



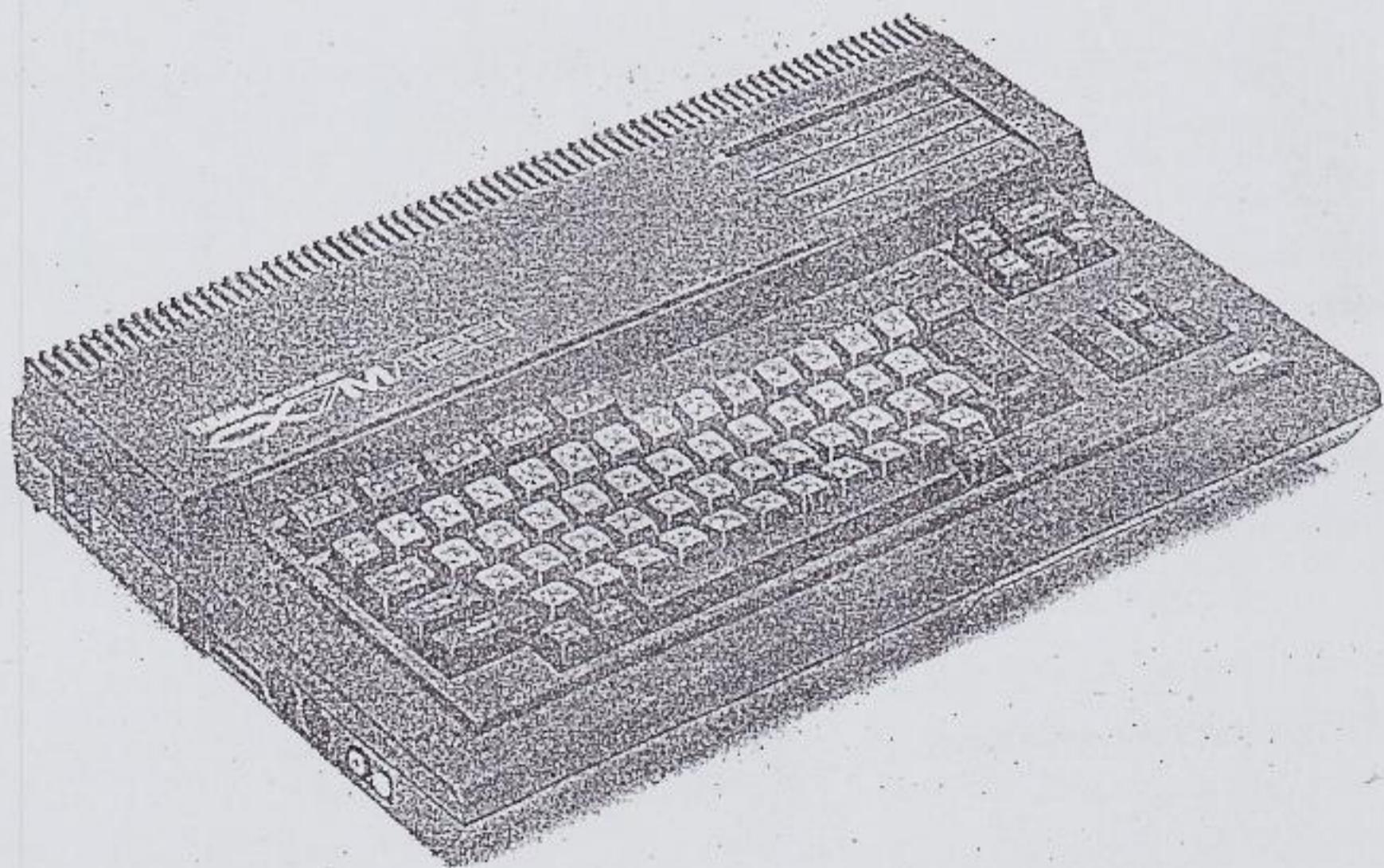
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THE ONLY AUSTRALIAN MAGAZINE FOR **MSX**
AND SPECTRAVIDEO COMPUTERS SYSTEMS

The
MSX
Standard
The New Computers



Yamaha's CX7M/128 is one of the new generation of powerful MSX-2 standard computers.

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EDITORIAL

Well, here we are late again, I certainly seem to be having trouble getting back on track here, and this issue I cannot even blame PETER or anyone but myself for being so far behind.

ROSS is back with us this issue under the heading MSX NEWS and PETER is wandering into new fields for a bit of a change, this issue he delves into RANDOM FILES. CRAIG continues with his BASIC column and we have some exciting NEWS on page 20. We have some more program reviews and games instructions, listings and an upgraded shareware list.

Being so close to CHRISTMAS we have decided to have a special offer on our shareware, purchase two games and choose one free, or two utility programs and choose one free, plus the usual charge of seven dollars per order for pack & post.

My children received their SONY MSX II+ computer from JAPAN in OCTOBER, as of now they are still waiting patiently for me to purchase an RGB MONITOR so that they can play on it. The first thing I did upon unpacking it was to get a screwdriver out and pull it apart. I was curious to see if it could be upgraded in the RAM department on board like the SANYO's (128K), or the PANASONIC's (256K), alas, it is 64K only. Looks like I will have to get a memory mapped expansion ram board for it if I want them to be able to use the MEGAROM copied games. The SONY is quite an attractive machine and looks better in person than it appeared to be in the ASCII magazines. As was the case with both the MSX I & MSX II SONY's the keyboard has a good light feel to it, the built in drive is quiet in operation and all up the machine is well finished.

I also received my HAL HANDY SCANNER, and it would be too if I could work out how to use it, anyone out there that can read JAPANESE and would be willing to translate the instruction manual for me? I would be most appreciative.

Work is slowly progressing on the upgrading of the SVI-738's to MSX II standard, we have managed to source a calender-clock chip and by next issue I am hoping I will be able to tell you if it has been a success or not. As with all hacking though, you cannot plan a timetable for these things.

We may also be able to tell you how to make a memory-mapped ram expansion board in a future issue, work has begun on the experimental construction of one of these. One of these would be handy even on MSX I computers as we have MEMORY-MAPPED COPIES of some MSX I MEGAROM GAMES and with a memory-mapped ram expansion it would be possible to play these games on MSX I's equipped with disk drives.

Although another issue is due out by the end of DECEMBER, I will not make any rash promises about being back on line, and I will pass on all of our BEST WISHES to you and your families for CHRISTMAS and the holiday season, we thank you for supporting us and hope to keep you up with the news and views in the coming NEW YEAR.

Keep Safe, and Stay Computing.

MARK SANDS

LETTERS

Dear MARK, CRAIG, ROBIN, JASON, PETER, ROSS, BRIAN:-

And everyone else involved in Micro's Gazette, keep up the good work.

After having a few problems with some of the games, especially with the translation of instructions in certain games, I hunted around and found a friend who could get some SPANISH translated, so for anyone who has had problems the following may help.

TECLAS - TECLADO	:- keys (cursor), or keyboard
JUGAR - JUGADOR	:- play, player or players
PATADA	:- kick
GOLPE	:- hit or punch
PAUSA	:- pause, stop
DISPARAR PARA JUGAR	:- shot for play (shoot to play) or maybe press fire to play
UNA TECLA PARA	:- one key for (?)
NIVEL	:- level
NOVATO	:- unexperienced
CAMBIAR	:- change
NOMBRES	:- names
ELEGIR	:- choose
CAMPO	:- field
IZQUIERDO	:- left

I think that should cover most of the Spanish to get most people started.

Also for the technically minded Music players, Tandy's Archer Semiconductor Reference Guide has a fairly comprehensive layout on the AY-3-8910A PSG Sound Chip as used in our MSX Computers, those interested should check it out.

ROGER LANDRIAT
INGHAM, QLD.

Dear MARK,

As a help to those who play the game, CHAMPION LODERUNNER, I have sent you the following passwords :-

1. TPOZ	2. NIEHAO	3. LATTATTA	4. RUNRUN	5. DROLHOLE
6. BROTHERS	7. MOUNTAIN	8. UPNDOWN	9. DMAJEM	10. JARITEN
11. PLUS	12. IBM	13. KAITA	14. WIZYYYYS	15. HEYHEY
16. HOYOYO	17. HIKARU	18. FALLMNT	19. WHAT	20. MNIIITANI
21. RABBIT	22. SKELTON	23. PACFUJI	24. TRIBOXES	25. HOLES
26. AMIDA	27. TARU	28. PACKAGE	29. IDONTNO	30. FLOWER
31. CASTLE	32. HARP	33. WAOMAO	34. BOMB	35. APPLE
36. WING	37. COMPILE	38. LODENOYQ	39. INVADER	40. JANUS
41. LASTONE	42. COLLYBIA	43. LEPIOTA	44. PAXILLUS	45. ECCILIA
46. ENTOLOMA	47. LENTINUS	48. LINITOCA	49. RUSSULA	50. NYCTALIS
51. COPRINUS	52. PHORIOTA	53. PSATHYRA	54. AMANITA	55. PANUS
56. LEPTONIA	57. VOLVARIA	58. FLAMMULA	59. AGARICUS	60. SEFMECSI

NOTE: THE NUMBERS ARE THE LEVELS YOU CAN SELECT

To select a level, push the SPACEBAR and the word 'PASSWORD' will come up, type in the word of the desired level and then press the SPACEBAR again.

BRIAN LEONARD
CLARENDRONVALE, TAS.

MSX MUSIC

BY PETER NIELSEN

MSX MUSIC

Has been postponed till next issue.
In it's place (by popular request) is an article on :-

RANDOM FILES

Hi to all disc users out there in MSX Land. Your disc drive has certainly speeded things up from the cassette days, (make a cup of coffee while the program is loading !), but if you are still thinking in terms of sequential files in your basic programs then you can speed things up even more by using Random Files.

