



## SPRITES TOOL

pour CPC  
Clavier

L'un des défauts du Basic des CPC réside dans l'absence d'instructions de gestions de Sprites. Voici de quoi y remédier. Ce programme ajoute aux CPC des commandes Basic RSX afin de simplifier les opérations d'animation.

```
100 IF HIMEM=42619 THEN dis=1 ELSE
dis=0
110 REM :::::::::::::::::::::
:::
120 REM :
:
130 REM : RSX  FIX,DEF,SPRITE,HAUT
:
140 REM :     BAS,DROITE,GAUCHE
:
150 REM :
:
160 REM :::::::::::::::::::::
:::
170 MEMORY &7FFF:RESTORE 190
180 FOR h=&8000 TO &8000+399:READ a
$:POKE h,VAL("&" + a$):NEXT:CALL &800
0
190 DATA 01,09,80,21,3F,80,C3,D1,B
C,20,80,C3,4C,80,C3,8B,80,C3,CB,80
200 DATA C3,E8,80,C3,1C,81,C3,05,8
1,C3,42,81,53,50,52,49,54,C5,46,49
210 DATA D8,48,41,55,D4,42,41,D3,4
7,41,55,43,48,C5,44,52,4F,49,54,C5
220 DATA 44,45,C6,FC,A6,09,80,00,0
```

```
0,00,00,00,00,00,00,00,FE,01,C0
230 DATA DD,7E,00,26,00,6F,ED,6A,E
D,6A,11,7C,81,19,E5,DD,E1,DD,66,00
240 DATA DD,6E,01,DD,56,02,DD,5E,0
3,06,10,C5,06,04,E5,C5,1A,77,13,23
250 DATA C1,10,F8,E1,D5,CD,85,80,D
1,C1,10,EB,C9,7C,C6,08,67,E6,38,C0
260 DATA 7C,D6,40,67,7D,C6,50,6F,D
0,24,7C,E6,07,C0,7C,D6,08,67,C9,7C
270 DATA D6,08,67,E6,38,FE,38,C0,7
C,C6,40,67,7D,D6,50,6F,D0,7C,25,E6
280 DATA 07,C0,7C,C6,08,67,C9,FE,0
2,C0,DD,7E,02,32,71,80,DD,7E,00,32
290 DATA 6E,80,C9,FE,01,C0,DD,7E,0
0,CD,33,81,DD,66,00,DD,6E,01,DD,E5
300 DATA CD,9F,80,DD,E1,DD,74,00,D
```

```
D,75,01,C9,FE,01,C0,DD,7E,00,CD,33
310 DATA 81,DD,66,00,DD,6E,01,DD,E
5,CD,85,80,DD,E1,DD,74,00,DD,75,01
320 DATA C9,FE,01,C0,DD,7E,00,CD,3
3,81,DD,66,00,DD,6E,01,23,DD,74,00
330 DATA DD,75,01,C9,FE,01,C0,DD,7
E,00,CD,33,81,DD,66,00,DD,6E,01,2B
340 DATA DD,74,00,DD,75,01,C9,26,0
0,6F,ED,6A,ED,6A,11,7C,81,19,E5,DD
350 DATA E1,C9,00,FE,03,C0,DD,66,0
3,DD,6E,02,DD,56,01,DD,5E,00,DD,7E
360 DATA 04,E5,D5,26,00,6F,ED,6A,E
D,6A,11,7C,81,19,E5,DD,E1,D1,E1,DD
370 DATA 74,00,DD,75,01,DD,72,02,D
D,73,03,C9,00,00,00,00,00,00,00,00
380 DATA C5,00,50,00,F8,B2,40,00,F
A,B0,50,00,00,00,00,00,00,00,00,00
390 REM ::::: VARIABLES DE BASE ::
:::
```

```
400 DIM oct(20):FOR h=1 TO 20:READ
oct(h):NEXT
410 DATA 50978,53026,55074,57122,59
170,61218,63266,65314,51058,53106,5
5154,57202,59250,61298,63346,65394,
51138,53186,55234,57282
420 deb=&9000:sp=1
430 BORDER 0:MODE 1:INK 0,0:INK 1,
26:INK 2,6:INK 3,18:CLS
440 PEN 3:LOCATE 11,7:PRINT STRING#
(20,"*"):LOCATE 11,20:PRINT STRING#
(20,"*"):FOR h=8 TO 19:LOCATE 11,h:
PRINT "*":LOCATE 30,h:PRINT"*":NEXT
450 PEN 2:LOCATE 13,9:PRINT"1 -":P
EN 1:PRINT"SPRITE MODE 0"
460 PEN 2:LOCATE 13,12:PRINT"2 -":
PEN 1:PRINT"SPRITE MODE 1"
470 PEN 2:LOCATE 13,15:PRINT"3 -":
PEN 1:PRINT"MODIFICATIONS"
480 PEN 2:LOCATE 13,18:PRINT"4 -":
PEN 1:PRINT"EXPLICATIONS"
490 A$=INKEY$:IF A$="" THEN GOTO 49
0:
```

```
500 a=VAL(a$)
510 IF a<1 OR a>4 THEN GOTO 490
520 IF a=1 THEN mo=0:mult=4:mx=17:m
y=21:GOTO 930
530 IF a=2 THEN mo=1:mult=2:mx=37:m
y=21:GOTO 930
540 IF a=3 THEN 3500
550 IF a=4 THEN GOTO 610
560 REM :::::::::::::::::::::
:::
570 REM :
:
580 REM : EXPLICATIONS ROUTINE LM
:
590 REM :
:
600 REM :::::::::::::::::::::
:::
```

```
610 CLS:PEN 2:LOCATE 11,2:PRINT"---*
SPRITES-TOOL ---":LOCATE 15,3:PEN
3:PRINT"====="
620 LOCATE 1,6:PEN 1:PRINT" SPRIT
ES-TOOL est un utilitaire permettan
t de creer et de gerer des Sprites
```

```
sans aucune connaissances en Lang
age Ma-chine."
