FOR I=S TO L STEP 8: ?C$(INT(I/256)): C$(I-INT(I/16)*16): " ":
120 FOR J=0 TO 7: Z=PEEK(I+J): IF Z>31 THEN T$(J)=CHR$(Z): ELSE T$(J)="
130 ?" ": C$(Z): : NEXT: ?" "
140 FOR J=0 TO 7: ?T$(J): : NEXT
150 A=I-S: IF A/24=INT(A/24) THEN A=INCH: CLS
160 ? : NEXT: ? : ?
170 ? "Any More ? " : A=INCH: IF A=ASC("N") THEN END
180 CLS: GOTO 40
190 REM CLS - CLEAR THE SCREEN
200 REM A=INCH - WAIT FOR A KEY TO BE PRESSED
205 REM AND RETURN THE ASCII VALUE IN A
210 REM
220 REM PROGRAMMED BY JOSEPH KAM

```