A NIDD VALLEY PRODUCT

CHAUFFEUR

■ A MOUSE DRIVER UTILITY
FOR THE BBC B/B+/MASTER 128 & COMPACT

CHAUFFEUR USER MANUAL

BBC B, 9+, MASTER 128, and COMPACT

C H A U F F E U R   U S E R   M A N U AL

BBC B, B+, MASTER 128, and COMPACT

1 INTRODUCTION

CHAUFFEUR is a user friendly MOUSE utility which is designed to
enable everyone to enjoy MOUSE CONTROL with any software of their
own choosing.CHAUFFEUR is supplied on disc and requires 16K of
SIDEWAYS RAM. Master, Compact & B+128 computers have this
facility but BBC B/B+ users will require a Nidd Valley RAM BLOK(
or suitable alternative) fitted according to the instructions. If
a READ/WRITE switch option is provided on other types of RAM
extensions then we recommend that this is fitted.CHAUFFEUR is
designed to provide mouse control to many existing programs which
are not written for mouse input.All programs use the keyboard as
the main input option, so CHAUFFEUR is designed to emulate key
presses. However, as the ROM image software uses INTERNAL key
numbers,it cannot be guaranteed that all software will adapt. It
is possible that a few, very complex programs will not respond to
CHAUFFEUR control even though we have provided four separate
routines to maximise the potential success.We will always be
interested to hear of all successful and unsuccessful
adaptations.

2 STARTING UP

CHAUFFEUR is very easy to use.Start by BOOTING the program. Place
the disc into drive 0 then press SHIFT/BREAK keys, releasing the
BREAK key first.
You will now be presented with the MENU screen prompting :-
          <T> for the mouse TEST program
          <C> for CHAUFFEUR keyboard emulation routine
          <J> for JOYSTICK emulation routine.
TEST demonstrates the use of the ROM POINTER mode from within
your own software, providing a simple mouse testing facility. On
entering <T> you will be asked to select the RAM BANK into which
you wish the NIDDROM to be loaded. This can be any of the
provided Ram banks in the MASTER series, the user Ram of your BBC
sideways card (or the position into which you have fitted your
RAM BLOK). A new screen will appear with a short introduction,
press any key to continue into the test program.

3 DRAWLINE TEST ROUTINES

This short program demonstrates how the mouse POINTER routine can
be read and the resultant data applied to practical application.
DRLINE uses this data for drawing freehand and elastic lines.
Moving the mouse changes the X & Y readings displayed at the lower
part of the screen. Press the BUTTONS and note the data returned
by the various combinations.

None	Left	Cent.	Right	Cent.+Left	Left+Right	Cent.+Right	All 3
0	1	2	4	3	5	6	7

You may have already noticed that certain button presses have done
one or two things. DRAWLINE is designed to show how to apply
pointer routines within your own programs, using combinations of
button presses as follows

     CENTRE... allows free hand drawing when pressed.
     LEFT..... sets the points at which elastic lines start and end.
     RIGHT.... is used in conjunction with the Left & Centre
          (a) Press all three together (Right first) to CLEAR the
              screen and reset the cursor .The screen colour is
              set 3 using keyboard keys 1 to 4 .... DATA = 7
          (b) Press Right & Left to increase or decrease the speed
              at which the cursor moves relative to mouse movement
              this is referred to as SENSITIVITY..Data returned = 5
Line colours can be changed by pressing KEYBOARD keys 1 to 4. The
Master/Compact version also has flood fill using the keyboard F. An
option to enter different drawing functions is provided within the
program. However the only option used by DRAWLINE is for DRAW and
LINES. The program may be listed and restructured for the basis of
your own graphics Design program into which you can add your own
routines and functions.

   NOW FOR CHAUFFEUR

4 CHAUFFEUR START-UP

Switch the computer off to clear the memory, and reBOOT the disc
for the MENU. Select <C> for CHAUFFEUR.You will now be asked which
RAM bank you wish to load.This will be the ROM slot no. into which
the RAM BLOK was fitted or one of the RAM positions in SIDEWAYS.
On selection the ROM image will be loaded and you will be
presented with the main CHAUFFEUR MENU.This menu will always
appear whenever you enter *DIGION <return>.