630 LOCATE 1,11:PRINT" SPRITES-TO
OL est compose de deux parties"
640 PEN 3:LOCATE 1,15:PRINT" - PA
RTIE DESSIN -"
650 PEN 1:LOCATE 1,16:PRINT" Crea
tion ou modification de Sprites en
MODE 0 ou 1"
660 PEN 3:LOCATE 1,19:PRINT" - PA
RTIE ANIMATION -"
670 PEN 1:LOCATE 1,20:PRINT" Rout
ine LM gerants les Sprites grace a
de nouvelles commandes Basic."
680 PEN 2:LOCATE 33,25:PRINT"<ENTER
>":CALL &BB18
690 CLS:LOCATE 9,1:PRINT"---* PARTI
E ANIMATION *---":LOCATE 13,2:PEN 3:
PRINT"====="
700 LOCATE 1,4:PEN 1:PRINT" Progr
amme en Langage Machine"
710 LOCATE 1,5:PRINT" Lignes :
110 a 390":LOCATE 1,6:PRINT" Debu
t : &8000":LOCATE 1,7:PRINT" L
ongueur : &0190"
720 LOCATE 1,8:PRINT" Fonction :
Creer 7 nouvelles comman- des Basic
accessibles par le systeme RSX(Shi
ft et arrobas)"
730 LOCATE 1,12:PEN 3:PRINT" 1- |D
EF,X,Y,Z"
740 LOCATE 1,13:PEN 1:PRINT" Defi
nit un Sprite nr X, a l'adresse ec
ran Y,dont le premier octet en memo
ireest Z"
750 LOCATE 1,17:PEN 3:PRINT" 2- IF
IX,L,H"
760 LOCATE 1,18:PEN 1:PRINT" Fixe
la taille du Sprite"
770 PEN 2:LOCATE 1,19:PRINT" L : "
::PEN 1:PRINT"Longueur en Octets"
780 PEN 2:LOCATE 1,20:PRINT" H : "
::PEN 1:PRINT"Hauteur en lignes de
pixels"
790 LOCATE 1,22:PRINT" Ex : Pour u
n sprite d'un caractere en MODE 1 :
L = 2 : H = 8"
800 PEN 2:LOCATE 33,25:PRINT"<ENTER
>":CALL &BB18
810 CLS:LOCATE 14,2:PRINT"---* TURB
O *---":LOCATE 18,3:PEN 3:PRINT"====
="
820 LOCATE 1,6:PEN 3:PRINT" 3- |SP
RITE,X"
830 LOCATE 1,7:PEN 1:PRINT" Fait
apparaître le Sprite numero X."
840 LOCATE 1,9:PEN 3:PRINT" 4- |HA
UT,X"
850 LOCATE 1,10:PEN 1:PRINT" Fait
monter le Sprite X d'une ligne."
860 LOCATE 1,12:PEN 3:PRINT" 5- |B
AS,X"
870 LOCATE 1,13:PEN 1:PRINT" Fait
descendre le Sprite d'une ligne"
880 LOCATE 1,15:PEN 3:PRINT" 6- |D
ROITE,X"
890 LOCATE 1,16:PEN 1:PRINT" Fait
avancer le Sprite X d'un octet su
r la droite."
900 LOCATE 1,19:PEN 3:PRINT" 7- |G
AUCHE,X"
910 LOCATE 1,20:PEN 1:PRINT" Fait
avancer le Sprite X d'un octet su
r la gauche."