To explain to any one who is just getting into basic programming and using files, a record is any number of characters from 0 to 255 followed by an End Of Record marker. There are a number of characters that can be used as an EOR markers, (commas, CHR\$(13), CHR\$(10)+CHR\$(13)) but I will leave that and the relevant commands to be explained in our continuing BASIC articles. A sequential file is a number of records (can be of varying length), written to disc under a file name, (e.g. "TEST.FLE" or "NAMEADDR.ASC") that can only be read back by starting at Record 1 and reading EVERY RECORD until you get to the one you want. Something like a cassette tape full of songs, but you don't have a fast forward or reverse button, and so you have to listen to every song until you hear the one you want. This system of loading records into memory is O.K. if you want to load ALL the records, but is painfully slow if you want record 1500 in the file. The other disadvantage is that having written the file, you cannot change any record without first reading in and storing the records preceding the one you want to alter, altering the record you want, and then filing the stored records and the remainder again. It can be done by a bit of fancy programming, but as you can imagine, it is very messy and time consuming.

Now enters the RANDOM file which allows you to go straight to any record in the file, GET the record, do what you need to do with it, and if you have altered it, PUT it back in the file without disturbing the other records. It takes no longer to get record 1500 than record 2 and thus makes large files accessable.

I would like to point out at this stage that any file written as a sequential file CAN NOT be OPENed as a random file, but a file written as a random file CAN be OPENed as a sequential file or a random file. If you use different file numbers it can even be OPENed in BOTH MODES AT THE SAME TIME !!

It is also an integral part of the random file that the length of the record be specified when you OPEN the file as this is how the computer calculates where a specific record is located in the file. (LEN =) If no length is specified the computer will set the length at 256.

In the following commands I will put spaces between the words for readability, but as in ALL MSX BASIC commands, these are not necessary for correct operation.

Now to the commands required for a random file

OPEN "FILENAME" AS #1 LEN = 100 will open the file ready for access and will GET 100 characters for each record.

You MUST tell the computer how you want to split up the 100 characters before you GET any records (even if you dont want to split it !) by using a FIELD statement. The FIELD statement could be :-

FIELD #1, 100 AS REC\$ and REC\$ would contain the whole record, or

FIELD #1, 20 AS SURN\$, 20 AS CHRN\$, 40 AS ADDR\$, 10 AS TEL\$, 10 AS AMOUNT\$

The FIELD statement assigns the given number of characters to each string and will do so even if BOTH FIELD statements are used at the same time. It is possible to have as many FIELD statements for the one file buffer as you require to deal with each record, but each name used MUST be a STRING. You can convert numbers later in the program if necessary by using e.g. OWING = VAL(AMOUNT\$)

Once the file has been OPENed and FIELDed you can obtain any record in the file by using GET #1, record number

GET #1, 234 will get record 234 (the 234th block of 100 characters) in the file and assign it to the variables as instructed by the FIELD statement ('s)

PLEASE NOTE that the record is still in the file and will remain there until it is over written with a PUT command. GETting a record only copies the record to the names in the FIELD statement.

Just the same as with sequential files, the file number must not be greater than MAXFILES = (which should appear very early in your program), and the file you have opened should be CLOSEd when you have finished accessing it. CLOSE#1 will close the file that we OPENed previously, and CLOSE will close all files.

A CLOSE command cancels the FIELD statements, so if you OPEN the file again, you will have to FIELD it again.

Before a record can be placed in the file it must be re-assigned using the LSET or RSET commands and this is where most people who have tried using random files have come unstuck. I nearly went batty for a while, (He still is ! Ed.) but I think I finally figured it out as what I have been doing for the last five years seems to work without problems. I have currently got custom built data bases for about 10 organisations, and one has about 430 members with the 200 byte record for each member split into 19 fields.

The difficulties arise because it appears that the string names used in a FIELD statement are NOT VARIABLES, but are treated by the computer more as a CONSTANT that can only be altered by the GET and the SET commands. I made a rule NOT TO USE NAMES THAT HAVE BEEN USED IN A FIELD SATEMENT, ANYWHERE ELSE IN A PROGRAM. Even in another FIELD statement applying to another file number ! The computer seems to remember the name and it's last contents even after the file is CLOSEd !!!!.

I have since discovered that the computer allocates a random file buffer area to the names used in the FIELD statement, and the LSET and RSET commands transfer data to this area. This explained the idiosyncracies I got caught on. The data would remain in the area with it's name tag attached and using that name elsewhere would produce the data.

To save time and memory space, I usually set things up in the first few lines of a program e.g

```
20 MAXFILES = 4 'as many files as you want to be OPEN at the same time
30 DEFINT A-Z   'computer only stores whole numbers in all variables
                  saves memory as each one only requires           (2 bytes)
31 DEFSTR F,Q,R,'any name starting with F,Q or R is a string
                  'don't have to use $ signs for these strings
32 DEFSNG M    'overrides line 30 for variables to store decimals (4 bytes)
33 DEFDBL T    'overrides line 30 for exact calculations        (8 bytes)
```

In the rest of the program I use FA(1), FA(2) etc. in the FIELD statements for file #1 and FB(1), FB(2), etc in the FIELD statements for file #2, and so on until MAXFILES. Therefore, when I GET a record from file #1 I know that the record is in the strings FA(1), FA(2) onwards to however many items I have FIELDED for file #1.

In the early example I had a record consisting of Surname, Christian name, Address, Telephone number and Amount. Once I have got a record from the file, I place the information in working variables for manipulation, and so I would program the following.

```
FOR X = 1 TO 5 : FW(X) = FA(X) : NEXT X
```

This transfers the contents of the FA file block to the FW array and I then make any alterations to the FW array depending on whether the inconsiderate person has moved FW(3), or Telecom have built a new exchange and changed the phone number FW(4). The FW array is a work array and is not connected to any particular file, so you can transfer other file records into this array for change etc. This method has a side benefit that will become obvious later.

To store the corrected record, each item must be placed in it's FIELDED area and this is done by the LSET or RSET commands. LSET will left set the data in the area, and fill the remaining area with trailing spaces. RSET will right set the data in the area and fill the remaining area with leading spaces.

If we use the early example, the record would look like this :-

			LEN=100				
	20	20		40	10	10	
LSET	surname	christian name	address	tele no.	code		
RSET	surname	christian name	address	tele no.	code		

BEWARE - an error message can occur if the length of the item data exceeds the FIELD area.

I find that in most of the applications I am using, that LSET is the most suitable, as I can simply GET the whole record and LPRINT it in it's FIELDED layout and get a neatly lined up list of names etc.

To place the data in the file buffer I use the following command

```
FOR X = 1 TO 5 : LSET FA(X) = FW(X) : NEXT X
```

Using the FW array as the work array has the benefit that your current record is always in the same place, and if you want the record to go to file #2, then the above command with FA altered to FB will transfer the data to the #2 file buffer.

To place a record in the file you use the PUT command and the format is the same as the GET command i.e. PUT #1, record number. If we were to use the previous example of getting record 234, to replace it with the changed record we would use :-

```
PUT #1, 234      Simple isn't it ?
```

For the sake of tidiness I set up the OPEN and FIELD statements as a sub routine, the LSET and PUT commands as another sub routine and for safety reasons I use a different sub routine for each file number that I am using.

You could set the last field as equal to CHR\$(10)+CHR\$(13) so that when you OPEN the file in sequential mode you get only one record with each INPUT#. If you haven't got an end of record after each record you can still get the exact record in sequential mode by using ?? = INPUT\$(LEN, FILE #) or for our previous example FA = INPUT\$(100,1)

As you can see, it is very easy to use a random file and GET and PUT records. It just takes a bit of planning to judge the size of the total record and the length of each field. I always allow more length for the record than I think I need and also more fields. The computer stores the extra on the disc as blank spaces, (There's plenty of disc space) and it does allow you to add extra data to the record without having to re-write the complete file. (One Club have changed their data requirements five times !)

I'm sure that you will find that the extra work of setting up the FIELD and SET commands for a random file is more than recompensed by the speed and ease of accessibility to any record, regardless of the length of the file.

I trust that this article has made the murky waters of random files a little clearer, and has been of some help to our MSX BASIC programmers.

Peter Nielsen

DISK CRASHES

The following may be a few of the reasons that you get that "un-explainable" CRASH or find you have lost part of the data in a file.

The disc controller stores in its memory, the directory of the disc that is in the drive. The disk drive has a switch that should tell the controller that the disk has been removed and replaced. I have three disk drives, and on all of them at different times, the switch has failed to signal the logic, (or the logic is flawed and takes no notice).

The consequences of this is that a disc operation (other than FILES) can be carried out on a new disc with the old disc's directory as a reference. Unless the two discs happen to be identical in directory and data (and that's improbable) you can get either :-

1. Wrong information on a LOAD or INPUT operation.
2. The read head is looking in the wrong place and gets "screwed up" with repeated tries and damages an area of the disc.
3. Correct information written to the wrong area of the disc and thus not retrievable.
4. The directory of the first disc written onto the second disc.

All the above are a definite "DISASTER"

Removing a disk from the drive with a file still OPEN is asking for trouble. If the disc is removed and a new blank disc is inserted and then the file is CLOSEd or the program altered, the controller may write onto the new disk, the directory that is in it's memory.

NOT THE FILES !! JUST THE DIRECTORY !!

Another "easy to happen" disaster for BASIC Programmers is when you have a number of programs on the disc and you decide to "improve" program 2. After

loading the program and adding another 100 program lines, you have increased the size of the program by possibly 4000 bytes. You dutifully SAVE it under its original name and the controller consults the directory, finds the name already there and is forced to write it in the same place on the disc regardless of the fact that the program is too big to fit and it is consequently written over the start of program 3 !!!

There are two safe ways

1. SAVE the new version under another name

2. KILL the original and then SAVE it under the original name.

This allows the controller to decide if a program will fit in the clear space between other programs, and if the program won't fit, the controller will place it after the last program

THE SAME THING CAN HAPPEN WITH TEXT FILES ON SOME WORD PROCESSORS !!

I don't know about other disc drives, but the YAMAHA FD-05 has TWO definite bugs.

First bug goes something like this :-

Disc has 5 sequential files following one another. OPEN file 3 FOR APPEND and write another 400 records (each 256 bytes) to the file. You will probably find that when you access files 4 or 5 that you have got either garbage, file 3 or you get a CRASH.

The second bug is for the Music arrangers when using the YRM-501 COMPOSER cartridge.