CHAUFFEUR MENU .. three menu options are offered

5 POINTER SOFTWARE

This option provides the standard mouse interrupt routine used by
a number of programs. This type of program often assumes that a
mouse ROM (such as the AMX) is present. To run such software
enter <A>.
You will then be prompted to LOAD your program disc in the normal
manner. The notation not to press CTRL/BREAK does not always apply
with such software, but it may be necessary to experiment. With
some types of SIDEWAYS RAM fitted to BBC it may be necessary to
switch the write protect (if fitted) to the read only position,
but always switch back to read/write prior to selecting the mouse
option from within the program.
If the .POINTER does NOT work on some software don't despair!
proceed to the next stages where further solutions can be found.

Enter *DIGION to return to the CHAUFFEUR menu.

6 CURSOR EMULATION

This routine initialises the ROM to convert mouse movements into
CURSOR arrow key, emulation, the three buttons initialised as
follows

     Right = DELETE   Left = COPY   Centre = RETURN

This option is particularly useful in WORD PROCESSING such as
VIEW Entering option B once again takes you to the final screen
which prompts you to load the software. DO NOT CTRL/BREAK. You
can test the mouse at this stage noting that the CURSOR moves
with the mouse and that the buttons operate as COPY....DELETE....
RETURN...
Try reprogramming your mouse to produce different button and
roller ball emulations using the *M... & *SWT... commands.
NOTE ..you should refer to the table of INTERNAL KEY numbers
before trying to reprogram with *SWT and *M. (see paragraphs 12
& 15) Try also adjusting the cursor SPEED with *SENSITIVITY (
*SE.xxx). You may now have realised the power of CHAUFFEUR. The
CURSOR option and reprogramming is simple to select allowing
greater flexibility with multi key programs (such as VIEW).

Re-enter the CHAUFFEUR menu using *DIGION.

7 USER DEFINED KEYS

This routine allows you to program the mouse to any key presses
of your own choice and then to store these onto disc file. You
can then reLOAD these at any time you enter the CHAUFFEUR menu
using *DIGION
     Enter (C) ...you are now offered the following choices....

7 USER DEFINED KEYS (cont.)

(A) LOAD FROM DATA FILE

On entering (A) the 16 file options will be displayed. Some of these have already been programmed. Load File A..and you are now back to the 'load software' screen with the mouse emulating the CURSOR keys once more. File A has been set to CURSOR ,the data has been loaded into the ROM workspace. *DIGION returns you to MENU. Select option C.

(B) DEFINE KEYS

To define your own keys and store them onto file, first select your favourite keyboard only controlled game. Note the keys used for UP DOWN, LEFT, RIGHT, also the keys giving the most beneficial use of THREE FIRE buttons. Enter (B). A new display with four compass points appears and you are asked to press the keys used for the seven functions. Press the relevant keys in turn. Check before entering Y to the OK prompt. Enter Y to the Save to disc prompt.T he data files are now displayed and the keys can now be SAVEd. For this exercise use 'P' and enter the title for your garne. The data is then stored onto disc. First test that your mouse generates correct key presses for each function before playing the game using mouse control.

To test that the procedure really worked BREAK and then re-enter CHAUFFEUR using *DIGION then reload file P.

NOTE: The ESCAPE, CTRL, SHIFT keys are not accepted by the input routine. However the internal key codes for these can be designated through the *SWT.. *M.... commands or through the DIGIKEY disc file using the program FILESET <see following notes). These three keys are not often read by standard techniques, so application could be limited. (Compact users should refer to paragraph 18).

8 JOYSTICK EMULATION

A JOYSTICK emulation routine is supplied on the main disc MENU providing a further option to run software which is not adaptable to CHAUFFEUR control. As many programs offer both joystick and keyboard input, it could often be easier to use this option without going through the main CHAUFFEUR routine.

