UPGRADE PACK

Dear Customer

We are writing to tell you about our Upgrade Pack. We have a policy of continual product enhancement, and to this end we are improving SAM BASIC and SAMDOS.

We hope to be able to send out the Upgrade Pack in the third week of April. We want the Upgrade Pack to be absolutely right, and will therefore be testing it extensively: this testing, allied to the difficulty of predicting exactly how long the development process will take make it impossible to guarantee a shipment date. At the latest we will see all the Packs despatched by the early Summer.

As you know computers are extremely complex pieces of equipment. Because they are so complex it often happens that minor faults or problems do not get noticed until the computer has been on the market for some time.

For example, the Spectrum was launched about six years ago and was discovered to have six major, and quite a few minor problems with its BASIC. To this day these problems have been left unrectified.

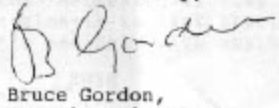
SAM BASIC is far more powerful than Spectrum BASIC, but unfortunately there are a few problems with it, although not as many as plague the Spectrum by any means.

We are not 'hushing up' and ignoring the problems, nor are we content to sit on our laurels and leave them. The Upgrade Pack will fix those problems that we know about.

In the meantime this letter is accompanied by an errata sheet which gives information and advice on problems that programmers might face. In addition we have included a couple of clarifications where we feel that the manual is unclear, and corrections to a few misprints which crept in.

We hope that you will realise from this letter that not only are we concerned to continually improve our product, but that we will not leave our existing customers behind when improvements are made. All customers will receive the Upgrade Pack, free of charge.

Yours sincerely,



Bruce Gordon,
Managing Director.

SAM COUPE ERRATA

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NEWS

BASIC

[These problems will be fixed in the free Upgrade Pack]

< "LESS THAN"

The less than command functions properly with numbers, but not with strings. For example, the following works correctly:

```
 10 LET a=1
 20 IF a<1 THEN PRINT "Problem" : ELSE PRINT "No Problem"
```

When run this prints 'No Problem' as it should.
However if you wish to compare two strings the function does not always work:

```
 10 LET a$="SAM"
 20 IF a$<"SAM" THEN PRINT "Problem" : ELSE PRINT "No Problem"
```

When run this prints 'Problem' which is wrong. The string a$ (which contains the characters, "SAM"), is equal to "SAM", not less than "SAM" so 'No Problem' should have been printed. This problem can be avoided by swapping the variables round and using the greater than '>' function which works correctly:

```
 10 LET a$="SAM"
 20 IF "SAM">a$ THEN PRINT "Problem" : ELSE PRINT "No Problem"
```

DRAW TO

This command does not work correctly in all cases, for example, when an angle is specified: suppose you wish to draw a curve from point 90,86 to point 166,86 on the screen.

```
 10 PLOT 90,86
 20 DRAW TO 166,86,2
```

This will reset the machine which should not occur. The following routine will do the same job.

```
 10 PLOT 90,86
 20 DRAW 166-90,86-86,2
```

You could do the calculation yourself if you preferred:

```
 10 PLOT 90,86
 20 DRAW 76,0,2
```

The last number in a draw command is used to determine the angle of the curve: the best way to see how this works is to try it:

```
 10 PLOT 90,86
 20 DRAW 76,0,2
 30 PLOT 90,86
 40 DRAW 76,0,4
```

EDIT

Long programs may become corrupted if they are edited using the edit key. The solution is to list the line that you wish to change and retype it entirely with any necessary corrections.

INKEY$

The INKEY$ command is designed to accept a character entered from the keyboard, but it only waits a fraction of a second before going on to the following statement, so it is usually included in a loop:

```
DO : LET a$=INKEY$ : LOOP UNTIL CODE a$>0 : PRINT a$
```

There appear to be a few problems with this command. It does not take any notice of the CAPS LOCK, although it will recognise upper case letters which are entered with a shift key depressed.
The GET command is an enhanced version of INKEY$ and its use is recommended. Unlike INKEY$ this command will wait for a key to be pressed and so for most purposes is an easier and better command to use:

```
GET a$ : PRINT a$
```