Regardless of the fact that the BASIC book says you can have 256 files on a disc, a YAMAHA FD-05 will only accept about 108 to 112 files. With the COMPOSER cartridge in the machine, you don't even get a DISC FULL error message. The last arrangement you SAVE that goes over the limit, simply WRITES OVER THE TOP OF THE DIRECTORY !!!

AND YOU LOSE THE LOT

It's true ! It has happened to two musicians that I know about. About 80 hours of work down the tube.

Like the lady who backed into the circular saw:- DIS-ARSED HER

Cheers

This bumper series of articles is to bring you up to date on MSX news and information. Due to a very hectic schedule of new house, work, writing an accounting package and family commitments my regular article did not make the last edition of Micro's Gazette.

I shall be taking time to answer the many letters sent to me as the result of previous articles in MSX Micro's Gazette under MSX THE SYSTEM.

1. Powerful Dbase Management is available for MSX.

- a. The software is called DBASE II.
- b. Dbase will work in 40 Column. This includes a text editor for creating programs.
- c. Dbase is available from library. Please request this item from library. This will work on all MSX computers with MSX-DOS with disk drives.
- d. You can program this just like BASIC but it is very different from BASIC. In fact this 'language' is so powerful you can write solid accounting packages with it.
- e. We will start the articles on DBASE II (a remarkable piece of software) next edition.

2. Re: Upgrade MSX I to MSX II.

Now to answer all those NEGLECTED upgrade requests. Sorry for such a belated reply. Letter demand for the upgrade kit were so few that I suggest you WRITE DIRECT to the WEST GERMANY address found later in this article and please read carefully the following paragraphs.

The upgrade mentioned in previous Micro's Gazette was a Cartridge that plugged into ANY MSX I computer. It could be a Sony HIT BIT, Pioneer, Toshiba, Yamaha or an Express 738. It is unfortunate that many interpret articles on the basis of the brand or model of MSX computer that they own. The cartridge came from Germany. It was a plug in 'cartridge upgrade' for the standard MSX expansion slot. The Express 738 and a late Yamaha model are MSX 1.5 machines. Because of some (STRESS SOME) MSX II hardware is these TWO machines, you can perform your own HACKER (STRESS HACKER) work on them to bring them upto MSX II standard very economically.

I present to those who are BRAVE, A HACKER AT HEART, AN ELECTRONICS BUFF and those who HAVE ALMOST SUCCEEDED in converting an EXPRESS 738 to a MSX II.

Acknowledgements are in order.
Many thanks to MSX INTERNATIONAL for the following article.

Read on.....

You will need the following:

Eproms marked "MSX 2" and SUB-ROM" (I understand that these should be additional commands in any MSX II machine), I do not know what is meant by SUB-ROM ???.

4 RAM CHIPS xx464, 64 times 4 Bit

STEP 1. Purpose : To increase VRAM from 16k to 128k.

Remove the two existing VIDEO RAM CHIPS placed as IC 22,23 and 24 or 25. The new RAM chips are to be socketed to IC 22 to 25. Now there ARE DIFFERENCES at this this STEP 1 !. If your model 738 has only room for two then you will have to piggy-back the chips.

Make PIN 16 on each piggy back chip point upward. (Please be careful as these PINS BREAK EASILY!). Then proceed to cut the thinnest part of the chip. Chips must face the right way as WELL!.

The PIN 1 should be the notched (marked) end pointing at the CARTRIDGE SLOT.

To complete and make this piggy back chip set work :

(The piggy back method may not be necessary due to the fact that ALL MSX 738 models come with four sockets on motherboard)

Connect PIN 16 to PIN 16 of the two chips together.

Connect them to IC-37 (MVDP Chip PIN 60), Recommended to attach a 4k7 ohm resistor from this to a +5 volt

STEP 2. Purpose : To add MSX BASIC II additional commands.

Take out the EPROM IC-51 and replace it with the one marked "MSX-2". (This contains the main part of MSX II BASIC)

STEP 3. Purpose : To access IC's for important modifications.

Take out the IC-50 DISKROM and cut IC-63 Pin at the PCB surface and turn it to a horizontal position. Connect this pin to IC-45 pin 9 (A15).

Disconnect the connection between IC-50 Pin 27 and Pin 28 at the upper side of the PCB. (You may have to solder out the IC socket.) NOTE: THERE MUST BE NO, REPEAT NO! CONNECTION BETWEEN HERE AT ALL. Pin 28 is +5volt and it can do a lot of harm. SMOKE!

Now place a IC-socket to board upper side connect pin 27 to IC-51 Pin 27 on the downside of PCB (A14).

Now place EPROM "SUB-ROM" as IC-50. Replaces the old DISKROM.

STEP 4. Purpose : To test MSX Express Computer.

The MSX II logo should come up VRAM of 128k should be written under this logo. The machine should then switch into DISKBASIC.

If all of the above three things are happening you now are the proud owner of an MSX II machine.

STEP 5. Purpose : To trouble shoot failure of MSX II conversion.

You get only 64k of VRAM: Piggy BACK version should have Pin 16 connected to Pin 60. Check also that IC-22 to 25 are placed in correct direction.

Diskbasic does not work: Check whether IC-63 Pin 14 is connected to IC-45 Pin 9

Black Screen or hanging: Find out whether or not TAPE release is clicking normally. If it is then there is a problem with SUB-ROM. Turn your machine off IMMEDIATELY!! DID YOU DISCONNECT the IC-50 Pin 27 from Pin 28!!.

Software testing: Replace MSX II replacement and put back the original IC-51 and see if computer reverts back to a MSX I.

If it does you are very close!!.

Advice is to use some kind of machine code monitor and examine SLOT 3-1. address 0000-4000. You should find the SUB-ROM.

3. News of further hardware being built from abroad.

ALL copied MSX II MegaROMS will not run without 256K user RAM. Quite a few users in Europe have made 256k memory boards with MSX memorymapper for the Express 738. Most MSX II programs will simply not run without this memory upgrade. Many are obtaining HARD DISK units for their MSX from Germany. Comment from one, "I got totally 85 Megabytes on drives C: D: and E:. The hard disk was faster than the one in my PC and ten times faster than normal 3.5" disks." Clubs in Norway and Sweden are into building their own MSX-II digitisers and a superimpose module for the SVI-738.

One claimed to have built a 4 megabyte RAM expansion for the Express!!.. How true this claim is I do not know ??.. User groups are still expanding in Norway and Sweden with 738's still on sale. A claim was also made from similar sources that if they can get the Y-9958 MSX II+ VDP from Japan then it is possible to convert the Express to a II+. The statement went on to say that they had already converted the ROMS from a II+ for Express 738 compatibility. This does not as stated include the FM-PAC music module. In Europe many are sending money direct to Japan to obtain MSX II+ machines as they are not as yet being commercially made available for sale.

4. Many, many thanks for software I am receiving from generous MSX users. It's nice to get rewarded for supporting MSX. The kids loved Aliens and Operation Wolf.

5. Re MSX II+ Review in this article.

A letter from Steven Phelan of Victoria writes to me.....

'I read one of your articles in Micro's Gazette...' Thanks for the praise Steven. Thank you. To your reply I have not as yet purchased an MSX II+ Plus as so many many things have come up. I am however purchasing one before Christmas this year (1990). My choice after much analysis is a Sony or a Panasonic.

5. Joystick Surprise.

I was encouraged by the latest Joysticks available NOW ! from Myers Stores. You know the ones by Quickshot (Spectravideo Products). These late joysticks has MSX switch mode on them !!

6. Hard Disks FOR MSX ? YES ! Read on....

German Made SCSI Interfaces for the following purpose :

NB. You order them from : HSH Computervertrieb GmbH
Rombergstraße 16
4715 Düsseldorf
West Germany

HSH has three MSX Hard Disk Systems Packages. All three are based on the HSH MSX SCSI Interface. A proven new technological standard universal interfacing system. It also has built in "intelligent sensing" for a multitude of applications.

All hard disks systems are :

1. In a neat housing
2. Complete with power supply
3. All necessary cables
4. Software drivers on 3.5" Disk
5. User installation book in English

Three systems differ only in capacity:

21 Megabyte System	Price DM 1384 (Aust \$)
32 Megabyte System	Price DM 1447 (Aust \$)
49 Megabyte System	Price Dm 1577 (Aust \$)

The system can handle hard drives upto 192 Million Characters of Storage. (192 Megabytes)

Each hard disk is sent pre-formatted and ready to just plug in.

The hard disk systems are fully compatible with :

MSX I Computers
MSX II Computers
MSX II+ Computers

And the following operating systems on MSX computers :

MSX Disk ROM Basic 1.xx
MSX Disk ROM Basic 2.xx
MSX DOS 1.xx
MSX DOS 2.20

Important Note :

The HSH Hard Disk will only function with LEGAL MSX-DOS 2 versions (ie licensed HSH version and the ASCII versions)

The SCSI interface can be supplied by itself with the software and handbook for DM 333 (Aust \$. You will be able to buy SCSI based hard drives in Australia at the following prices :

42 Megabyte \$600.00 Add \$100 for Case + Power *

* Case + Power utilises cheap IBM cases + Power Supplies

Do not address queries to me as you should direct all correspondance concerning these hard drives to West Germany HSH MSX company.

New releases :

Black Beard MSX I, Final Video Graphics MSX II, Game Builder MSX II, TED (Wordprocessor) Mapper RAM, Konami's QUARTH MSX II/II+, FM-STEREO PAC (Still available), Laser Squad MSX I, Handy Scanner MSX II/II+, Manchester United MSX I, Mr Ghost MSX II/II+, Silent Shadow MSX I, The Race MSX I

That's all folks Ross J Brisbane
11 Thirlmere Road,
Alexandra Hills Q 4161

Thanks again for letters received.