920 PEN 2:LOCATE 33,25:PRINT"<ENTER
>":CALL &BB18:CLS:GOTO 430
930 BORDER 0:MODE 1:INK 0,0:INK 1,
26:INK 2,6:INK 3,18:CLS
940 PEN 3:LOCATE 11,8:PRINT STRING#
(20,"*"):LOCATE 11,18:PRINT STRING#
(20,"*"):FOR h=9 TO 17:LOCATE 11,h:
```

```
PRINT "*":LOCATE 30,h:PRINT"*":NEXT
950 PEN 2:LOCATE 13,11:PRINT" 1 -"
::PEN 1:PRINT"HELP"
960 PEN 2:LOCATE 13,15:PRINT" 2 -"
::PEN 1:PRINT"DESSIN"
970 A$=INKEY$:IF A$="" THEN GOTO 97
0:
980 a=VAL(a$)
990 IF a<1 OR a>2 THEN GOTO 970
1000 IF a=1 THEN GOTO 1070
1010 IF a=2 THEN GOTO 1810
1020 REM :::::::::::::::::::::
:::
1030 REM :
:
1040 REM :          HELP
:
1050 REM :
:
1060 REM :::::::::::::::::::::
:::
1070 CLS:PEN 2:LOCATE 15,2:PRINT"---
* HELP *---":LOCATE 19,3:PEN 3:PRINT
"====="
1080 PEN 1:LOCATE 1,5:PRINT"1 - Com
ment dessiner"
1090 PEN 1:LOCATE 1,7:PRINT"2 - Cha
nger de couleur"
1100 LOCATE 1,9:PRINT"3 - Changer d
e matrice":LOCATE 1,11:PRINT"4 - Fa
ire un nouveau Sprite":LOCATE 1,13:
PRINT"5 - Sauvegarder vos Sprites":
LOCATE 1,15:PRINT"6 - Tester vos Sp
rites":LOCATE 1,17:PRINT"7 - Effet
miroir"
1110 LOCATE 1,19:PRINT"8 - Modes et
Explications"
1120 LOCATE 15,25:PEN 3:PRINT"Votre
choix ou <espace>"
1130 A$=INKEY$:IF A$="" THEN GOTO 1
130
1140 IF A$="" THEN GOTO 930
1150 a=VAL(a$):IF a<1 OR a>8 THEN G
OTO 1130
1160 ON a GOTO 1170,1230,1310,1600,
1670,1730,3380,430
1170 CLS:PEN 2:LOCATE 13,2:PRINT"---
* DESSINER *---":LOCATE 17,3:PEN 3:P
RINT"====="
1180 PEN 1:LOCATE 1,7:PRINT" A l'a
ide des fleches du curseur vous fa
ites deplacer votre crayon."
1190 LOCATE 1,12:PRINT" La valida
tion se fait avec la touche <COPY>."
"
1200 LOCATE 1,16:PRINT" L'efface
ment d'un point se fait en prenan
t la couleur du fond et en vali- d
ant ce point."
1210 LOCATE 1,20:PEN 2:PRINT" N.B
: La touche < H > (HELP) vous perm
et le retour au menu."
1220 LOCATE 33,25:PEN 3:PRINT"<ENTE
R>":CALL &BB18:GOTO 1070
1230 CLS:PEN 2:LOCATE 13,2:PRINT"---
* COULEURS *---":LOCATE 17,3:PEN 3:P
RINT"====="
1240 PEN 3:LOCATE 1,7:PRINT" TOUC
HE < SPACE >"
1250 PEN 1:LOCATE 1,10:PRINT" Le
changement de couleur se fait en a
ppuyant sur la touche <ESPACE>"
1260 IF mo=0 THEN GOTO 1280
1270 LOCATE 1,13:PRINT" Une flech
e sous la palette des cou- leurs v
ous indique a tout moment avec qu
el crayon (PEN) vous travaillez.":G
OTO 1290
1280 LOCATE 1,13:PRINT" Un pave,
en bas de l'ecran vous indi- que a t
out moment avec quel crayon *PENévo
us travaillez."
1290 LOCATE 1,18:PRINT" Les coule
urs ont ete choisies arbi- trairem
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ent . Par la suite il vous sera possible dans votre propre programme de definir les couleurs que vous desirez utiliser."
1300 LOCATE 33,25: PEN 3: PRINT "<ENTE R>": CALL &BB18: GOTO 1070
1310 CLS: PEN 2: LOCATE 13,2: PRINT "-- * MATRICE *--": LOCATE 17,3: PEN 3: PRINT "====="
1320 IF mo=1 THEN GOTO 1340
1330 PEN 1: LOCATE 1,6: PRINT " La taille maximum de la matrice en MODE 0 est de 8 OCTETS de long et de 20 LIGNES de haut.": GOTO 1350
1340 PEN 1: LOCATE 1,6: PRINT " La taille maximum de la matrice en MODE 1 est de 9 OCTETS de long et de 20 LIGNES de haut."
1350 LOCATE 1,10: PRINT " Il vous est possible des maintenant de reduire la taille de votre SPRITE."
1360 LOCATE 1,14: PEN 2: PRINT " N.B : Si vous desirez que votre sprite s'efface automatiquement lors de son deplacement sur l'ecran vous devez conserver un OCTET de libre a droite et a gauche ainsi qu'une LIGNE en haut et en bas de la Matrice."
