SC_24 PIN DUMPER   First released August 1993, latest ver 2.01 November 1993.
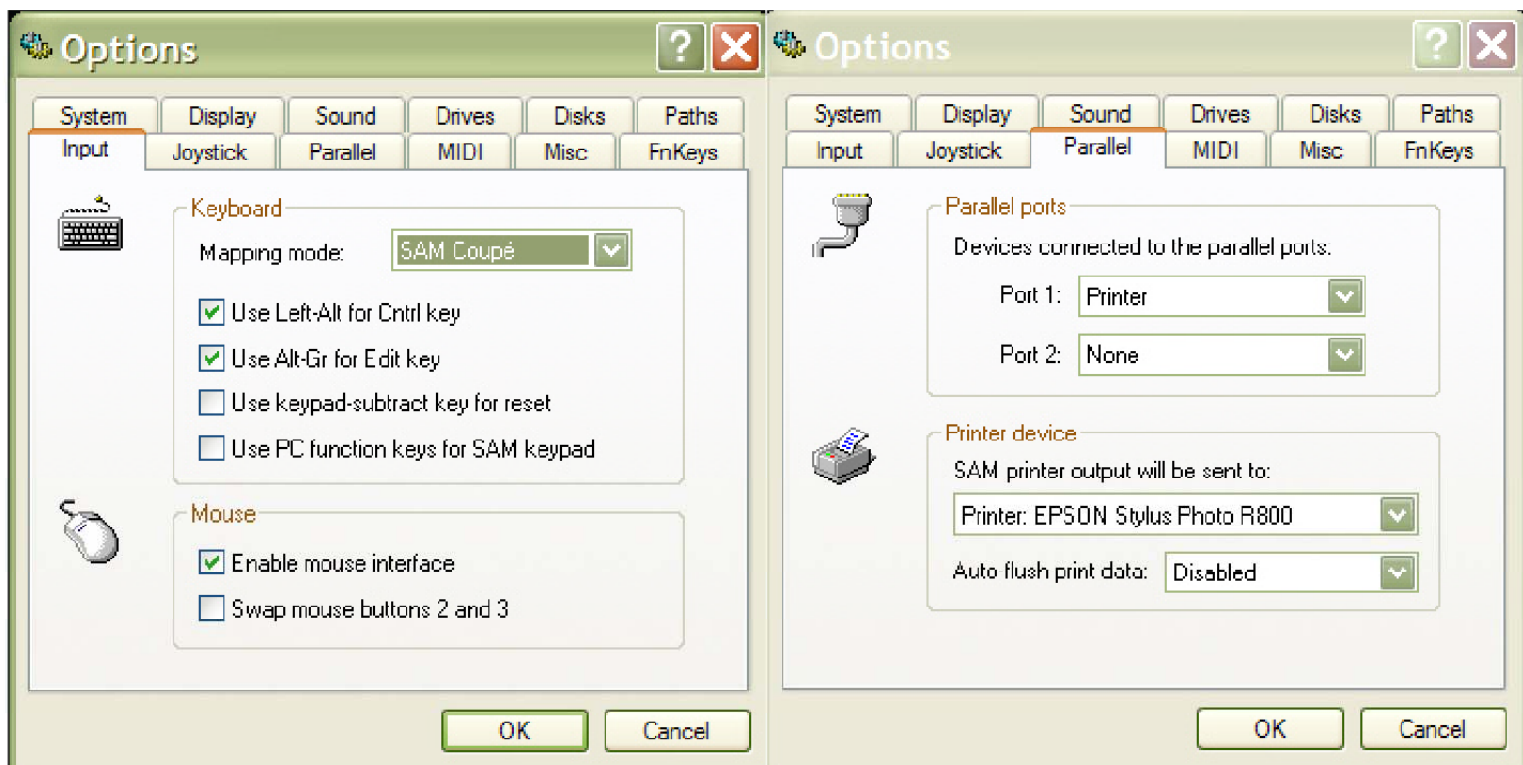### 3.0 October 1994.

This Mode 4 Screen picture printer dumper used Dot matrix 24 pin printers and latest 48 pin cannon bubble jet printers to give a better quality printout of screen shots as well as a definable area on the screen.

Also this led me to develop a Mode 3 Dumper which was used to print out the screen shots for Sam Disk Driver for the Sam, and the beginning of Developing the ultimate PC quality font printouts with SC_WORD pro.

PS You will need to also set the Parallel tab within Simcoupe, you do not necessary have to set the Auto flush printer data to Disabled, enabling may well work with printers as the output may just be fast enough.

If not keep it disabled and remember when a page has finished printing out select Tools from Simcoupe and select flush printer.

SC_24 PIN DUMPER

These hi-res screen dumps are the first to appear on the Sam designed for 24 pin printers only.
Output Mode 4 Screen$ in 16 grey shades in the highest quality.
The Canon range of printers give the highest quality output, with it's solid pitch black even ink, and the support of ultra hi-res 48 pin mode.
There are two types of dumps:-

1. Epson compatible printers (the most common), this will produce a printout about a third off the size of an A4 sheet of paper.