SOFTWARE REVIEWS

BY BRIAN LEONARD

MSX SOFTWARE REVIEW

Title: ZANAC by Compile

MSX MSX2,MSX2+ (DISK/TAPE)

This game was reviewed in Micro's Gazette, Issue No 4, but after I completed the game, I thought I would do an in-depth review about this fantastic game. In this game there are 5 levels to each round, 7 different fire powers, power pods that give you either single, double, or triple lasers. There are many different types of ships in this game. The graphics, colours and sound have been designed very well. Some of the levels appear in a matter of seconds while others take about 5 minutes to complete. There are power icons, that when you shoot them a number of times it releases a power cell, and when you run into it, it destroys everything on the screen. Some of the bonus power ups you get are, Shield, Fire ball, Exploding pod and many more. When you approach a base you are set with a time limit to destroy it and if you don't destroy it before the time runs out you have to do that level or round again. I am not going to say what happens at the end of the game but the way the graphics have been done you would think that this game was definitely designed for MSX2.

Title: SPEEDSAVE 4000 by Arcksoft MSX MSX2,MSX2+ (DISK ONLY)

Speedsave 4000 is a disk based utility which allows you to view the sectors of a disk and edit them, then saving that edited sector to disk. Recover files, If you have deleted a file by mistake on disk, all you have to do is use files recovery and speedsave will restore that file back to its original state. It is best not to write to the disk after you did delete the file. Directory sort, sorts your files out in alphabetical order. Backup M-Code programs, This program is useful for making back-up copies of all saved programs, even commercial, programs up to 38K. It copies with or without headers. This version is developed especially to transfer machine code programs from tape to disk, plus there is a basic version with speedsave to transfer saved files from disk to tape.

Title: MONOPOLY by Leisure Genius MSX MSX2,MSX2+ (DISK ONLY)

Well, we've all played the board game, now play the computer version of monopoly. The game will let you select from 1 to 6 players and is based on the same principal as the board game. You can buy or sell houses, bid for a block of land, go to jail, trade properties. The graphics are quite good but there is not much sound, but if you enjoy playing the board game then you will enjoy playing this on your computer. All graphics.

Title: KNIGHT ORC by Level Nine Computing MSX (DISK/TAPE)

Knight Orc is a text adventure game, where you control a human pig like character. In this game you must collect golden objects while keeping out of trouble. Although as an Orc you crave dangerous and adventurous situations. There are three levels to the game and you must complete each level to start the next. To play this brilliant text adventure, you will need a map and manual which come with the game.

Title: PING PONG by Konami

MSX (DISK/TAPE)

As we know Konami bring out some pretty interesting games, which will delight most of us. As the name suggests, Ping pong, which most of us call table tennis, is quite good, you can play 2 players or against the computer with a difficulty level from 1 to 5. You play up to 3 rounds with each round going up to a score of 21. Win a point from the computer and the crowd goes wild, especially the penguin, who must be on holidays from Antarctic Adventure, which is another game from Konami. Graphics and sound are very good.

Title: ANTARCTIC ADVENTURE by Konami

MSX (DISK/TAPE)

This game really got to me when I first saw it, here he is, this penguin, trying to get to where he was going to, which was all the way around the south pole. Running over the top of polar ice caps trying to avoid cracks in the ice, Seals which stick there heads up, trying to block his way, I thought this penguin had been drinking for a moment, by the way he stumbles from side to side when he runs in to something, Guide him through the south pole catching fish on the way and picking up flags for extra points. I reckon that this is a great game and can get very hard. Music, sound and graphics are great.

Title: THE WAY OF THE TIGER by Gremlin Graphics MSX (DISK/TAPE)

The way of the tiger consists of 3 parts, Pole fighting, Unarmed combat and Sword fighting, Fight against the evil forces and try to survive for as long as you can, this game can take a bit of getting use to, you can use either a joystick or the keyboard, graphics are alright, not much sound.

Title: AFTER THE WAR PT.2 by Dynamic

MSX (DISK/TAPE)

Carry your M-60 through the security tight fortress and blow everything away, trying to avoid security cameras, Gun turrets, and deadly hover robots, who will try to cut you off. At the end of each phase you have to destroy a robot, something like an at-at walker out of empire strikes back, destroy this and proceed to the next level, this game gets harder all the time and would be a game that I would recommend to any person who likes to slaughter, or destroy things, plus there is After the war pt 1, which is the first part to this game, both games are separate and both are good.

BEGINNERS BASIC

BY CRAIG HURSEY

As I said in the last issue I will be going over the different types of variables and constants that are used by MSX BASIC in general. This particular section may go over two issues. So bare with it.

CONSTANTS

Constants are the values that MSX BASIC use during execution. There are two types of constants: string and numeric.

A string constant is a sequence of up to 255 alphanumeric characters enclosed in double quotation marks.

Examples: "BASIC"

"\$ 100,000,000"

"Number of commands"

Numeric constants are positive or negative numbers. MSX BASIC or SVI numeric constants cannot contain commas. There are five types of numeric constants:

1. Integer constants:

Whole numbers between -32768 and 32767. Integer constants do not contain decimal points. These are signed (16-bit) integers. You may also use "unsigned" 16-bit values in certain functions expecting integers, too: this means values between 32768 and 65535, which directly represent values between -32768 and -1 (after conversion). These "higher" values are not acceptable to store in unsigned variables, but are acceptable when used as numeric constants (which may result in BASIC automatically appending an exclamation mark in any LISTing) or when stored in floating-point variables. Unsigned integers make more sense when used with certain functions, such as PEEK().

2. Fixed-point:

Positive or negative real numbers; that is, numeric constants that do not contain decimal points.

3. Floating-point:

Positive or negative real numbers represented with constants in exponential form (similar to scientific notation).

A floating-point constant consists of an optionally signed integer or fixed-point number (the mantissa) followed by the letter D or E and an optionally signed integer (the exponent). The allowable range for floating-point constants is from 10^{-64} to 10^{64} (using D or E for 10^{\wedge}).

Examples: 235.988E-7 = .0000235988

2359E6 = 2359000000

(Double precision floating-point constants are denoted by the letter D instead of E.)

4. Hex constants:

Hexadecimal(base 16) numbers, denoted by the prefix &H. (Hex constants use digits A through F to represent values 10 though 15 in that position.) Must be in Integer range.

Examples: &H76

&H32F

5. Octal constants:

Octal numbers, denoted by the prefix &0 (letter O, not zero). Octal (base 8) constants should not contain the digits 8 or 9. Must be in integer range.

Examples: &0347
&0177777

6. Binary constants:

Binary numbers, denoted by prefix &B. Binary (base 2) numbers contain only the digits 0 and 1. Must be in integer range.

Examples: &B11100110
&B10100100

Since the last three cases are in integer range, be aware of the following: the highest order bit represents a sign bit. For unsigned operations, this is ignored, but for math or for output conversion, anything with the high bit set is a negative number in two's complement format. If you want that number to be in signed format for math, you can create the negative form of a number as follows: write the number out as a positive number; invert every bit; then add one into the lowest bit (ignoring any carry out of the highest bit). This will create the bit pattern for the negative form of the number (and works both ways). All math routines and I/O routines do this automatically.

SINGLE AND DOUBLE PRECISION

Numeric constants may be either single precision or double precision numbers. Single precision numeric constants are stored with 6 digits of precision, and printed with up to 6 digits of precision. Double precision numeric constants are stored with 14 digits of precision and printed with up to 14 digits. Double precision is the default for constants in BASIC.

5/4 rounding of excess digits is also standard.

A single precision constant is any numeric constant less than 7 digits that has one of the following characteristics:

1. Exponential form using E OR
2. A trailing exclamation point (!)

Examples: -1.09E-06
-2.5!

A double precision constant is any numeric constant that has one of these characteristics:

1. Any number of digits without any exponential or type specifier (assuming default is double-precision) OR 2. Exponential form using D OR 3. A trailing number sign (#)

Examples: 3489
345693880
-1.09432D-06
3489.0#
7654321.1256

GAMES INSTRUCTIONS

ACES OF ACES....

LOADING INSTRUCTIONS....

Type RUN"ACE"

CONTROL....

Cursor keys and SPACEBAR.

- 1.(or double click and joystick UP)=Pilot View.
- 2.(or double click and joystick LEFT)=Port view.
- 3.(or double click and joystick RIGHT)=Starboard View.
- 4.(or double click and joystick CENTRE)=Bomb Bay.
- cc5.or M = Map; Status Screen = 5; Restore = press F1; Toggle Sound = press F3; About Mission = press F5.

SELECT A MISSION....

Select from PRACTISE or MISSION(S) by moving joystick UP/DOWN and press FIRE.

PRACTISE:

Use this mode to familiarize yourself with the aircraft and controls.

MISSIONS:

Select any number of missions by moving joystick UP/DOWN and pressing FIRE. After selection you move pointer to "Begin Game" and press FIRE. You then choose ACCEPT to be presented with the Intelligence Report. This will be used to locate the exact positions of enemy targets, identify weather conditions, recommended weapons and target sequence. A "Mission Map" follows, displaying location of cities and targets. Upon leaving the "Mission Map" a Bombardier's View of an empty bomb bay, ready for weapons loading is displayed. Concentrate on a maximum made up of rockets and cannon. YOUR AIM IS TO RETURN TO BASE INTACT.

SELECT WEAPONS

Move yellow box to select areas = press UP/DOWN on joystick.

To add/subtract bombs, rockets or cannons = press + or -.

Add or Subtract fuel tanks on long range mission = press = or -.

Once armed hit DONE to begin.

AIRCRAFT CONTROLS

PILOTS VIEW

INTERCOM: Hit FIRE twice and move joystick towards trouble spot.

Centre icon blinking indicates that enemy ground target has been sighted.

ALTITUDE: Adjust with joystick UP/DOWN.

ARTIFICIAL HORIZON: Icon is black for descending and is white for ascending.

ENGINEERS REPORT(PORT/STARBOARD)

THROTTLE(RPM): Place joystick diamond above RPM dial. Hold FIRE and push joystick UP/DOWN to select setting.

BOOSTER(Pitch): Place joystick diamond over booster dial and adjust similar to throttle. Booster and throttle work together so set them high for top speed. If engine is over-revved, RPM is in the red zone, reduce throttle. If it won't reduce, then engine is on fire. Use fire extinguisher.

FIRE EXTINGUISHER:

Place joystick diamond over fire extinguisher, hold FIRE down and move joystick RIGHT.