1370 PEN 3: LOCATE 2,24: PRINT "DESIREZ VOUS CHANGER DE MATRICE (O/N)"
1380 A$=INKEY$: IF A$="" THEN GOTO 1380
1390 A$=UPPER$(A$): IF A$="N" THEN GOTO 1070
1400 IF A$="O" THEN GOTO 1420
1410 GOTO 1380
1420 CLS: PEN 2: LOCATE 9,2: PRINT "-- * NOUVELLE MATRICE *--": LOCATE 13,3: PEN 3: PRINT "====="
1430 IF mo=0 THEN GOTO 1470
1440 LOCATE 1,6: PRINT STRING$(40," "): LOCATE 1,6: PEN 1: INPUT " NB D'OCTETS EN LONGUEUR (1 a 9)": a$
1450 a=VAL(a$): IF a<1 OR a>9 THEN GOTO 1440
1460 mx=(a+4)+1: GOTO 1500
1470 LOCATE 1,6: PRINT STRING$(40," "): LOCATE 1,6: PEN 1: INPUT " NB D'OCTETS EN LONGUEUR (1 a 8)": a$
1480 a=VAL(a$): IF a<1 OR a>8 THEN GOTO 1470
1490 mx=(a+2)+1
1500 LOCATE 1,10: PRINT STRING$(40," "): LOCATE 1,10: PEN 1: INPUT " NB DE LIGNES EN HAUTEUR (1 a 20)": a$
1510 a=VAL(a$): IF a<1 OR a>20 THEN GOTO 1500
1520 my=a+1: IF back=1 THEN RETURN
1530 PEN 2: LOCATE 1,13: PRINT " Voici la nouvelle matrice": a1=(mx-1)*2: IF mo=0 THEN a1=(mx-1)*4
1540 FOR h=1 TO a: PLOT 300,150-(h*2),3: DRAW 300+a1,150-(h*2): NEXT
1550 PEN 3: LOCATE 8,23: PRINT "Vous convient-elle ? (O/N)"
1560 A$=INKEY$: IF A$="" THEN GOTO 1560
1570 A$=UPPER$(A$): IF A$="N" THEN GOTO 1420
1580 IF A$="O" THEN GOTO 1070
1590 GOTO 1560
1600 CLS: PEN 2: LOCATE 10,2: PRINT "-- * NOUVEAU SPRITE *--": LOCATE 14,3: PEN 3: PRINT "====="
1610 PEN 3: LOCATE 1,6: PRINT " TOUCHEZ < N > ET < C >"
1620 PEN 1: LOCATE 1,9: PRINT " Lors que vous avez fini votre Sprite et que vous desirez le conserver appelez sur < N > (NEW) ."
1630 LOCATE 1,13: PRINT " Le programme le memorise, vous donne son adresse mais ne l'efface pas . Tres u"
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tile si le SPRITE suivant ne differencie que tres peu du precedent."
1640 LOCATE 1,18: PRINT " Si vous desirez effacer le dessin en cours sans qu'il soit sauvegarde en memoire utilisez la touche < C > : (CLS)."