INPUT

Some users are reporting problems using this command in long programs or where there are large arrays in memory.

```
10 INPUT choice$
20 INPUT "Enter your choice "; b$
```

If either of the above fail to work they can be replaced as follows:

```
10 INPUT LINE choice$
20 INPUT "Enter your choice "; LINE b$
```

NB Using INPUT LINE suppresses the quotes which normally appear on the screen when the INPUT command is used.
Alternatively you could use the GET command and accept the input one character at a time:

```
10 PRINT "Enter your choice ";
20 LET choice$=""
30 DO
40   GET c$ : PRINT c$;
50   IF CODE c$<>13 THEN LET choice$=choice$+c$
60 LOOP UNTIL CODE c$=13
70 PRINT choice$
```

What happens in the above program fragment is this:
Line 10 prints the prompt requesting you to enter information.
Line 20 selects a pigeon hole in memory which we are calling 'choice$' and makes sure it is empty (by filling it with nothing).
Line 30 begins a loop which will make the computer keep reading in each key pressed.
Line 40 gets the key which you have pressed and stores it in a pigeon hole in memory called c$. Then this entry is printed on the screen so that you can see what was entered.
Line 50 checks to see if the key typed is [RETURN]: if the key typed is not [RETURN] it is added to choice$ so that gradually choice$ is added to one character at a time.
Line 60 looks at the last key pressed: if the last key was not [RETURN] then the program goes back to line 10 and gets another key press: if the last key pressed is [RETURN] then the program will continue from the first line after line 60.

LOCAL

This function does not work correctly in all cases, for example:

```
LOCAL a,b,c
```

will only make 'a' local, when it should make all three variables local, similarly,

```
LOCAL a : LOCAL b : LOCAL c
```

will also only make 'a' local; however,

```
LOCAL a
LOCAL b
LOCAL c
```

will correctly make all three variables local.

RENUM

Renumbering long programs can cause them to become corrupted and is only recommended for short programs.

VAL

This command does not work reliably at present.

SAMDOS

[These problems will be fixed in the free Upgrade Pack]

Automatic Booting and Loading.

In the new version of SAMDOS simply pressing F9 will cause the computer to load in and run SAMDOS (without having to bother typing CALL...).
Furthermore if the disc has a file on it with a name beginning "AUTO" this file will be automatically loaded and run as well.

COPY

In versions up to 12 of the DOS this command does not work correctly in all cases. It will copy SAMDOS with no problems, but some files do not get copied correctly.
The easiest way to copy a program is to LOAD it into memory and then SAVE it back onto the disc(s) which you want to hold a copy.

For people who are used to saving machine code, the copy problem can be avoided to some extent. What is going wrong is that the copy routine loses the last nine bytes of each file. Thus if you wish to save a code file commencing at address 32768 of length 1000 bytes instead of:

```
SAVE "Program1" CODE 32768,1000
```

enter instead

```
SAVE "Program1" CODE 32768,1010
```

LOAD

If you try to load files after number 32 in the directory, by number, eg
```
    LOAD 33
```
the DOS may fail to find or load them.
An alternative to loading files by number which works with all files whatever their number is to type in the file name.
For BASIC programs the syntax is:
```
   LOAD"DEMO"
```
For CODE files (signified 'C' in the directory) the syntax is:
```
  LOAD"ROM.BIN" CODE 65536
```
For SCREEN$ files the syntax is:
```
  LOAD"screen1" SCREEN$
```

OPENTYPE files

The new version of SAMDOS will support this type of file, including reading from and writing to such files.

DOCUMENTATION

BEEP

The manual says that the maximum duration of a beep is 16 seconds. This is a misprint, the maximum duration is 7.999 seconds.

BLITZ

This command is optimised to work best in MODE 4. To use BLITZed strings in MODE 3 best results are achieved by setting FATPIX 1.

DUMP

This command is not implemented because there was not enough room in the ROM to include it.
If you wish to dump a screen to a printer you should use Flash!.

FILL

This command works only in modes 3 and 4.

FORMAT

The command
```
   FORMAT TO "D2:"
```
will format the disc in the left hand drive - D1 and then copy the files on the disc in the right hand drive - D2 onto the disc in drive D1.