TRIM:

Controls direction of aircraft. Place joystick diamond over trim lever, then move joystick UP/DOWN with FIRE pressed to adjust.

LANDING GEAR:

Select with joystick DOWN and FIRE pressed to drop the gear and slow down.

FUEL:

When empty move to bomb bay view. Place joystick diamond over fuel tank, press FIRE to throw the drop lever. Drop empty tanks to save remaining fuel.

FLAPS:

Move up or down placing joystick diamond over flap lever, pressing FIRE and moving joystick UP/DOWN . Use them to reduce speed quickly.

NAVIGATOR'S VIEW

STRATEGY:

The fastest route is always a straight line. The black marker line indicates correct heading on the pilot's compass.

BOMBARDIER'S VIEW

FUEL DROP SWITCHES:

Drop when indicating empty to improve fuel economy.

GUNS/CANNON SWITCH:

Select weapons choice depending on target.

BOMB BAY DOOR:

Switch open to see enemy target.

TACTICS:

BOMBING U-BOAT/TRAINS:

Decrease altitude to 1000 ft or less, set air speed to 100 mph. Open bomb bay doors over target. If you can't see it, circle and try again. Joystick UP/DOWN moves bomb sight accordingly. Joystick LEFT/RIGHT moves target into view under your cursor. Press FIRE to drop bomb.

TRAIN:

Avoid Red Cross POW cars as you will lose points if bombed, you only get one chance at a POW train, so be accurate.

U-BOAT:

They will be alerted to your presence once the bomb bay doors are opened and begin to dive. Once underwater they will not resurface during the mission, so be quick.

DOGFIGHT/BOMBER TACTICS:

Push joystick UP/DOWN/LEFT/RIGHT to centre target in sight. (Point nose at enemy.) Switch from cannon to rocket, go to bomb bay screen and push switch LEFT/RIGHT.

V-1 BUZZ BOMBS:

Slower than fighters but if they explode close to you, they may damage your aircraft.

BOMBERS:

Stop at all costs.

MARTIANOID.

After a long journey with only routine maintenance to do, Markon is suddenly attacked by vicious Aliens.... THE MARTIANOIDS.

The MARTIANOIDS enter your ship, disrupting the passage of programs as they are transmitted through the brain of Markon, draining your battery in desperate suicidal attacks to destroy you and your ship. Their Photon Weapons pass through the internal parts of the brain destroying all active components in their path.

Your task is to guide the program from the transmitter to the receiver in each sector. When a program is received the internal defences are activated, thus preventing any further damage in that sector of the brain. Beware of Disposal Chutes as your program will fall down these and be lost.

You must repair any damaged Active Components using the replacement cones. If all the active components in a sector are destroyed, then that sector is destroyed and can no longer be repaired or activated. Spare Batteries are located around The Brain for your use when your power becomes low. To defend yourself you have Lasers which destroy Internal Walls, Active Components, Replacement Cones and Aliens.

To help you in your Mission, your Console displays a map which shows your position in The Brain, the position of the Program and the status of each

Sector. Red indicates that Sector has been Destroyed, White that it has been Activated and Flashing Red and Yellow indicates a sector under attack. Also your console displays messages to tell you what is happening in The Brain.

LOADING INSTRUCTIONS....

BLOAD"CAS:MART",R

PLAY THE GAME....

Left:Use Z,C,B and M keys.

Right:Use X,V,N and , keys

Foward:Use A,S,D,F...L keys

Laser:Use Q,E,T,U and O keys

Blaster:Use W,R,Y,I and P keys

Pickup/Drop: You can pick up and drop spare parts using 1,2,3,4...0, row.

Joystick Controls....

As Normal. The Blaster can be fired Using "SPACEBAR"....

NEW RELEASE!!!!

MSX TURBO-R

We are pleased to announce the release of the new MSX computers. The 16 bit fully MSX compatible Panasonic FS-A1ST MSX TURBO-R is the first of this new MSX computer generation to be released in Japan. The heart of it is the sensational new R 800 processor, which is about five times faster than the Z-80A. The internal RAM has been extended from 64K (MSX2/2+) to 256K and it has MSX-DOS 2 built in! The sound has also been improved by adding PCM functions. Along with these additional features are also the standard features of the MSX 2+ series, which include 19,268 colours, FM sound, RAM disk and a Z-80A processor to ensure compatibility with existing MSX peripherals. The specifications are as follows;

CPU	: Z-80A (3.579545 MHz)
	: R 800 (28.6364 MHz)
VDP	: V9958 (19,268 colours, 13 screen modes)
ROM	: MSX 2 BASIC , DISC BASIC version 1, DISC BASIC version 2,
MSX-JE	: ROM (JIS), MSX MUSIC, MSX-DOS version 1, MSX-DOS version 2, KANJI ROM.
RAM	: 256 K (Memory mapped)
VRAM	: 128 K
SCREEN FUNCTIONS	same as MSX 2+
SOUND	: PSG (MSX 1 / MSX 2)
	: FM SOUND (MSX 2+)
	: PCM 8bit, PCM A/D, D/A (Record and Play)
	: Microphone for PCM sound input
VIDEO	: RGB, Video out, RF out
CASS	: MSX 1 cassette interface
Cartridge Ports	x 2, Real time clock, RAM disc function, Printer out,
Double sided disc drive	(720 K), QWERTY keyboard, AC 100V (50/60Hz)
Price	: YEN 87,800 (Plus 25% service fee charge for SAL postage etc.)

This new MSX "super computer" will be available from the end of OCTOBER 1990 at a price in Australia of around \$1300.00

LISTINGS

```

700 COLOR15,1,1:SCREEN2:WIDTH37:KEYOFF
710 DRAW"BM10,30S36;C4R3D1L1D4L1U4L1U1B
R4;C15R3D5L3U5BF1R1D3L1U3BH1BR4;C2R3D1L
2D1R2D3L3U1R2U1L2U3BR4;C8R1D2RIU2R1D5L1
U2L1D2L1U5BR4;C13R1D5L1U5BR2;C5R2F1D1S1
8G1F1S4D1S36D1G1L2U5BF1R1D1L1U1BD2R1D1L
1U1BU3BR3;C11R3D5L1U2L1D2L1U5BF1R1D1L1U
1"
720 PAINT(11,31),4:PAINT(47,31),15:PAI
T(83,31),2:PAINT(119,31),8:PAINT(155,31
),13:PAINT(176,31),5:PAINT(227,31),11
730 COLOR13,1:LINE(50,100)-(60,150),,BF
:LINE(90,100)-(100,150),,BF:FORFX=1TO15
:LINE(FX+60,100+FX)-(FX+60,110+FX):LINE
(90-FX,100+FX)-(90-FX,110+FX):NEXTFX
740 LINE(110,100)-(160,110),,BF:LINE(11
0,110)-(120,130),,BF:LINE(120,120)-(160
,130),,BF:LINE(150,130)-(160,150),,BF:L
INE(110,140)-(150,150),,BF
750 FORFX=170TO210:LINE(FX,FX-10)-(FX,F
X-60):LINE(380-FX,FX-70)-(380-FX,FX-60)
:NEXTFX:OPEN"GRP:"AS#1:COLOR15:PRESET[3
7,180]:PRINT#1,"SETTING THE NEW STANDAR
D":CLOSE#1:FORGX=1TO4000:NEXTGX
5000 KEYOFF:'copyright KNIGHTS COMPUTER
S,108 ROSENOUNT PLACE, ABERDEEN, U.K. TE
LEPHONE 0224 630526:COLOR13,1,1
5010 COLOR 15,1,1:SCREEN 2:DRAW "BM15,2
5548;C8R3D1L1D4L1U4L1U1BR4;C15R3D1L2DIR
1D1L1D1R2D1L3U5BR4;C2R3D5L1U2L1D2L1U5BF
1R1D1L1U1BH1BR4;C4R3D1L2D3R2D1L3U5BR4;C
13R1D2R1U2R1D5L1U2L1D2L1U5BR4;BL20BD7"
5020 DRAW "C4S24R2F1E1R2D10L2U8G1H1D8L2
U10S48BR4;C13R3D5L1U2L1D2L1U5BF1R1D1L1U
1BH1BR4;C8R3D1L1D4L1U4L1U1BR4;C2R1D2RIU
2R1D5L1U2L1D2L1U5BR4;C15R3D1L2D1R2D3L3U
1R2U1L2U3"
5030 PAINT(16,26),8:PAINT(64,26),15:PAI
NT(112,26),2:PAINT(160,26),4:PAINT(208,
26),13:PAINT(16,110),4:PAINT(64,110),13
:PAINT(112,110),8:PAINT(160,110),2:PAI
NT(208,110),15:FORA=1TO1500:NEXTA
5040 SCREEN0:COLOR15,6:CLS:WIDTH37:PRIN
T"              TEACH MATHS":PRINTTAB(12
);"-----":PRINT
5050 PRINT"TESTS YOUNG CHILDREN'S AB
ILITY AT":PRINT"ADDITION AND MULTIPI
ICATION.":PRINT
5060 PRINT:PRINT"A SUM WILL BE SHOWN
AND A QUESTION":PRINT"MARK WILL FLASH
TO PROMPT THE USER TO":PRINT"KEY IN T
HE UNITS AND TENS."
5070 PRINT:PRINT:PRINT"PRESS RETURN AF
TER TYPING THE ANSWER.":PRINT:PRINT"IF Y
OU TYPE THE WRONG ANSWER, PRESS":PRI
T"THE KEY MARKED DEL TO DELETE IT.":PRI
NT
5080 PRINT"      PRESS ANY KEY TO CONT
INUE":GOSUB 5470
5090 COLOR 15,13,13:SCREEN0:WIDTH 39:L

