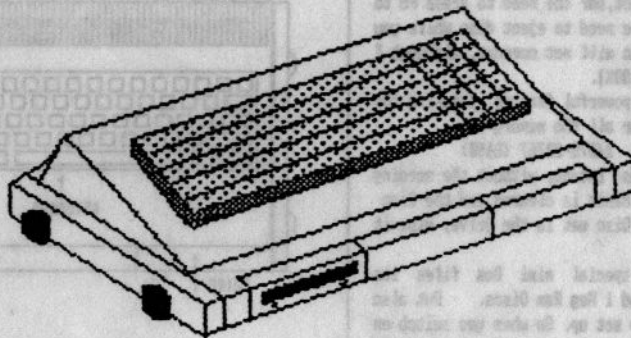


SC_AUTOBOOT

Powerful Machine code Utility Software
FOR THE SAM COUPE 256/512K COMPUTER



The New exciting Chip for the Sam Coupe
Instant Reset, Automatic Dos Boot up
Powerful Break Button, Exit to Basic no
Matter what program is running.
Special mini Doses exploit this feature

by S.J.NUTTING
Copyright March 92

STEVES SOFTWARE

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From 8pm-9pm

THE ROM COPYRIGHT

The main copyright holder of the latest Samcos Rom 3.0 belongs to ANDY URIGHT. The new SC_AUTOBOOT chip which is a slightly modified Rom 3, is a joint programming venture between ANDY URIGHT & S.J. NUTTING from an idea by me (S.J. NUTTING).

I hold the main code copyright on the new code, the marketing, and selling of the new chip, with royalties going to Andy for each chip I sell.

The Chip although called the Rom is really an Eprom (Erasable Programmable Read Only Memory) This means from a special piece of Hardware the chip can be programmed through a window hole in the chip.

The special Dos routines was written by me S.J. NUTTING.

WHAT THE CHIP CAN DO

When you turn the Coupe on there is no need to wait 3 secs for the Coupe to reset, nor the need to press F9 to Boot up the Dos, nor the need to eject disc while you turn the Coupe on (the Disc will not corrupt, although I cannot guarantee this by 100%).

There is also another powerful feature, pressing the reset button will not clear all the memory :-

Page 0 16384-17407 (1024) 24576-32767 (8192)

Page 1 upto Dos page stays intact, without the zeroing out of bytes, however the Basic is cleared and the Disc will reboot up, if the Disc was in the Drive, else it will drop back to basic.

With the addition of special mini Dos files its possible to restore Dos and 1 Meg Ram Discs. But also have a customized system set up. So when you switch on the Coupe you don't end up in Mode 4 with set up system variables you could say have a MODE 3 screen in CSIZE 8,8, with the palette choice of your own, system pokes for key speed response, caps lock and any others you would like.

There is also a special Dos for Assemblers so if you are running some source code and should it crash, in a couple or so seconds the Assembler, Source, Dos, Ram Discs and Basic is restored from the point you left off.

OTHER SOFTWARE FROM STEVES SOFTWARE

SC_ASSEMBLER	£12.50	Special offer Buy both
SC_MONITOR	£15.00	Assembler & Monitor for £24
SC_FILER	£12.50	upgrades from Assembler to
SC_PD3	£2.50	Monitor £12

Posh White exact moulded fitted Sam Coupe Dust Covers ideal Present for £5.50.

Also covers for Printers £6.50, Monitors £7.50 (Please state Model).

Coming soon September 1992 a Sam DTP Package, this Manual was produced by me again on a prototype version with Hires graphics and text using 3 standard 8 pixel character sets, What you see on the Monitor screen is exactly what gets printed out in the right scale with no distortion, for 24 pin printers only.