On selecting option <C> from the menu you will be prompted with the default settings most commonly used.

<a> The RAM position to load the JOYROM image into.

<b> SWITCHED or PROPORTIONAL joystick. < S or P >
    This is normally detailed in the software instructions.

<c> STICK NUMBER < 1 or 2 >
    This is the player number you wish the mouse to emulate.

B JOYSTICK EMULATION (cont.)

  <d> STICK SPEED < 0 to 7 >
      The speed at which the cursor moves relative to mouse

  You may change any one of these settings by entering 'N'. Press
  RETURN to leave any of the settings as they are or enter the new
  data -followed by a RETURN. Enter 'Y' when settings are correct.
  The JOYROM will be loaded and you are prompted to load your
  program .DO NOT press CTRL/BREAK as this will switch the ROM off.
  LOAD your software to play under smooth mouse control. Two test
  programs are on disc if you are uncertain whether or not the
  JOYROM is actually working. These are 'JSWITCH' to test switched
  mode and 'JPROPOR' to test proportional mode.

NOTES ON CHAUFFEUR OPERATION

9 RAM BANK SELECTION
          (A) When using CHAUFFEUR as the driver for your own software
              you may specify any RAM bank of your choosing. As general
              . guide use No.7(MASTER/COMPACT), 13 on BBC, 11 on
              B+/B+128. BBC owners with SIDEWAYS boards should refer to
              the user instructions for their specific type.
          (b) When using commercial software on the MASTER or COMPACT
              it is wise to check if the programs use SRAM.To do this
              RUN the-program in the normal manner. BREAK then *ROMS. -
              This will list the 16 ROM positions.Check which spare RAM
              slot is available and use this.
          (c) BBC owners do not have a *ROMS command so a utility is
              provided on the CHAUFFEUR disc to list the current ROMS.
              With CHAUFFEUR disc in drive 0 enter *ROMHELP.
          (d) Always keep a note of the RAM socket to be used,together
              with any other key information.
          (e) If you need to change the socket used by the CHAUFFEUR
              DRLINE program, change the relevant line in the MDRIVE1.
          (f) Use ROMPULL and ROMPUSH to load and save ROM images. DO
              NOT use *SRLOAD commands as these may cause problems.

10 PERSONALISATION
              Both the NIDDROM and the JOYROM may be *COPY'd onto your
              own discs together with relevant programs.We recommend
              that you make a BACKUP copy of the CHAUFFEUR disc.
              Nidd Valley do not believe there is any benefit in heavy
              software protection,but remind users that we hold normal
              COPYRIGHT on all programs on the CHAUFFEUR software
              disc.

11 DIGIKEY FILE

The file DIGIKEY holds the preset variables from the user defined program. This file can be read at any time using the program FILERD.

The file may also be set up with prespecified data by placing the internal key numbers and ASCII code for the program name,into the DATA lines in program FILESET.

12 INTERNAL KEY NUMBERS

The following list gives the most commonly used keys and designated INTERNAL key number.NOTE these should not be confused with ASCII key numbers.

KEY....	f0	f1	f2	f3	f4	f5	f6	f7	f8	f9
NO.....	32	113	114	115	20	116	117	22	118	119

KEY....	1	2	3	4	5	6	7	8	9	0
NO.....	48	49	17	18	19	52	36	21	38	39

KEY....	Q	W	E	R	T	Y	U	I	O	P
NO.....	16	33	34	51	35	68	53	37	54	55

KEY....	A	S	D	F	G	H	J	K	L	TAB
NO.....	65	81	50	67	83	84	69	70	86	96

KEY....	Z	X	C	V	B	N	M	,	.	/
NO.....	97	66	82	99	100	85	101	102	103	104

KEY....	-	^	\	[	_	;	:	]	CTRL	SPACE
NO.....	23	24	120	56	40	87	72	88	1	98

KEY....	SHIFT	RETURN	DELETE	COPY	ESCAPE	←	→	↓	↑	□□
NO.....	0	73	89	105	112	25	121	41	57	71

13 RESTRICTIONS OF USE

CHAUFFEUR does not use any of the system or user memory other than the vectors required to direct the mouse data. It is possible that some programs will over write these vectors or use the system and user VIA timers. In such instances it is doubtful that any form of mouse control can be applied.