```

```

CATE 0,4:PRINT" THERE ARE 10 SUMS IN
EACH TEST":FX=RND(-TIME)
5100 PRINT:PRINT:PRINT:PRINT" WHI
CH DO YOU WANT TO TRY?":PRINT:PRINT:PRI
NT" 1:ADDITION or":PRINT:P
RINT" 2:MULTIPLICATION":PRINT
:PRINT:PRINT" PRESS 1 OR 2"
5110 GOSUB 5470:IF B$<>"1" AND B$<>"2"
THEN 5110 ELSE COLOR 15,6,1:SCREEN2,3
5120 RESTORE 5130:FOR FX=0 TO 12:SP$=""
:FOR JX=0 TO 31:READ A$:SP$=SP$+CHR$(VA
L("&H"+A$)):NEXTJX:SPRITE$(FX)=SP$:NEXT
FX
5130 DATA F,1F,38,30,30,30,30,31,33,37,
3B,3C,38,38,1F,F,F0,F8,1C,1C,3C,7C,EC,C
C,8C,OC,OC,OC,OC,1C,F8,F0
5140 DATA 1,3,7,D,1,1,1,1,1,1,1,1,1,1,1,F
,F,80,80,80,80,80,80,80,80,80,80,80,80
80,80,F0,F0
5150 DATA F,1F,38,0,0,0,0,1,7,1E,38,30
,30,30,3F,3F,F0,F8,1C,C,C,1C,78,E0,80,0
,0,0,0,PC,PC
5160 DATA F,1F,38,0,0,0,0,0,7,7,0,0,0,0,3
8,1F,F,F0,F8,1C,C,C,C,1C,F8,F8,1C,C,C,C
,1C,F8,F0
5170 DATA 30,30,30,30,30,30,30,30,30,30,30
,3F,3F,0,0,0,0,0,0,0,0,0,0,0,CO,CO,CO,F
C,FC,CO,CO,CO,CO
5180 DATA 3F,3F,30,30,30,30,30,30,30,3F,3F,0
,0,0,0,38,1F,0F,FC,FC,0,0,0,0,0,F0,F8,1C
,C,C,C,1C,F8,F0
5190 DATA F,1F,38,30,30,30,30,37,3F,38,
30,30,30,38,1F,0F,F0,F8,1C,0,0,0,0,F0,F
8,1C,0C,0C,1C,F8,F0
5200 DATA 3F,3F,30,0,0,0,0,1,1,1,1,1,1
,1,1,1,PC,FC,C,1C,38,70,E0,CO,80,80,80
,80,80,80,80
5210 DATA F,1F,38,30,30,30,38,1F,1F,38,
30,30,30,38,1F,F,F0,F8,1C,C,C,C,1C,F8,F
8,1C,C,C,C,1C,F8,F0
5220 DATA F,1F,38,30,30,30,38,1F,0F,0,0
,0,0,0,0,0,F0,F8,1C,C,C,C,1C,PC,EC,C,C
,C,C,C,C
5230 DATA 0,0,0,0,0,0,0,0,0,0,0,0,F,F,0,0,0
,0,0,0,0,0,0,CO,CO,CO,CO,FC,FC,CO,CO
,CO,CO
5240 DATA 0,0,0,0,0,0,0,0,1C,E,7,3,1,3,7
,E,1C,0,0,0,0,0,0,0,1C,38,70,E0,CO,E0,70
,38,1C
5250 DATA F,1F,38,30,0,0,0,1,3,3,3,3,3
,0,3,3,F0,F8,1C,C,C,C,1C,F8,F0,0,0,0,0,0
,0,0
5260 LINE (15,10)-(239,29),1,BF:LINE(15
,10)-(239,29),15,B:OPEN"GRP":"AS#1:COLOR
,1:PRESET(16,15):PRINT#1," 0 Questions
: 00% Correct"
5270 RX=0:CLOSE #1

```

```

5280 LINE (0,47)-(999,999),1,BF
5290 FOR Q%=1 TO 10:FOR FX=0 TO 7:PUT S
PRITE FX,(0,209):NEXT FX
5300 IF B$="1" THEN N1%=INT(RND(1)*99)+1:N2%=INT(RND(1)*99)+1:IF N1%+N2%>99 TH
EN 5300 ELSE ANX=N1%+N2%
5310 IF B$="2" THEN N1%=INT(RND(1)*9)+1
:N2%=INT(RND(1)*9)+1:IF N1%+N2%>99 THEN
5310 ELSE ANX=N1%+N2%
5320 PUT SPRITE 0,(155,55),,N1%MOD10:IF
INT(N1%/10)>0 THEN PUT SPRITE 1,(120,5
5),,N1%/10
5330 PUT SPRITE 2,(155,90),,N2%MOD10:IF
INT(N2%/10)>0 THEN PUT SPRITE 3,(120,9
0),,N2%/10
5340 LINE(120,128)-(185,132),12,BF:LINE
(120,171)-(185,175),12,BF
5350 PUT SPRITE 4,(85+35*(VAL(B$)-1),90
),5,9+VAL(B$):FOR FX=5 TO 7:PUT SPRITE
FX,(0,209):NEXT FX:PX=155:AN$="":SX=5
5360 IF INKEY$(<>)" THEN 5360
5370 PUTSPRITESX,(PX,135),13,12:FOR FX=1
TO 100:A$=INKEY$:IF A$="" THEN 5390 ELSE IF(A
$<"0" OR A$>"9") AND A$(<>CHR$(13)) AND A$(<>C
HR$(127)) THEN 5390
5380 IF A$=CHR$(127) THEN 5350 ELSE IF A$=CHR
$(13) THEN 5420 ELSE IF SX=7 THEN 5390 ELSE PUTS
PRITESX,(PX,135),13,VAL(A$):AN$=A$+AN$:
SX=SX+1:PX=PX-35:GOTO 5370
5390 NEXT FX
5400 PUT SPRITE SX,(PX,209),,12:FOR FX=
1 TO 100:A$=INKEY$:IF A$="" THEN 5410 E
LSE IF (A$<"0" OR A$>"9") AND A$(<>CHR$(13)) AND A$(<>CHR$(127)) THEN 5410 ELSE 53
80
5410 NEXT FX:GOTO 5370
5420 IF VAL(AN$)=0 THEN 5350 ELSE PUT S
PRITE SX,(0,209):IF VAL(AN$)=AN% THEN R
X=RX+1:PLAY "V14T245S8H70004CDFCB","V14
T245S8H70008CDFCB" ELSE PLAY "V14T245S8
H10004DRC"
5430 IF PLAY(1)<0 THEN 5430
5440 LINE (16,11)-(238,28),1,BF:OPEN "G
RP:"AS#1:PRESET (16,15):PRINT #1,Q%;"Qu
estions : ";USING "###";INT((RX/Q%)*100)
:PRINT #1,"% Correct":CLOSE #1:NEXT Q%
5450 FOR FX=1 TO 2000:NEXT FX:FOR FX=0
TO 7:PUT SPRITE FX,(0,209):NEXT FX:LINE
(120,128)-(185,132),1,BF:LINE(120,171)-
(185,175),1,BF
5460 LINE (87,90)-(175,110),13,BF:LINE
(87,90)-(175,110),15,B:OPEN "GRP:"AS#1:
PRESET (96,96):PRINT #1,"TEST OVER":CLO
SE#1:FOR FX=1 TO 6000:NEXT FX:RUN 5090
5470 IF INKEY$(<>)" THEN 5470
5480 B$=INKEY$:IF B$="" THEN 5480 ELSE RETURN
5490 RETURN

```

MSX 1

ALL \$5.00 EACH

1 10TH FRAME.....	19	61 BOP!.....	39
2 180.....	24	62 BOSCONIAN.....	35
3 3-D GOLF.....	03	63 BOULDERDASH 1.....	03
4 3D KNOCKOUT.....	D. 37	64 BOULDERDASH 2.....	02
5 737 FLIGHT SIMULATOR.....	26	65 BOUNDER.....	16
6 A VIEW TO A KILL.....	18	66 BRAIN JACK SUPER CHALLENGE 1...D. 35	
7 A-TEAM.....	38	67 BRIAN JACK SUPER CHALLENGE 2...D. 40	
8 ACE OF ACES.....	33	68 BRIDGE.....	33
9 ACTION MAN.....	28	69 BUBBLER.....	D. 39
10 ADONIS.....	10	70 BUCK ROGERS.....	06
11 AE.....	12	71 BURGER KILL.....	24
12 AEROCLUB.....	35	72 BUZZ OFF.....	D. 40
13 ALBATROS.....	25	73 CABBAGE PATCH KID.....	28
14 ALCAZAR.....	24	74 CANNON BALL.....	12
15 ALE HOP!.....	15	75 CANNON FIGHT.....	D. 39
16 ALIBABA & THE 40 THIEVES.....	22	76 CAR FIGHTER.....	09
17 ALIEN .8.....	08	77 CAR JAMBOREE.....	20
18 ALIEN.....	37	78 CASTLE EXCELLENT.....	26
19 ALPHA BLASTER.....	D. 01	79 CATBOY.....	37
20 ALPHA SQUADRON.....	13	80 CHACK'N'POP.....	18
21 ALPHAROID ,.....	07	81 CHAMPIONSHIP ICE HOCKEY.....	20
22 ALPINE SKI.....	D. 34	82 CHAMPIONSHIP LODE RUNNER.....	20
23 AMERICAN TRUCKER.....	14	83 CHAMPIONSHIP SOCCER.....	20
24 ANTARCTIC ADVENTURE.....	04	84 CHESS GAME.....	29
25 ANTY.....	23	85 CHICAGO.....	39
26 APEMAN STRIKES AGAIN.....	30	86 CHICKEN CHASE.....	37
27 ARAMO.....	16	87 CHILLER.....	12
28 ARKANDID.....	10	88 CHIMACHIMA.....	10
29 ARKOS .1.....	22	89 CHOPLIFTER.....	11
30 ARKOS .2.....	22	90 CHOPPER 1.....	D. 18
31 ARKOS .3.....	19	91 CHORDQ.....	18
32 ARMY MOVES .1.....	06	92 CIRCUS CHARLIE.....	24
33 ARMY MOVES .2.....	06	93 CLUEDO.....	11
34 ASPAR.....	30	94 COASTER RACE.....	14
35 ATHLETIC LAND.....	05	95 COLONY.....	D. 36
36 AUF WEIDHERSEHEN MONTY.....	32	96 COMIC BAKERY.....	05
37 AVENGER.....	26	97 COMPUTER PATIENCE.....	05
38 BACK TO THE FUTURE.....	23	98 CONFUSED.....	25
39 BACKGAMMON.....	D. 11	99 CONGO BONGO.....	28
40 BALLOONS.....	30	100 COSMO EXPLORER.....	02
41 BANANA.....	35	101 COURAGEOUS PERSEUS.....	35
42 BANK PANIC.....	21	102 CRAZY CARS.....	29
43 BARBARIAN.....	38	103 CRAZY TRAIN.....	24
44 BARNSTORMER.....	D. 36	104 CRUSADER.....	34
45 BASEBALL.....	21	105 CUBIT.....	32
46 BATHU.....	20	106 CYBERUN.....	34
47 BATMAN.....	27	107 CYRUS 2.....	D. 11
48 BATTLE CROSS.....	01	108 DANGER X .4.....	31
49 BATTLESHIP CLAPTON .2.....	07	109 DARTS.....	27
50 BEACH HEAD.....	23	110 DAVID 2.....	31
51 BEAM RIDER.....	03	111 DEATH WISH 3.....	28
52 BILLIARDS.....	05	112 DESOLATOR.....	27
53 BIO RHYTHMS.....	05	113 DIAMOND MINE 2.....	D. 37
54 BIRDS OF ORION.....	08	114 DIG DUG.....	D. 39
55 BLAGGER.....	09	115 DISK WARRIOR.....	18
56 BOKOSUKA WARS.....	31	116 DIZZY BALL.....	30
57 BOMBER MAN SPECIAL.....	21	117 DOG FIGHTER.....	D. 37
58 BOOGABOO FLEA.....	10	118 DONKEY KONG.....	27
59 BOOGIE WOOGIE JUNGLE.....	33	119 DOOR DOOR.....	12
60 BOOM.....	D. 01	120 DORODON.....	15