2. IBM Proprinter X24E compatible printers, the full range of bubble jet canon printers support this mode, check your printer manuals dip switch settings if it has IBM mode.
The output of a mode 4 screen to the printer produces a dump slightly smaller than a credit card.

The dump software will also enable you to produce a printout of part of a mode 4 screen to any position on the paper.

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Using the dump software

On the disc supplied with this dump package are 4 main files they are:-
For EPSON compatible printers "dumpe" (the basic), "dumpec" (code).
For IBM compatible printers "dumpi" (the basic), "dumpic" (code).
There are also example Mode 4 screenshots (file names 1 to 10).

When you load in "dumpe" or "dumpi" depending on what mode of printer you are using, this will automatically print out all 10 screenshots on disc to the printer.
Merge the basic file in if you wish to print out your own dumps and delete lines 1 to 59999, to remove the demo screen dump program and run line 60500 so as to load in the machine code dump routine.
First there are two variables in the basic which need to be set up for your type of printer 60002 LET topmargin=8 and 60003 LET leftmargin=4.
These two variable represent where from the top of the page and the left hand side of the page Printout starts, If you have printed out the sample screenshots you can measure in mm where from the top of the paper to the start of where your dumped screen starts (this is the topmargin), and also from the very left hand side of the paper to where your dump starts to the left (this is the leftmargin).

There is a DEF PROC to help you dump out your screen shots, the syntax is:-
gdump down,across,graphicdown,graphicacross
 - down value represents where from the very top of the page to where your dump starts down the page in mm.
 - across value represents where from the very left hand edge of the page to where your dump starts across the page in mm, Note a value of 0 will use the current across value, 1 will print the graphic to the far left of the page as possible, other values will position the graphic to the left in mm, (to the nearest 3 mm or so).
 - graphdown represents the number of screen pixels from the top of the Mode 4 screen is outputted to the printer (a value of 192 is the whole screen downwards, a value of 8 will print the first 8 pixels of the screen)
 - graphacross represents the number of pixels from the left edge of the screen is outputted to the printer (a value of 256 prints out the whole screen across, a value of 128 prints the left half of the screen).

For example to print a full mode 4 screen 100mm from the very top of the paper and 50mm from the very left of the paper type:-
gdump 100,50,192,256
To print the top left quarter of the screen directly underneath a previously dumped screen type:-
gdump 0,0,96,128
If you type gdump on it's own the default variables are a full screen, to be printed at the current printer printhead position.
If you find that the positioning of the dump does not go where it should onto the paper try altering the variable in line 60220, halving or doubling the value shown on the line.

SC 24 PIN DUMPER ver 2.01 Nov 93

The new version of the dumper software enables 48 pin printers to produce a small credit size dump as normal, but also a larger dump in IBM mode.

24 pin printers see a totally new dump routine that will emulate 48 pin printer quality using clever software, so you can now have small credit sized dumps.

Both 24 and 48 pin printer routines will enable you not only to dump Mode 4 screen$, but also Mode 3 screen$. Theres now more accurate positioning of graphics across the page, slightly better quality output for the larger dumps, more precise control of the size of screen that can be outputted to the printer, (note both routines take longer to dump screens than the original version 1.0).

There are 3 files that will enable you to use both 24 and 48 pin printers without loading separate programs :-
"dump" (the basic)
"dumpc1" CODE 30000,2767 (1st piece of machine code)
"dumpc2" CODE 16384,1024 (2nd piece of machine code)

NOTE the new version of the dump software will not work with MasterBasic.

When you load in "dump", the program will also load in the 2 machine code files and print out all the 10 sample screen$ on the disc, note the default program set up is for 24 pin printers, the program will work with a 48 pin printer providing it is in Epson mode, but if you would like to see the best quality output you will need to type MERGE "dump" LINE 65000, and alter line 60004 LET pin=48 and re-save the basic as SAVE OVER "dump" LINE 1, Make sure the printer is in IBM mode (not Epson), and then reload in "dump".

The 24 pin routine uses two passes of the printhead with a small minuscule line feed in-between to produce the high 48 pin resolution quality mode, you may find the printout too dark, if so try putting you printer in draft mode.

It's unavoidable with 24 pin printers to get rid of what is known as banding, if you look closely at your dump printout you can see about every 3 mm down the dump a noticeable band area where the printhead dumps each part of the graphic, 48 pin printers especially the Canon range don't produce banding at all, the dump is pure and even.

Should your 24 pin printer produce to much of an overlap between banding, try Poking 30247,0,0 and then try printing out another dump, if there is a thin white blanc line between the banding, like the above Poke 30247,61,61.

There are some variables to set for your printer within the dump basic program 60002 and 60003 for the topmargin and leftmargin (see previous page for more details) and also 60220 and 60260 (see bottom of previous page).