The JOYROM does not use timers and as such is more flexible,the main restriction being if the software running reads the system registers directly for the FIRE button,and direction data.

14 CHAUFFEUR SYSTEM COMMANDS

   *Commands enable different programming modes to be selected
    whilst running other software.COMMAND mode will normally have
    to be selected' before using *.... followed by any parameters.

    CHAUFFEUR ROM COMMANDS

   *HELP MOUSE lists out all the available commands as follows :-

   *BUTTONS <0 - 3> the number designated sets the mouse buttons:-

                     LEFT   CENTRE   RIGHT

              <0>   DELETE   RETURN   COPY
              <1>   1   2   3
              <2>   f0   f1   f2
              <3>   a   b   c
  *DIGIOFF   This deselects the mouse if previously switched on.
  *DIGION   This will always take you into the CHAUFFEUR menu.
  *POINTER   This selects the NIDDROM to standard pointer routine.
  *MOUSE   This selects the mouse to key emulation mode .
               Default is to cursor arrows with buttons set as
               *BUTTONS 0. *M. and *SWT. commands can be given
               when in this mode to reprogram buttons and roller
               ball.
  *MCURSOR   This has two functions
               (a) If *MOUSE is selected this switches back into
               the *MOUSE default,cancelling any *SWT.. or *M...
               input.
               (b) If *POINTER has been previously selected then
               reverts back to cursor emulation as *MOUSE.

15 CHAUFFEUR REPROGRAM COMMANDS

  The following commands apply when in *MOUSE mode
  *MDOWN <0-128> Mouse DOWN emulates the key no. designated.
  *MUP   <0-128> Mouse UP   emulates the key no. designated.
  *MLEFT <0-128> Mouse LEFT emulates the key no. designated.
  *MRIGHT<0-128> Mouse RIGHT emulates the key no. designated
  *SWTL <0-12B>   LEFT SWitch emulates the key no. designated.
  *SWTM <0-128>   MIDDLE SWitch emulates the key no.designated.
  *SWTR <0-128>   RIGHT SWitch emulates the key no. designated.
  *SENSITIVITY<0-7> Changes the speed of the cursor relative to
                Mouse. 7 = fast 0 = slow

15 CHAUFFEUR REPROGRAM COMMANDS (cont.)

```
*MSTAT          Displays the current key settings of the mouse.
*VECTORS        Displays operating systems vectors,where they
                 point to, and if they are extended vectors
                 which point to sideways ROM/RAM.
```

16 OSBYTE CALLS

TWO NEW OPERATING SYSTEM COMMANDS are also provided

OSBYTE call with A=&6E (110) Mouse software status

> This allows the state of the mouse software to be changed
> at any time.
> On entry X=state to be changed to:-
> X=0 switch mouse off
> X=1 switch to cursor
> X=2 switch to pointer
> X=3 read mouse state without change.
> > On exit Y=previous state   (0=off 1=cursor 2=pointer)

OSWORD call with A=&7A (122) Read/Write pointer values.

For this call to function the POINTER must be selected otherwise it
has no effect.On entry X & Y point to the parameter block in memory.
If XY=0 then the pointer will be read and the following returned :

XY=2 if pointer on
XY<>2 co-ordinates following are invalid.
XY+1....x-lo byte   XY+2....x-hi byte
XY+3....y-lo byte   XY+4....y-hi byte

If on entry XY=1..then pointer values will be written as the
above control block. On exit XY=state of mouse (=2 for pointer
on)
On entry XY=2...then the movement,button and sensitivity values
can be written as one line,analogous to the single parameter *
Commands The control block from XY+1 is:

> Sright,Smiddle,Sleft,Mleft,Mright,Mdown,Mup,Sensitivity

NOTE this is only relevant in cursor mode,though the sensitivity
> is set if in pointer mode.