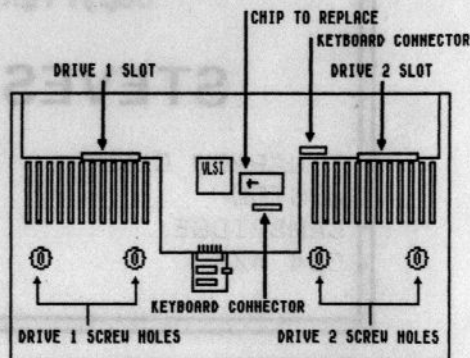
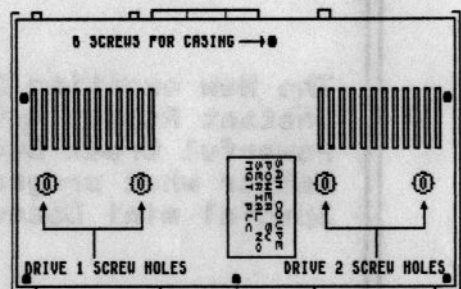
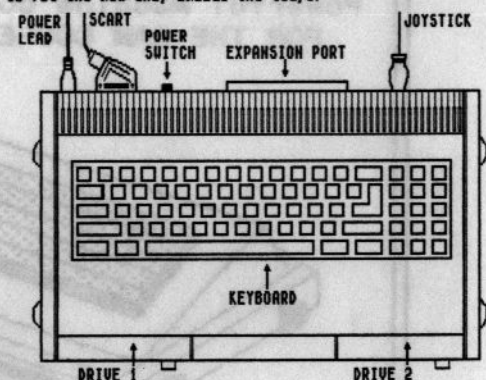
The final version will also support 4 or may be upto 16 grey shade colours and an A4 sheet version but will need the 1 Meg interface.

FITTING THE CHIP INSIDE THE SAM COUPE COMPUTER

IMPORTANT Please read the following carefully before you attempt to open the insides of the Coupe, failing to do so could damage your Coupe.

The new chip you have now, has been tested on my Coupe, the pins on the chip have been straightened and aligned to fit perfectly, so be careful that you do not bend them as they could snap off.

I have opened the coupe up many times, removed and replaced the Rom chip many times without damaging the Coupe, However I cannot be held responsible for any damage that has resulted from you fitting the new chip. The Diagrams below should help you step by step on how to fit the new chip inside the Coupe.



- Switch the Coupe off, by the Power Switch.
- Remove the Power lead, Scart plugs, Joysticks, any other leads & anything connected to the Expansion port or Euroconnector as its sometimes called.
- Turn the coupe upside down, so that the keys rest on a flat surface well away from liquids.
- Using a Philips or crosshead screwdriver, remove the two screws holding Drive 1, keep the screws in a safe place.
- Lift the front of the coupe up slightly with your left hand, now grab the front section of Drive 1 & pull the drive completely out.
- Repeat parts 4/5 if you have a second drive.
- Now unscrew the 6 screws holding the two parts of the casing together.
- Hold casing tightly together and turn the coupe up the right way up with keys facing upwards.
- Gently pull the front two parts of the casing apart, just enough to peep inside, you should see two green strips of plastic, these actually connect to the keyboard, these have to be pulled out of the keyboard connector.
- Place left hand carefully inbetween the casing and place your index finger on the keyboard connector while your right hand index finger and thumb place as near as you can to the end of the green strip near your left index finger and gently pull the strip out of the keyboard connector, repeat part 10 for the other green strip, so you can then pull the two parts of the casing completely apart.
- You should now see the chips exposed, DO NOT touch the components, with the exception of the Rom which we are now going to replace.
- This is the tricky part, you will need a teaspoon and place the narrow end under the old rom chip so that you can lever it out, its best to do it gradually with both ends of the chip, so that you reduce the chance of bending the chip pins. Keep the old chip it will come in use if you break the new chip, as you can send the old chip back to me so that it can be reprogrammed with a copy of SC_Autoboot (You will need to enclose a cheque for £1 if you would like the chip reprogrammed).
- Now place the new Autoboot chip and place it in the empty socket, WITH the arrow pointing left near to the square chip, do not put it in the other way. With the chip firmly in its socket, its time to put the Coupe back together again.
- Place the top part of the casing loosely on top of the bottom casing and place the green plastic keyboard strips back in the connectors.
- Hold the two parts of the casing tightly together and turn the coupe upside down, and screw the 6 casing screws back in.
- Place the back edge of the coupe on a soft worktop so the coupe points upwards with the empty drive slots uppermost. Slot in a Disc drive while at the same time peeping through the metal black vents on the back of the coupe, so that the end of the drive slots into the connector, if its not firmly in press the blue eject button on the drive, you should find it will connect futher. Then screw in the 2 Drive screws to make sure the drive stays in place.