Function Keys / Numeric Keypad

In the manual it says on page 178 that to switch between using keys F0 to F9 as either function keys or numbers is achieved by typing
```
     [SYMB] [RETURN]
```
This is a misprint, the correct command is
```
     [SYMB] [EDIT]
```

INSTR

The use of the '#' wildcard character in this function is unclear.
```
 10 LET b$="Happy"
 20 LET a$="Hip Hoppy"
 30 IF INSTR(a$,b$) THEN PRINT "Matched" : ELSE PRINT "Not Matched"
```
Now type in a new version of line 10 and run the program again:
```
  10 LET b$="H#ppy"
```
This will print 'Matched'

LPRINT/LLIST

If you use either of these commands without a printer attatched and ON LINE the computer might lock up. Press the ESC key to continue. This is not a fault, almost all computers do this.

ON

In Spectrum BASIC there is no keyword called ON. This means that variables could contain this word for example
```
     LET Turn on music = 1
```
is legal in Spectrum BASIC, but not in SAM BASIC, because the word ON is recognised as a keyword.
This can be avoided by replacing spaces in variable names from Spectrum BASIC conversions with the underscore character, thus
```
     LET Turn_on_music = 1
```

LOADING SOFTWARE

Loading Spectrum 48K games

You can best use Spectrum tape based games by loading in the emulator and then loading the game when the emulator tells you to do so. On disc based systems you can either work through the menu system, or load the Spectrum emulator directly.

```
LOAD "AUTO"
```

or

```
LOAD 2
```

will load in the menu program from the master system disc or a copy thereof.

At present the Btrans and Emulator programs, even the disc based versions, will only accept tape files. It is possible, however, to load Spectrum games which have been saved onto a Plus D disc. This is achieved by doing the following:

```
LOAD "ROM.BIN" CODE 65536
```

Now put in the Plus D disc and load the snapshotted game you require.

Similarly for games which have been snapshotted on the Coupe you MUST enter the line:

```
LOAD "ROM.BIN" CODE 65536
```

After entering this line the snapshotted game can be loaded in the normal way.

To use Btrans at the moment you must save your Spectrum BASIC program to tape and load back into SAM from tape after running Btrans.

Loading the Spectrum ROM

If you already own a Spectrum computer you can achieve very high levels of compatibility by loading the Spectrum ROM into the SAM. Refer to the article in Format magazine, January 1990 issue or Computer Shopper magazine, March 1990 issue.

Tape Loading

Some people have reported problems with tape loading. Certainly the new tape based emulator is a great improvement in terms of compatibility and should allow a much higher proportion of Spectrum 48k software to be run.

If you start to load a tape and the computer displays Error 19 then a loading error has occured. As you know tapes do not always load first time, so it is worth attempting to load again. If you still get the error message there may be a problem which could be caused by one of the following (in order of likelihood):

a) incorrect volume setting
b) a faulty or worn out tape
c) a faulty or worn out cassette player
d) a faulty cassette lead
e) a faulty computer

The first thing to try is adjusting the volume setting.

1. Turn the cassette volume up to maximum.
2. Load a game.
3. As soon as you see the borders flashing or showing colour bars turn down the volume until the border is black and white, then turn the volume up just until the colour returns.
4. The volume should now be at the correct level, so reload the game and try again.

If the above does not help try loading in other tapes. If other tapes load it would appear that the cassette you tried in the first instance is faulty or has a very weak signal (often due to age).

If you do not manage to load ANY tape software then it is almost certainly a problem with the equipment. Try using at least one different tape recorder and go through steps 1..4 above. If this does not help try changing the tape lead, and again go through steps 1..4 above.

If you still cannot get ANY tape software to load you may have a problem with your computer.

[A small number of users have reported problems loading software which we have tested and successfully loaded ourselves. It may well be that their cassette player or lead are faulty, but we are currently investigating this in case there is some way of adjusting things at the SAM end. We expect to be able to report on this by the end of March].

FLASH!

At the moment if you save screens from Flash! and try to load them into the computer for use in your own programs, or just to look at, they sometimes appear with the wrong colours or incorrectly flashing colours. In some cases entering

```
PALETTE
```

will do the trick. If this does not work you can experiment with various palette values. The new version of the DOS will cure this problem.
NB Flash! screens saved as CODE files must be loaded accordingly (see LOAD on page 6 of this errata).