175 X	
121 DOTA.....	11
122 DRAGON ATTACK.....	31
123 DRAUGHTS.....	06
124 DRILLER TANKS.....	12
125 DUNGEON MASTER.....	23
126 DUNKSHOT.....	25
127 DYNAMITE DAN.....	25
128 EDDIE KIDD JUMP CHALLENGE.....	03
129 EGGERLAND.....	15
130 EGGY.....	31
131 ERIKA.....	15
132 EUROPEAN GAMES.....	30
133 EWOKS.....	10
134 EXA INNOVA.....	04
135 EXCHANGER.....	32
136 EXECUTIVE VERSION.....	36
137 EXERION 2.....	14
138 EXERION.....	13
139 F15 STRIKE EAGLE.....	30
140 F16 SIMULATOR.....	18
141 FEUD.....	D. 36
142 FIGHTING RIDER.....	D. 39
143 FINDERS KEEPERS.....	16
144 FIREHAWK.....	10
145 FIRST STEPS WITH MR MEN.....	16
146 FLASH GORDON.....	37
147 FLIGHT PATH 737.....	36
148 FOOTBALLER OF THE YEAR.....	40
149 FORMULA 1-SIMULATOR.....	02
150 FREDDY HARDEST.....	28
151 FROGGER.....	28
152 FRONT LINE.....	28
153 FUTURE KNIGHT.....	08
154 FUZZ BALL.....	34
155 GALAGA.....	14
156 GALAXIA.....	02
157 GET READY.....	D. 40
158 GHOSTBUSTERS.....	D. 07
159 GLIDER.....	33
160 GODZILLA.....	27
161 GP WORLD.....	25
162 GREEN BERET.....	01
163 GROG'S REVENGE.....	02
164 GUARDIC.....	11
165 GUNFRIGHT.....	08
166 GUTT BLASTER.....	22
167 HANG-ON.....	01
168 HEAD OVER HEELS.....	36
169 HELITANK.....	17
170 HERCULES.....	31
171 HERO-X.....	38
172 HERO.....	11
173 HOLE IN 1 PROFESSIONAL.....	38
174 HOLE IN ONE.....	35
175 HOPPER.....	24
176 HOWARD THE DUCK.....	D. 38
177 HUDSON 3D GOLF.....	39
178 HUNCHBACK.....	17
179 HYDLIDE.....	10
180 HYPE.....	D. 36
181 HYPER OLYMPICS 1.....	04
182 HYPER OLYMPICS 2.....	04
183 HYPER RALLY.....	05
184 HYPER SPORTS 1.....	02
185 HYPER SPORTS 2.....	27
186 HYPER SPORTS 3.....	07
187 ICE WORLD.....	37
188 ICE.....	D. 01
189 INDIANA JONES.....	26
190 INTERNATIONAL KARATE.....	26
191 IRON EAGLE.....	D. 38
192 J P WINKLE.....	21
193 JACK THE NIPPER.....	32
194 JACKLE & WIDE.....	25
195 JET BOMBER.....	06
196 JET FIGHTER.....	D. 07
197 JETSET WILLY 1.....	20
198 KAYLEON.....	14
199 KICK IT.....	D. 38
200 KINGS VALLEY.....	13
201 KNIGHT LORE.....	12
202 KNIGHT SHADE.....	07
203 KNIGHT TYME.....	03
204 KNIGHTMARE.....	14
205 KONAMI'S BASEBALL.....	20
206 KONAMI'S BOXING.....	04
207 KONAMI'S SOCCER.....	15
208 KONAMI'S TENNIS.....	15
209 KRAKOUT.....	09
210 KUNG FU MASTER.....	05
211 LAPTICK 2.....	21
212 LASER BYKES.....	30
213 LAZY JONES.....	31
214 LEGION.....	36
215 LEMANS 2.....	34
216 LEMANS.....	D. 07
217 LES FLICS.....	32
218 LIVING DAYLIGHTS.....	17
219 LIVINGSTON I SUPPOSE.....	D. 11
220 LODERUNNER 1.....	15
221 LODERUNNER 2.....	07
222 MAC ATTACK.....	01
223 MACROSS.....	04
224 MAGICAL TREE.....	04
225 MAGICAL WIZ KID.....	21
226 MANIC MINER.....	06
227 MAPPY.....	28
228 MARJONG.....	32
229 MASTERS OF THE UNIVERSE.....	29
230 MAXIMA.....	29
231 MAYHEM.....	36
232 MAZES UNLIMITED.....	23
233 MEGALOPOLIS SOS.....	12
234 METEOR SWARM.....	08
235 MIDNIGHT BROTHERS.....	D. 39
236 MINDER.....	12
237 MINER MACHINE.....	19
238 MINI GOLF.....	25
239 MONKEY ACADEMY.....	16
240 MONOPOLY.....	D. 36

MSX I

241 MOON PATROL.....	19	301 SAILORS DELIGHT.....	40
242 MOPI RANGER.....	29	302 SAMANTHA FOX STRIP POKER.....	09
243 MORSE CODE TUTOR.....	24	303 SCENTIPEDE.....	26
244 MOUSER.....	22	304 SCION.....	02
245 MR CHIN.....	29	305 SCOPE ON.....	35
246 MR DO UNICORNS.....	22	306 SCRABBLE.....	D. 40
247 MR DO'S WILDRIDE.....	16	307 SENJO.....	13
248 MSX BASEBALL.....	17	308 SEVEN CARD STUD.....	32
249 MSX-21.....	06	309 SHOGI 1.....	19
250 MUNCHMANIA.....	32	310 SHOGI 2.....	23
251 MUTANT MONTY.....	02	311 SKI COMMAND.....	21
252 NINJA 2.....	09	312 SKOOTER.....	37
253 NINJA KAGE.....	13	313 SKRAMBLE.....	D. 17
254 NINJA KID 2.....	22	314 SKULL ISLAND.....	17
255 NONAMED.....	19	315 SKY JAGUAR.....	06
256 NORSEMAN.....	35	316 SKY VISION.....	23
257 NOUGHTS & CROSSES.....	08	317 SLAPSHOT.....	27
258 OCEAN CONQUERER.....	26	318 SONY CHESS.....	13
259 OH SHIT.....	D. 17	319 SORCERY.....	12
260 OILS WELL.....	15	320 SOUL OF A ROBOT.....	26
261 OLYMPIC DECATHLON.....	03	321 SPACE BUSTERS.....	D. 01
262 OTHELLO.....	13	322 SPACE SHUTTLE.....	D. 30
263 OUTROYD.....	09	323 SPACE WALK.....	34
264 OUTRUN.....	33	324 SPACE WAR.....	26
265 PACHINKO.....	33	325 SPEED BOAT RACER.....	22
266 PAIRS.....	30	326 SPEED KING.....	18
267 PANEL PANIC.....	06	327 SPITFIRE 40.....	05
268 PASTFINDER.....	29	328 SPOOKS AND LADDERS.....	18
269 PAYLOAD.....	04	329 SPY STORY.....	D. 40
270 PHANTOMAS 2.....	19	330 SPY V/S SPY 2.....	07
271 PICO PICO.....	23	331 STAR BLAZER.....	16
272 PINBALL.....	03	332 STAR FORCE.....	14
273 PING PONG.....	05	333 STAR QUAKE.....	23
274 PINGBALL MAKER.....	25	334 STAR SOLDIER.....	15
275 PIPI.....	D. 40	335 STAR WARS.....	25
276 PIPPOLIS.....	18	336 STEVE DAVIS SNOOKER.....	32
277 PITFALL 2.....	09	337 STONE OF WISDOM.....	27
278 PLAYBALL.....	21	338 STRANDED.....	09
279 POLAR STAR.....	12	339 SUB SHOOT.....	D. 34
280 PRINCE.....	19	340 SUPER CHESS.....	03
281 PRO SNOOKER.....	D. 40	341 SUPER COBRA.....	24
282 PRO WRESTLING.....	34	342 SUPER CROSS FORCE.....	03
283 PSYCHADELIA.....	19	343 SUPER GOLF.....	17
284 PYRAMID WARP.....	08	344 SUPER ROBOT.....	19
285 PYXIDIS.....	08	345 SUPER SOCCER.....	21
286 QBERT.....	14	346 SUPER TENNIS.....	40
287 QUASAR.....	31	347 SURVIVORS.....	32
288 RAID ON BUNGELING BAY.....	02	348 SWEET ACORN.....	18
289 RAMBO.....	25	349 SWEET TEMPTATIONS.....	16
290 RASTER SCAN.....	06	350 TANK BATTALION.....	13
291 RESCUE.....	08	351 TERMINUS.....	11
292 RISE OUT.....	38	352 TETRIS.....	27
293 RIVER RAID.....	03	353 THE BLACK ONYX.....	21
294 ROAD FIGHTER.....	02	354 THE DAMBUSTERS.....	22
295 ROBOT WARS.....	16	355 THE GOONIES.....	01
296 ROCKET ROGER.....	39	356 THE HEIST.....	17
297 ROCKY.....	33	357 THE HUSTLER.....	31
298 ROGER RUBBISH.....	38	358 THE MEANING OF LIFE.....	34
299 ROLLER BALL.....	28	359 THE PROTECTOR.....	13
300 ROTORS.....	31	360 THE WRECK.....	22