17 JOYROM COMMANDS

The following commands are resident in the JOYROM

*SWITCH   Turns on the JOYROM ON into switched stick mode.

*PROP.   Turns on the JOYROM ON into proportional stick mode.

*JOYOFF   Turns the JOYROM off.

*JSEN.   Sets the mouse/stick sensitivity.0 = slowest 7 = fastest

*STICK   Selects the PLAYER joystick no. allocated to the mouse.

*JOYSTAT Displays current status of the JOYROM settings.

The operation of the JOYROM can easily be checked by a simple
ADVAL reading routine (as used in the programs 'JSWITCH' & '
JPROPOR'.

```
          X       co-ordinates =ADVAL(1)
          Y       co-ordinates =ADVAL(2)
          FIRE button         =ADVAL(0) AND 3
```

18 COMPACT USER NOTE

Due to the combination of the user and joystick port by ACORN many
COMPACT programs will read the registers direct.
JOYROM will not work with such programs. However JOYROM will
enable many BBC programs to be run on the COMPACT without
conversion. This includes PROPORTIONAL joystick software.

The ARCADE game AQUA ATTACK found on the WELCOME disc uses the
SHIFT key. For convenience this game has been added to the DIGIKEY
file and can be run by selecting FILE D then CHAINing"AQUATAK". (
If the game appears to have locked up press SPACE.)

TECHNICAL SOFTWARE SUPPORT
As we do not have full time technical support for software we can
only accept postal enquiries

1. <u>Key press response</u>

   Some software may crash if the mouse is moved too quickly
   or buttons pressed for too long. This can, in some cases,
   be corrected by adjusting the auto repeat using *FX11, '
   Delay' at an appropriate part of the user program.

   'Delay' should be experimented to ascertain the most
   effective time lapse of the auto repeat.

2. <u>Solidisk Sideways RAM</u>

   Several Solidisk users have experienced problems due to the
   dual use of the user port memOry mapping. The Chauffeur
   NIDDROM writes to itself and therefore a special command
   must be given prior to use. This is:

   <center>?&FE32 = n</center>

   when 'n' is the Sideways RAM bank number.

   DO NOT PRESS BREAK or CTROL/BREAK following this.

3. Ensure that any SHADOW SCREEN facility is switched off
   prior to loading NIDDROM.

4. Ensure that Sideways RAM is WRITE ENABLED prior to loading.

5. Although the instructions say not to press CNTRL/BREAK, it
   may sometimes be necessary in order to initialise the image
   and gain system recognition. *DIGION will switch RCM back
   on.

6. <u>Personalisation of discs</u>
   Chauffeur can be used to personalise your own program discs
   as follows (the program ROMPUSH must be used)
   a) Create BOOT file with *BUILD !BOOT
      1 CHAIN "ROMPUSH"
      2 <ESCAPE>
   b) Load "ROMPUSH" from master disc. Change lines as follows
      100 SD% = RAM BANK NO. REQUIRED
      200 *LOAD NIDDROM 3000
      290 END <or chain own prOgram>
   c) *COPY NIDDROM to new disc
   d) *OPT4 3 to auto start
   e) Switch computer off then On again. SHIFT/BREAK to check
      autostart.
   f) When loaded enter *MOUSE and check that the cursor mode
      is operational.
   g) *DIGIOFF turns mouse off
      *MOUSE switches intO cursor mode

7. <u>Chauffeur MASTER DFS</u>

   Chauffeur will always be loaded into Sideways RAM on start
   up and, once installed, can be used with either DFS or
   ADFS.

      CONTROL + D + BREAK = DFS
      CONTROL + A + BREAK = ADFS

   In ADFS mode to avoid conflict, dO not abbreviate *MOUSE Or
   *MOUNT (-) *MOU. is accepted in both commands.