1650 LOCATE 1,22: PEN 2: PRINT " N.B : N'oubliez pas de noter l'adresse d'arrivee et de depart de chaque SPRITE."
1660 LOCATE 33,25: PEN 3: PRINT "<ENTE R>": CALL &BB18: GOTO 1070
1670 CLS: PEN 2: LOCATE 12,2: PRINT "-- * SAUVEGARDE *--": LOCATE 16,3: PEN 3: PRINT "====="
1680 PEN 3: LOCATE 1,7: PRINT " TOUCHEZ < S >"
1690 PEN 1: LOCATE 1,10: PRINT " Lorsque vous avez dessine tous vos Sprites appuyez sur < S >"
1700 LOCATE 1,13: PRINT " Suivez les indications fournies par le programme."
1710 LOCATE 1,16: PRINT " La sauvegarde de vos SPRITES se fera automatiquement."
1720 LOCATE 33,25: PEN 3: PRINT "<ENTE R>": CALL &BB18: GOTO 1070
1730 CLS: PEN 2: LOCATE 15,2: PRINT "-- * TEST *--": LOCATE 19,3: PEN 3: PRINT "====="
1740 PEN 3: LOCATE 1,7: PRINT " TOUCHEZ < T >"
1750 PEN 1: LOCATE 1,10: PRINT " Lorsque vous desirez tester le deplacement de votre SPRITE appuyez sur la Touche < T >"
1760 LOCATE 1,14: PRINT " A partir de ce moment votre SPRITE est gere par la routine en LM."
1770 LOCATE 1,17: PRINT " Le retour au MENU PRINCIPAL se fait par la touche < FEU > ou < COPY >"
1780 LOCATE 1,21: PEN 2: PRINT " N.B : Deplacement Joystick ou Curseur"
1790 LOCATE 33,25: PEN 3: PRINT "<ENTE R>": CALL &BB18: GOTO 1070
1800 REM :::: CADRE MODE 1 ::::
1810 IF mo=0 THEN GOTO 2110
1820 x=2: y=2: x1=x: y1=y: enc=1: co=2: DIM c(mx-1,my-1): fo=1
1830 a$="1234"
1840 MODE 1: INK 0,0: INK 1,26: INK 2,6: INK 3,18: CLS
1850 PEN 1: LOCATE 1,1: PRINT CHR$(207): FOR h=0 TO ((mx-1)/4)-1: LOCATE 2+(h*4),1: PEN enc: PRINT a$: enc=enc+1: IF enc>3 THEN enc=1
1860 NEXT
1870 b$="12345678901234567890"
1880 FOR h=1 TO (my-1): LOCATE 1,h+1: b1$=MID$(b$,h,1): PEN enc: PRINT b1$: enc=enc+1: IF enc>3 THEN enc=1
1890 NEXT: enc=1
1900 PEN 3: PLOT 1,63,3: DRAW 639,63: DRAW 639,1: DRAW 1,1: DRAW 1,63: PLOT 593,63: DRAW 593,399: DRAW 639,399: DRAW 639,63: PLOT 465,63: DRAW 465,1
1910 PEN 3: LOCATE 39,4: PRINT "H"
1920 PEN 2: LOCATE 39,7: PRINT "N"
1930 LOCATE 39,10: PRINT "C"
1940 LOCATE 39,13: PRINT "M"
1950 LOCATE 39,16: PRINT "T"
1960 LOCATE 39,19: PRINT "S"
1970 SYMBOL 249,255,128,128,128,128,128,255
1980 SYMBOL 250,255,1,1,1,1,1,1,255
1990 SYMBOL 251,255,0,0,0,0,0,0,255
2000 z$=CHR$(249)+CHR$(251)+CHR$(250)
2010 z1$=CHR$(143)+CHR$(143)+CHR$(143)
2020 WINDOW #1,2,28,23,24: CLS #1
```

```
2030 GOSUB 2040: GOTO 2070
2040 IF mo=0 THEN GOTO 2180
2050 PEN 3: LOCATE 5,23: PRINT z$: PEN 1: LOCATE 11,23: PRINT z1$: PEN 2: LOCATE 17,23: PRINT z1$: LOCATE 23,23: PEN 3: PRINT z1$
2060 PEN 1: LOCATE 3,24: PRINT "P=": LOCATE 12,24: PRINT CHR$(240): enc=1: RETURN
2070 WINDOW #2,2,37,2,21:
2080 IF back=1 THEN RETURN
2090 PEN 1: LOCATE x,y: PRINT CHR$(202): GOTO 2270
2100 REM :::: CADRE MODE 0 ::::
2110 MODE 0: INK 0,0: INK 1,26: INK 2,6: INK 3,18: INK 4,2: INK 5,15: INK 6,7: INK 7,8: INK 8,24: INK 9,12: INK 10,14: INK 11,16: INK 12,22: INK 13,1: INK 14,4: INK 15,20
2120 x=2: y=2: x1=x: y1=y: enc=2: co=2: DIM c(mx-1,my-1): fo=1
2130 a$="12": PEN 1: LOCATE 1,1: PRINT CHR$(207): FOR h=0 TO ((mx-1)/2)-1: LOCATE 2+(h*2),1: PEN enc: PRINT a$: enc=enc+1: NEXT
2140 b$="12345678901234567890"
2150 FOR h=1 TO (my-1): LOCATE 1,h+1: b1$=MID$(b$,h,1): PEN 1: PRINT b1$: NEXT: enc=1