DISC DRIVES

Disc Care

Remember never switch the computer on or off, nor press the reset button with a disc in the drive since this could cause a disc to become corrupted. NEVER switch off, press the reset or press the break buttons when the disc is being accessed.
Remember also that discs are magnetic and that magnetic fields and heat can damage them: they should not be put on top of a screen or telephone, nor a radiator.

LOADing error 19

There are several possible causes of this problem. In order of likelihood:

i) Corrupt or damaged SAMDOS disc.
Ask us for a replacement disc.

ii) Incorrectly fitted disc drive.
The computer should be switched off and the power supply disconnected. The drive should be removed and then resinserted making sure that it is pushed fully home. The screws must NOT BE TOO TIGHT.

iii) Actual hardware fault.

(iv) Incorrect stepping rate.
If you are using the external disc drive interface it may be that you need to slow down the stepping rate; try 12 milliseconds in the first instance].

SAMDOS

The disc drives have been supplied with DOS version 11 and latterly with DOS version 12. The DOS version can be determined by typing in the following:

```
PRINT PEEK DVAR 7
```

This will display a number on the screen.

If the number is 10 or less then you should call our customer care team and ask for a free replacement. If the number is 12 or higher then you have the latest provisional version and must not perform the conversion listed below.

If the number is 11 you may have version 11 or 12. To convert version 11 to version 12 you should do the following:
Boot the computer by typing F9.
For users of 256k RAM machines type the following:

```
POKE 235973,0
POKE DVAR 7,12
SAVE"SAMDOS" CODE 229385,10000
```

For users of 512k RAM machines type the following:

```
POKE 498117,0
POKE DVAR 7,12
SAVE"SAMDOS" CODE 491529,10000
```

One of the above should be done for every disc that has a copy of SAMDOS on it.
NB If you have typed in one of these lines before, retyping will do no harm.

ADD ONS

2nd Disc Drive

Early versions of the DOS assumed that two drives were present in SAM. If you have one drive and try to use the non-existent second drive the machine will crash.
The latest versions assume one disc drive. If you buy a second internal SAM drive you need to adjust SAMDOS to recognise the second drive. This is achieved by the following:
Boot the computer by typing F9.
For users of 256k RAM machines type the following:

```
POKE DVAR 2,208
SAVE"SAMDOS" CODE 229385,10000
```

For users of 512k RAM machines type the following:

```
POKE DVAR 2,208
SAVE"SAMDOS" CODE 491529,10000
```

One of the above should be done for every disc that has a copy of SAMDOS on it.
(If you use an external disc drive the above will still work if the drive you use is 80 track double sided: if your drive is either 40 track and/or single sided you should follow the instructions on page 29 of the DOS manual.)
NB If you have typed in one of these lines before, retyping will do no harm.

256k RAM upgrade.

In the final version of the ROM (supplied with the Upgrade Pack), SAM will automatically see how much memory it has and load SAMDOS into the correct place. At present however this does not occur.
Once you have inserted the extra memory the bottom of the copyright screen should say 512k instead of 256k. To make sure that SAM works properly with this extra memory SAMDOS needs to load into the extra memory.
Boot the computer by typing F9.
Type the following:

```
CALL 229385
```

Now for every disc with SAMDOS save SAMDOS with a new loading address by doing the following:

```
SAVE"SAMDOS" CODE 491529,10000
```

NB If you have typed in one of these lines before, retyping will do no harm.

Joysticks

Some of our customers have asked why we have defined joysticks which are used with Spectrum software as Interface 2 compatible rather than Kempston compatible.

The reason is that Interface 2 can cope with either one or two joysticks: we have designed SAM to be able to use one or two joysticks, two being used with a splitter cable.
(NB the splitter cable is not yet in production).

NEWS

Hotline

We have a telephone hotline service on 0792 791275. This line has a recorded message (updated every Wednesday) giving out details of the latest happenings in the SAM Coupe world.

Software

Miles Gordon Technology are going to launch a software house in the coming months.
Also there will be a BIG announcement on the subject of software next month.
Both the hotline and the computer press will have details as soon as they are made public.