MSX 1

361 THESEUS.....		29
362 THEXDER.....		14
363 THING BOUNCE BACK.....		29
364 TIME BANDITS.....		30
365 TIME PILOT.....		05
366 TIME TRAX.....		29
367 TIMECURB.....	D.	37
368 TOPPLE ZIP.....	D.	38
369 TRAFFIC.....		07
370 TRAIL BLAZER.....		33
371 TRANTOR.....		10
372 TRIVERSI.....		24
373 TT-RACER.....	D.	39
374 TURBOAT.....	D.	34
375 TURMOIL.....		08
376 TWIN BEE.....		20
377 TZR.....		14
378 UFO.....		11
379 ULTRA CHESS.....		33
380 ULTRAM.....		15
381 VACUMANIA.....		10
382 VALKYR.....		17
383 VAMPIRE.....		24
384 VERA CRUZ.....		35
385 VESTRON.....		26
386 VICIOUS VIPER.....		16
387 VIDEO TENNIS.....		33
388 VOLGUARD.....	D.	09
389 VOLLEY BALL.....		35
390 WARP WARP.....		13
391 WARROID.....		01
392 WHO DARES WINS 2.....		27
393 WIZARDS LAIR.....		23
394 WONDER BOY.....		20
395 XYZOLOG.....		10
396 YIE AR KUNG FU 1.....		04
397 YIE AR KUNG FU 2.....		04
398 ZANAC.....		20
399 ZEXAS.....		09
400 ZOOM 909.....		28

MSX 1 UTILITIES

0001 AACCODESK	:WDPRO/DBASE	:\$10.00 : D.
0002 BANKSTREET WRITER	:WORDPRO	:\$10.00 : T.D.
0003 CAD 42	:DRAWING	:\$10.00 : T.D.
0004 COBOL	:LANGUAGE	:\$10.00 : D.
0005 COPY CAT	:TAPE COPIER	:\$10.00 : T.
0006 DEVPAC 80	:ASSEMBLER,EDITOR	:\$10.00 : D.
0007 DRAW & PAINT	:DRAWING	:\$10.00 : T.D.
0008 EDDY TWO	:DRAWING	:\$10.00 : D.
0009 FORTRAN	:LANGUAGE	:\$10.00 : D.
0010 GRAPHIC ARTIST	:DRAWING	:\$10.00 : D.
0011 HISoft/SONY C	:LANGUAGE	:\$10.00 : D.
0012 HOMEWITER	:WORDPRO	:\$10.00 : T.D.
0013 KNIGHT COMMANDER	:40 NEW COMMANDS	:\$10.00 : T.D.
0014 KNIGHTS EASY ASS.	:ASSEMBLER,EDITOR	:\$10.00 : T.D.
0015 KNIGHTS EXPERT M/C	:ASSEMBLER	:\$10.00 : T.D.
0016 KUMA WDPRO	:WORDPRO	:\$10.00 : T.D.
0017 MSX DEBUGGER	:DISASSEMBLER	:\$10.00 : D.
0018 MSX DOS TOOLS	:UTILITIES	:\$10.00 : D.
0019 MSX HANDBOOK	:UTILITIES	:\$10.00 : D.
0020 MULTIPLEX (80 COL.)	:SPREADSHEET	:\$20.00 : D.
0021 PRINT EXPRESS	:GRAPHIC PUBLISHER	:\$10.00 : D.
0022 QUICKNOTES	:DATABASE	:\$15.00 : D.
0023 SONY GRAPHIC MASTER	:DRAWING	:\$10.00 : T.D.
0024 SONY MUSIC STUDIO	:MUSIC WRITER	:\$10.00 : T.D.
0025 SONY PRINT LAB	:DRAWING	:\$10.00 : T.D.
0026 SPEEDSAVE 4000	:TAPE TO DISK	:\$10.00 : D.
0027 T-GRAPH	:GRAPHS	:\$10.00 : T.D.
0028 T-PAINTER	:DRAWING	:\$10.00 : T.D.
0029 TASWORD	:WORDPRO	:\$10.00 : T.D.
0030 TONUS	:TAPE COPIER	:\$10.00 : T.
0031 TURBO BASIC	:COMPILER	:\$10.00 : D.
0032 TURBO PASCAL	:LANGUAGE	:\$10.00 : D.
0033 VIATEL, MODEM 40, KERMT	:DATA COMMUNICATIONS	:\$10.00 : D.
0034 WORDSTAR	:WORDPRO (80 COL.)	:\$10.00 : D.
0035 WORDSTORE +	:SPEECH	:\$10.00 : D.
0036 ZEN	:ASSEMBLER	:\$10.00 : T.D.
0037 dBASE II (80 COL.)	:DATABASE	:\$10.00 : D.

MSX 2 - 2+ PROGRAMS

0001 1942	:MSX2	:\$10.00 :	0023 GARFIELD PUZZLE	:MSX2/2+	:\$10.00 :	0045 SA-ZI-RI	:MSX2/2+	:\$10.
0002 ADVENTURES OF USAS	:MSX2	:\$10.00 :	0024 GOLVELLIUS	:MSX2	:\$10.00 :	0046 SALAIS FREEHAND V1.3	:MSX2/2+	:\$10.
0003 ALESTE	:MSX2	:\$10.00 :	0025 GRAPHSAURUS V. 1.0	:MSX2/2+	:\$10.00 :	0047 SALAMANDER	:MSX2	:\$10.
0004 ALESTE 2	:MSX2/2+	:\$10.00 :	0026 GREATEST DRIVER	:MSX2/2+	:\$10.00 :	0048 SALAS FREEHAND V.4.0	:MSX2/2+	:\$10.
0005 ALESTE SPECIAL	:MSX2/2+	:\$10.00 :	0027 GRYZOR	:MSX2/2+	:\$10.00 :	0049 SAMURAI	:MSX2	:\$10.
0006 ALIENS	:MSX2/2+	:\$10.00 :	0028 IKARI WARRIORS	:MSX2/2+	:\$10.00 :	0050 SHANGHAI	:MSX2/2+	:\$10.
0007 ANDROGYNUS	:MSX2/2+	:\$10.00 :	0029 KING KONG 2	:MSX2/2+	:\$10.00 :	0051 SHANGHAI II	:MSX2/2+	:\$10.
0008 ARKANOID II	:MSX2/2+	:\$10.00 :	0030 LAST MISSION 2	:MSX2/2+	:\$10.00 :	0052 SHOOT IT	:MSX2	:\$10.
0009 ASCII DATABASE	:MSX2/2+	:\$10.00 :	0031 LAYDOCK	:MSX2	:\$10.00 :	0053 SONY GRAPHICS EDITOR	:MSX2/2+	:\$10.
0010 AUTORACE	:MSX2/2+	:\$10.00 :	0032 LAYDOCK2	:MSX2+	:\$10.00 :	0054 SONY HIBRID PACKAGE	:MSX2	:\$10.
0011 CRAZY	:MSX2	:\$10.00 :	0033 MICHELANGELO	:MSX2/2+	:\$10.00 :	0055 STRATEGIC MARS	:MSX2	:\$10.
0012 CRINSON II	:MSX2/2+	:\$10.00 :	0034 MSX DOS2 TOOLS	:MSX2/2+	:\$10.00 :	0056 SYNTHESAURUS	:MSX2+	:\$10.
0013 DOT DESIGNERS CLUB	:MSX2/2+	:\$10.00 :	0035 MSX KIT	:MSX2/2+	:\$10.00 :	0057 THE CHESS GAME	:MSX2	:\$10.
0014 DRAGONSLAYER	:MSX2	:\$10.00 :	0036 MSX RAMDISK V. 3.0	:MSX2/2+	:\$5.00 :	0058 THUNDERBALL	:MSX2	:\$10.
0015 DRAGONSLAYER IV	:MSX2/2+	:\$10.00 :	0037 MUSIC COMPOSER	:MSX2/2+	:\$10.00 :	0059 TWINKLE STAR	:MSX2+	:\$10.
0016 DYNAMIC PUBLISHER	:MSX2/2+	:\$10.00 :	0038 NEMESIS II	:CX5II,MX2:	:\$10.00 :	0060 UNDEADLINE	:MSX2/2+	:\$10.
0017 EASE V. 1.4	:MSX2/2+	:\$10.00 :	0039 PACMANIA	:MSX2/2+	:\$10.00 :	0061 VAXOL	:MSX2/2+	:\$10.
0018 F1 3D SPIRIT	:MSX2+	:\$10.00 :	0040 PLAYBALL 3	:MSX2/2+	:\$10.00 :	0062 WORLD GOLF	:MSX2/2+	:\$10.
0019 FILM (ANIMATION DEM)	:MSX2+	:\$10.00 :	0041 PRINT SHOPP II	:MSX2/2+	:\$10.00 :	0063 XYZ	:MSX2	:\$10.
0020 FIREBIRD	:MSX2	:\$10.00 :	0042 PSYCHO WORLD	:MSX2/2+	:\$10.00 :	0064 ZANAC-EX	:MSX2/2+	:\$10.
0021 FIREHAWK	:MSX2/2+	:\$10.00 :	0043 RADX-8	:MSX2	:\$10.00 :			
0022 FORMULA F1 SPIRIT	:MSX2	:\$10.00 :	0044 REPLICANT	:MSX2	:\$10.00 :			