2160 PEN 3: PLOT 1,63,3: DRAW 639,63: DRAW 639,1: DRAW 1,1: DRAW 1,63: PLOT 545,63: DRAW 545,399: DRAW 639,399: DRAW 639,63: PLOT 465,63: DRAW 465,1
2170 PEN 3: LOCATE 19,4: PRINT "H": PEN 2: LOCATE 19,7: PRINT "N": LOCATE 19,10: PRINT "C": LOCATE 19,13: PRINT "M": LOCATE 19,16: PRINT "T": LOCATE 19,19: PRINT "S"
2180 WINDOW #1,2,14,23,24: CLS #1: PEN #1,1: LOCATE #1,1,1: PRINT #1, " PEN = ": PLOT 340,20,3: DRAW 394,20: DRAW 394,56: DRAW 340,56: DRAW 340,20: LOCATE #1,11,1: PEN #1, enc: PRINT #1, CHR$(143): enc=1
2190 WINDOW #2,2,17,2,21: CLS #2
2200 IF back=1 THEN RETURN
2210 PEN 1: LOCATE x,y: PRINT CHR$(202): GOTO 2270
2220 REM :::::
2230 REM :
2240 REM : ROUTINE PRINCIPALE
2250 REM :
2260 REM :::::
2270 A$=UPPER$(INKEY$)
2280 IF A$="" THEN GOTO 2270 ELSE a$=ASC(A$)
2290 IF a=240 AND y>2 THEN y=y-1: GOTO 2480
2300 IF a=241 AND y<my THEN y=y+1: GOTO 2480
2310 IF a=242 AND x>2 THEN x=x-1: GOTO 2480
2320 IF a=243 AND x<mx THEN x=x+1: GOTO 2480
2330 IF a=224 THEN GOTO 2560
2340 IF a$="" THEN GOTO 3080
2350 IF a$="N" THEN GOTO 2650
2360 IF a$="C" THEN GOTO 2430
2370 IF a$="S" THEN GOTO 2890
2380 IF a$="T" THEN ERASE c: GOTO 3190
2390 IF a$="M" THEN GOTO 3430
2400 IF a$="H" THEN ERASE c: fo=0: MODE 1: GOTO 1070
2410 GOTO 2270
2420 REM ::::: CLS :::::
2430 IF mo=0 THEN 2450
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```
2440 FOR h=0 TO 45: PLOT 527,48-h,0: DRAW 630,48-h: NEXT: CLS #1: GOSUB 2040: CLS #2: GOTO 2460
2450 FOR h=0 TO 45: PLOT 527,48-h,0: DRAW 630,48-h: NEXT: CLS #2: LOCATE 12,23: PEN 1: PRINT CHR$(143)
2460 ERASE c: x=2: y=2: x1=x: y1=y: enc=1: co=2: DIM c(mx-1,my-1): PEN 1: LOCATE x,y: PRINT CHR$(202): GOTO 2270
2470 REM ::::: DEP CURSEUR :::::
2480 LOCATE x1,y1: PEN 0: PRINT CHR$(143)
2490 bn=c(x1-1,y1-1): PEN bn: LOCATE x1,y1: PRINT CHR$(143)
2500 PRINT CHR$(22)+CHR$(1)
2510 IF c(x-1,y-1)<>0 THEN PEN 0 ELSE PEN 1
2520 LOCATE x,y: PRINT CHR$(202)
2530 PRINT CHR$(22)+CHR$(0)
2540 x1=x: y1=y: GOTO 2270
2550 REM ::::: VALIDATION :::::
2560 PEN enc: LOCATE x,y: PRINT CHR$(143): c(x-1,y-1)=enc
2570 PRINT CHR$(22)+CHR$(1)
2580 IF c(x-1,y-1)<>0 THEN PEN 0 ELSE PEN 1
2590 LOCATE x,y: PRINT CHR$(202): GOSUB 2620
2600 PRINT CHR$(22)+CHR$(0): PEN enc: GOTO 2270
2610 REM ::::: PLOTAGE :::::
2620 px=527+((x-1)*mult): py=48-((y-1)*2)
2630 PLOT px,py,co-1: RETURN
2640 REM ::::: NEW MODE 1 :::::
2650 FOR h=16 TO 58: PLOT 16,h,0: DRAW 448,h: NEXT: IF back=1 THEN GOTO 3920
2660 IF mo=0 THEN GOTO 2730
2670 LOCATE 2,23: PRINT "SPRITE nr": SP;"en "&": HEX$(deb): nrt=sp: debt=deb
2680 GOSUB 2790: deb=deb+1: sp=sp+1:
2690 PEN 3: LOCATE 15,24: PRINT "<ENTER>": CALL &BB18
2700 CLS #1: GOSUB 2040
2710 enc=1: co=2: GOTO 2270
2720 REM ::::: NEW MODE 0 :::::
2730 LOCATE 2,23: PEN 2: PRINT "NR": SP;"en "&": HEX$(deb): nrt=sp: debt=deb
2740 GOSUB 2790: deb=deb+1: sp=sp+1:
2750 PEN 1: LOCATE 8,24: PRINT "<ENTE R>": CALL &BB18
2760 WINDOW #1,2,14,23,24: CLS #1: PEN #1,1: LOCATE #1,1,1: PRINT #1, " PEN = ": PLOT 340,20,3: DRAW 394,20: DRAW 394,56: DRAW 340,56: DRAW 340,20: LOCATE #1,11,1: PEN #1,1: PRINT #1, CHR$(143): enc=1
2770 co=2: GOTO 2270