TESTING OUT THE NEW ROM

Connect the Scart lead and the Power lead only for the moment, switch on your Monitor, ensure no disc is in the drives and then press the Power switch on.

You should hear the Drives make a noise and after approx 2 seconds the error message :-

SS MISSING DISC, 0:0 should pop up, if not switch off the Coupe immediately, see the section on Problem solving

The next stage is to test out the keyboard to ensure all the keys work correctly. Press the following keys :-

SHIFT hold it down while pressing key 1

SHIFT " " " " " " Q

SHIFT " " " " " " A

SHIFT " " " " " " +

SYMBOL " " " " " " Q

Press keys 5 6 = :

You should see the following characters on the screen :-

!QAW(56=: If not try again, if you still have no success then the green plastic strips inside the coupe need to be refitted to ensure they connect correctly.

Now press the LEFT CURSOR key twice, the cursor should be between the 6 and = now press the CURSOR DOWN the cursor should now be after the : If not refit the green plastic strips inside the coupe.

Now that the keyboard and Chip works correctly the last item to check is if the Disc Drive is fitted correctly.

Insert a Disc with a system Dos on it only, Turn the Coupe off then On again the Disc should spin up like we did before and should load in the Dos automatically and come up with the message:- 0 OK, 0:0 if not Drive one is not fitted correctly in its socket.

Switch off the coupe, and connect the other pieces of equipment to the back of the Coupe, and your away.

Congratulations on successfully fitting the new chip and hope you will find it time saving and useful.

PROBLEM SOLVING

If the screen remains blank and the drive does not make a noise its due to the Autoboot chip.

Open up the coupe to expose the chips, Have a close look at the autoboot chip to ensure that :-

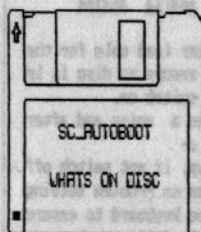
The arrow is pointing to the left near the large chip.

The legs or pins on the chip are not bent or broken.

The chip is firmly pushed in the socket.

If all the above are correct then take out carefully the autoboot chip and put your old chip back in and place the coupe back together again. Switch on the coupe, if it works ok, then you have a faulty autoboot chip, send the chip back to me for replacement. If however you still cannot get the coupe working, check all possible causes such as have you connected the scart lead, is the coupe power pack connected to the mains, if you have a Philips CM8833 monitor have you switched the input button etc.

If you still have no success then I am sorry to say you may have damaged the Coupe. Send the Coupe off to Samco, if its still under guarantee they may be able to repair the Coupe free of charge.



```

1 sandos2 20 C 491529,8192
2 auto 3 BASIC 10
3 sc.booter 10 BASIC 10
4 scbooter 1 C 32777,501
5 sc.restore 1 C 32777,501
6 DEMO demo of software

```

The Autoboot Rom remains 100% compatible with Software that has been well programmed without taking any short cuts.

The only program that at the time of writing which does not work correctly is Samcos NewsDisc January Issue this program relies on the coloured border being present at the start of the powering up of the Coupe.

The file sc.booter will ensure the program works and any other problems with any software cured with this small miniature Dos.

The auto file will test out every byte in the Rom to ensure there are no errors, this will also load up :- sc.booter the Rom Dos patch, to ensure the chip remains 100% compatible with any software likely to give problems.