The syntax for the gdump is similar to version 1.0, except for extra variables that need to be set up.
gdump size,down,across,graphicstartdown,graphicstartacross,graphicdown,graphicacross

- size   0 for a small credit size dump, 1 for a large 1/3 of a page dump
- down   value represents where from the very top of the page to where your dump starts down the page in mm.
- across value represents from the very left hand edge of the page to where your dump starts across the page in mm, Note a value of 0 will use the current across value, 1 will print the graphic dump to the far left of the page as possible, other values will position the dump graphic from the left of the page in mm.
- graphicstartdown (value of 0 to 191) sets where in your Mode 3/4 screen should printing start from down the screen, 0 is the very Top of the screen, 96 for example for the middle down half of screen.
- graphicstartacross (value of 0 to 511) sets where in your Mode 3/4 screen should printing start from across the screen, 0 is the very left of the screen, 255 for far left of a mode 4 screen, 511 for a mode 3 screen.
- graphicdown (value 1 to 192) sets how many screen pixels down your dump should be printed out.
- graphicacross (value 1 to 512) sets how many pixels across your dump should be printed out.

For example to print a full Mode 4 screen in a small dump size, a 100mm down from the top of the piece of paper and 50mm across from the very left of the paper type:- gdump 0,100,50,0,0,192,256
To print the right hand bottom quarter of the Mode 3 screen in a large sized dump directly under the previous dump if any type:- gdump 1,0,0,96,256,96,256.
To print a full Mode 4 screen, 80 mm down the top of the page by 20 across the page in a small credit size type:- gdump 0,80,20 (No need to set up the other 4 variables, if you miss them out the default is a full mode 3/4 screen).
If you type gdump on it's own the default variables are for a full mode 3/o4 screen to be printed out at the current printhead position in a small credit size. (gdump 1, will do the above but in a large size dump)

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The new version of SC_24 PIN DUMPER v3.0 you will find a lot easier to use compared to the other versions you may have used before.

There are 3 files:-

dump the Basic (autofile 60500)

dumpc1 code block 1 16384,1218

dumpc2 code block 2 98304,8192

The first thing to do is alter the basic "dump" file with your printer set up, type LOAD "dump" LINE 65280

Lines 65100 to 65110 contain variables which are:-

65100 LET pin=48   (24 for 24 pin dot matrix printer, 48 for ink/bubble jet printers).

65101 LET size=0   (0 for a credit size dump, 1 for 1/3 an A4 dump).

65102 LET down=0   (how far down the page should graphic dump start, 0 for very top).

65103 LET across=0   (how far across the page should graphic dump start, 0 for far left).

65104 LET micro=0   (0 for normal dump, 1 for high quality dump without banding, please note this takes 30-45 secounds to dump out, credit size dumps on 24 pin printers with micro will not work, only larger dumps with size=1).

65105 LET copys=1   (Number of copys to dump out).

65106 LET feed=0   (When a dump has finished 0 will not feed out the paper generally for tractor feeds, or 1 to feed paper out).

65107 LET topmargin=8   (Very top of page where text and graphics can start, refer to printer manual for top margin in mm).

65108 LET leftmargin=4   (Very left of page where text and graphics can start, usually 4 mm, refer to printer manual).

65109 LET mouse=1   (1 if you have a mouse connected, 0 for keyboard only).

65110 LET mousebut=0   (If a mouse is connected, then 0 is for left handed users, 1 for right handed users).

SAVE "dump" LINE 60500   to save back the basic to disc, when you are happy with the set up.

When you load in the dump program, you will be asked which screen file you would like to load in, (there are 10 sample files on the disc numbered 1 to 10).

Press RETURN in the filename input for a DIR.

Once the screen file loads in you will notice a small cursor at the top left hand corner of the screen, using the mouse or keys Q,S,I,O to move around to where you want the top left hand corner of the dump to start, if you want the whole screen to dump out just press RETURN.

Once you have placed the cursor in the right position press key M or mouse button right if left handed or mouse button left if right handed.

Now you can select the size by moving cursors or keys, and press the mouse button, if you are not happy with the size and wish to re-select the area, press the opposite mouse button, or key N.

Now you will be presented with the options, two cannot be altered they are screen across this shows you how many mm the dump will occupy on the printer across the page.

screen down shows you how many mm the dump will occupy on the printer down the page.

Note when you alter the size option these two values will be updated to show the new measurements.

Pressing a number or letter on the left hand side will allow you to alter any values.

D will dump out you screen, if you have selected more than one copy the secound copy and others will print out a lot faster providing you are not using micro weave, the dump is credit size, or if using large size it is about half a screen height or less.

Note micro weave will use the top pin of your printhead only, on dot matrix printers the top part of the ribbon may wear out, although the top pin is hardly used when LPRINTING text, a new version will allow you to select which pin you would like to use.

Micro weave outputs come out lighter than normal dumps.

Large dumps with size 1 come out better in 24 pin mode on 48 pin bubble jet printers.

Note when you select S for save, the screen along with the preferences is also saved out, when you selct L for load the you will go straight to the menu of options with the preferences for that screen.