2780 REM ::::: POKE :::::
2790 ha=my-1: lg=(mx-1)/4: IF mo=0 THEN lg=(mx-1)/2
2800 FOR h=1 TO ha
2810 FOR g=0 TO lg-1
2820 pee=PEEK(oct(h)+g):
2830 POKE deb,pee
2840 deb=deb+1
2850 NEXT g
2860 NEXT h
2870 RETURN
2880 REM ::::: SAUVEGARDE :::::
2890 MODE 1: CLS: PEN 2: LOCATE 12,2: PRINT "-- * SAUVEGARDE *--": LOCATE 16,3: PEN 3: PRINT "====="
2900 IF sp=1 THEN PEN 1: LOCATE 1,6: PRINT " Pas de SPRITES a sauvegar"
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der": PEN 3: LOCATE 33,24: PRINT "<ENTE R>": CALL &BB18: ERASE c: GOTO 420
2910 IF dis=0 THEN GOTO 2980
2920 PEN 1: LOCATE 1,7: PRINT " CASSETTE OU DISQUETTE ( C / D )"
2930 A$=INKEY$: IF A$="" THEN GOTO 2930
2940 A$=UPPER$(A$): IF A$="D" THEN GOTO 2980
2950 IF A$="C" THEN GOTO 2970
2960 GOTO 2930
2970 TAPE
2980 GOSUB 3010: GOSUB 3060: SAVE F$, B,&9000,deb-&9000
2990 LOCATE 23,22: PEN 3: PRINT "<ENTE R>": CALL &BB18: ERASE c: GOTO 410
3000 GOSUB 3010: GOSUB 3060: SAVE F$, B,&9000,deb-&9000: ERASE c: GOTO 410
3010 LOCATE 1,10: INPUT " NOM DU FICHIER ": F$
3020 IF dis=1 AND LEN(F$)>8 THEN F$=LEFT$(F$,8)
3030 IF dis=0 AND LEN(F$)>16 THEN F$=LEFT$(F$,16)
3040 LOCATE 1,10: PRINT STRING$(40," "): LOCATE 1,10: PRINT " NOM DU FICHIER ": F$
3050 RETURN
3060 PEN 3: LOCATE 4,13: PRINT sp-1: Sprite(s) de &9000 a &": HEX$(deb): RETURN
3070 REM ::::: CHANG DE COULEUR :::::
3080 IF mo=0 THEN GOTO 3160
3090 co=co+1: IF co>4 THEN co=1
3100 ON co GOTO 3110,3120,3130,3140
3110 LOCATE 24,24: PRINT CHR$(32): PEN 1: LOCATE 6,24: PRINT CHR$(240): enc=0: GOTO 2270
3120 LOCATE 6,24: PRINT CHR$(32): PEN 1: LOCATE 12,24: PRINT CHR$(240): enc=1: GOTO 2270
3130 LOCATE 12,24: PRINT CHR$(32): PEN 2: LOCATE 18,24: PRINT CHR$(240): enc=2: GOTO 2270
3140 LOCATE 18,24: PRINT CHR$(32): PEN 2: LOCATE 24,24: PRINT CHR$(240): enc=3: GOTO 2270
3150 REM ::::: COULEUR MODE 0 :::::
3160 co=co+1: IF co>15 THEN co=1
3170 enc=co-1: LOCATE #1,11,1: PEN #1, enc: PRINT #1, CHR$(143): GOTO 2270
3180 REM ::::: TEST :::::
3190 MODE 1: CLS: IF nrt=0 THEN PEN 1: LOCATE 9,10: PRINT "PAS DE SPRITE EN MEMOIRE": PEN 3: LOCATE 34,24: PRINT "<ENTER>": CALL &BB18: GOTO 410
3200 PEN 1: LOCATE 1,10: PRINT " JOYSTICK OU CURSEUR ? ( J / C )"
3210 A$=INKEY$: IF A$="" THEN GOTO 3210
3220 A$=UPPER$(A$): IF A$="J" THEN gz=74: dz=75: hz=72: bz=73: fz=76: GOTO 3250
3230 IF A$="C" THEN gz=8: dz=1: hz=0: bz=2: fz=9: GOTO 3250
3240 GOTO 3210
3250 IF mo=0 THEN MODE 0
3260 CLS: CALL &8000
3270 IDEF,nrt,&C100,debt
3280 IFIX,(mx-1)/4,my-1: IF mo=0 THEN IFIX,(mx-1)/2,my-1
3290 ISPRITE,nrt
3300 IF INKEY(hz)=0 THEN HAUT,nrt
3310 IF INKEY(bz)=0 THEN BAS,nrt
3320 IF INKEY(gz)=0 THEN GAUCHE,nrt
3330 IF INKEY(dz)=0 THEN DROITE,nrt
3340 IF INKEY(fz)=0 THEN GOTO 1800
3350 ISPRITE,nrt
3360 GOTO 3300
3370 REM ::::: MIROIR :::::
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3380 CLS: PEN 2: LOCATE 11,2: PRINT "-- * EFFET MIROIR *--": LOCATE 15,3: PEN 3: PRINT "====="
3390 PEN 3: LOCATE 1,7: PRINT " TOUCHEZ < M > (MIROR)"
3400 PEN 1: LOCATE 1,10: PRINT " L'effet miroir est tres utile. Il vous permet de ne pas etre obligé de resiner un personnage lorsque ce dernier doit changer son sens de deplacement ."