This miniature Dos can be loaded in by BOOT 1 or saved to disc so when you turn the power on to the coupe it will automatically BOOT up very quickly with the options of:- Zeroing out all memory with zeros, in effect clearing the whole memory, just like on the old Rom.

Altering the F7 and F8 function keys to 4 new keycode commands for the Directory.

Altering the Mode of screen to 3 or 4.

Changing the Palette colours to your choice.

Alter some system variables.

Option of then BOOTING up the main Dos automatically so you can then use the Disc Drives.

LOAD in "sc.booter", you will then have the option of altering the coupe system to your own requirements.

First is the option to clear out all memory, all software I know of do not need to have the memory zeroed out so press n for No.

Next Altering the function keys so instead of F7 being LOAD"" and F8 being LOAD""CODE which is for tape users the keys are redefined for Disc users.

Next the BOOTING up of the main Dos to allow you to use the Disc drives.

Next the screen mode you would like to use when the main Dos loads in and you drop back to basic.

Next the option of altering the palette colours from standard, to any you like, although Palette 0 is held as 83 on the standard palette, if you don't like this colour, you can always change it.

Next you can alter upto 12 system variables, e.g alter caps lock, keyscanning etc to your personal requirements And lastly to save out the modified Dos to Disc.

Useful system variables:-

```

REPDEL 23561 5089 Delay before keys autorepeat def 33
REPSD 23562 508A Delay between key repeats 3
LISTFLG 23224 5A88 List Format 0 or 1 or 2 0
KLFLAG 23658 506A Caps lock (0=off 0=on) 0
SOFE 23090 5A32 Screen enable/disable (1=disable) 0

```

MEMORY,DOS,1MEG RESTORER

The file sc_restore on the disc is a very powerful utility development Dos tool for Assemblers and Monitors This miniature Dos will restore the system variables, 1 Meg memory including the Ram Disc and the main Dos from a reset caused by running an Assembler source code program that happened to crash, which locked up even if the NMI button cannot get out of, or a reset by a Jump to Rom address 0.

This will be a big time saver on Assemblers, normally you would need to save out the source each time you call the required routine to run, and then if it crashed the Dos, main Assembler program and source has to be loaded

To use this miniature Dos with lets say SC_ASSEMBLER in this example, do the following:-

Load in the Dos and Assembler program and quit to basic. FORMAT a DISC, and copy the sc_restore file onto the blank disc, and also save this file to the same disc:-

SAVE "systemen" CODE 17654,6621 [this saves out the whole system variables, palette colours, memory, allocation table etc).

On a 512K Sam type DPOKE 491520+510,0

On a 256K Sam type DPOKE 229376+510,0

On a 512K Sam with MasterDos or MasterBasic type :-

WRITE AT 1,5,4,491520

On a 256K Sam with MasterDos or MasterBasic type :-

WRITE AT 1,5,4,229376

If you are using Sandos on a 512K Machine type :-

POKE 32768,mem\$ (491520 to 491520+511):

WRITE AT 1,5,4,32768

If you are using Sandos on a 256K Machine type :-

POKE 32768,mem\$ (229376 to 229376+511):

WRITE AT 1,5,4,32768

The above will save a small section of the Dos.

Lastly just the Basic needs to be saved out as :-

SAVE "auto" LINE 1

To test out the sc_restorer, type in some source and press the reset button (not the power switch), to stimulate a reset, in a matter of a couple of seconds the Assembler program and it's source is restored from where you left off.

There is another trick which will restore the Assembler even quicker if you have a 1 Meg interface.

Type FORMAT "d3",4,160: SAVE "A" LINE 1 Then type:- LOAD "sc.restore" CODE: POKE 33041,149,34,68,51,58,65,34,0,7,0: SAVE OVER "sc.restore" CODE 32777,501

So when you now press the reset button you should find LOAD "d3:A" in the edit area, Press RETURN and the basic instead of loading from Disc will load from Ram Disc.

To convert other Utilities, use the same procedure for software such as Comet etc.