3410 LOCATE 33,25: PEN 3: PRINT "<ENTE R>": CALL &BB18: GOTO 1070
3420 REM ::::: FONCTION MIROIR :::::
3430 x=mx: y=2: DIM c1(mx-1,my-1)
3440 FOR h=1 TO mx-1: FOR g=1 TO my-1: col=c(h,g): PEN col: LOCATE x,y: PRINT CHR$(143)
3450 c1(x-1,y-1)=col: y=y+1: NEXT g: x=x-1: y=2: NEXT h
3460 FOR h=1 TO mx-1: FOR g=1 TO my-1: col=c1(h,g): c(h,g)=col
3470 px=527+(h*mult): py=48-(g*2): PLOT px,py,col: NEXT g,h
3480 ERASE c1: x=2: y=2: x1=x: y1=y: GOTO 2480
3490 REM ::::: MODIFIER :::::
3500 CLS: PEN 2: LOCATE 13,2: PRINT "-- * MODIFIER *--": LOCATE 17,3: PEN 3: PRINT "====="
3510 PEN 1: LOCATE 1,8: PRINT " Cette fonction vous permettra de modifier un SPRITE dans un fichier deja sauvegarde sur cassette ou sur disque."
3520 LOCATE 1,12: PRINT " Il vous suffit de repondre aux demandes du programme ."
3530 LOCATE 1,15: PRINT " Lorsque votre SPRITE est modifie vous pouvez sauvegarder votre fichier ou l'enrichir de nouveaux SPRITES."
3540 PEN 3: LOCATE 2,24: PRINT "DESIREZ VOUS MODIFIER UN SPRITE (O/N)"
3550 A$=INKEY$: IF A$="" THEN GOTO 3550
3560 A$=UPPER$(A$): IF A$="N" THEN GOTO 410
3570 IF A$="O" THEN back=1: GOTO 3590
3580 GOTO 3550
3590 IF fo=1 THEN ERASE c
3600 WINDOW #5,1,40,5,25: CLS #5
3610 PEN 1: LOCATE 1,8: PRINT " LE SPRITE EST EN MEMOIRE ? ( O / N )"
3620 A$=INKEY$: IF A$="" THEN GOTO 3620
3630 A$=UPPER$(A$): IF A$="N" THEN 3660
3640 IF A$="O" THEN GOTO 3760
3650 GOTO 3620
3660 LOCATE 1,12: INPUT " NOM DU FICHIER ": F$: F$=UPPER$(F$)
3670 IF dis=0 THEN GOTO 3740
3680 LOCATE 1,16: PRINT " SUR CASSETTE OU DISQUETTE ( C / D )"
3690 A$=INKEY$: IF A$="" THEN GOTO 3690
3700 A$=UPPER$(A$): IF A$="D" THEN 3740
3710 IF A$="C" THEN GOTO 3730
3720 GOTO 3690
3730 TAPE
3740 LOCATE 1,20: LOAD F$,&9000
3750 lgi=PEEK(&A76D)+256*PEEK(&A76D+1)
3760 CLS #5: PEN 1: LOCATE 1,8: PRINT " MODE UTILISE ? ( O / 1 )"
3770 A$=INKEY$: IF A$="" THEN GOTO 3770
3780 IF A$="0" THEN mo=0: mult=4: GOTO
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0 3810
3790 IF a$="1" THEN mo=1:mult=2:GOT
0 3810
3800 GOTO 3770
3810 LOCATE 1,12:INPUT" NUMERO DU S
PRITE ";nrsp:sp=nrsp:nrsp=nrsp-1
3820 CLS :PEN 2:LOCATE 1,1:PRINT" I
NITIALISATION MATRICE":PEN 3:LOCATE
 2,2:PRINT"-----"
3830 GOSUB 1430
3840 IF mo=0 THEN mx1=(mx-1)/2 ELSE
  mx1=(mx-1)/4
3850 my1=my-1:ad=(mx1*my1)+1:deb=&9
000+(ad*nrsp):tsp=lgfi/ad
3860 GOSUB 1810
3870 CALL &8000:IDF,nrsp,&C722,deb
3880 IFIX,mx1,my1:ISPRITE,nrsp
3890 FOR h=1 TO mx-1:FOR g=1 TO my-
 1
3900 col=TEST(527+(h*mult),48-(g*2)
):LOCATE h+1,g+1:PEN col:PRINT CHR#
(143):c(h,g)=col:NEXT g,h
3910 x=2:y=2:x1=x:y1=y:GOTO 2480

3920 IF mo=0 THEN GOTO 3940
3930 LOCATE 2,23:PRINT "SPRITE nr"
;SP;" modifier":GOSUB 2790:deb=&900
0+lgfi:sp=tsp+1:back=0:fo=0:GOTO 26
90
3940 LOCATE 2,23:PEN 2:PRINT "NR";S
P;"modifier":GOSUB 2790:deb=&9000+1
gfi:sp=tsp+1:back=0:fo=0:GOTO 2750

```