

**AMSTRAD
ARTIST
&
SPRITE
DESIGNER**

by

Matthew Bradshaw

CRL Group PLC,
CRL House, 9 Kings Yard,
Carpenters Road, London E15 2HD.

Amstrad Artist

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Side 1

Amstrad Artist
Demo Screen 1
Demo Screen 2
Demo Screen 3

Side 2

Sprite Designer
Sprite Data — M/Code
Conversion

To Load both sides, press CTRL and small ENTER key.

Side 1 Amstrad Artist

1 Superplotter

1.1 Summary of commands

Cursor Keys	—	slow movement
Cursor Keys + SHIFT	—	faster movement
Cursor Keys + CTRL	—	fastest movement
Cursor Keys + TAB	—	Scroll screen in given direction.

In all sections a joystick can be used in place of the cursor keys.

A	:	Alter graphics characters for printing.
B	:	Box
C	:	Circle
D	:	Draw
E	:	Erase
F	:	Fill
F + SHIFT	:	Stipple Fill
G	:	Move block of screen
H	:	No function
I	:	Ink Change
J	:	Resets default inks
K	:	Elipse of Spokes
L	:	Elipse
M	:	Move
N	:	Change to first UDG Cursor
N + SHIFT	:	Change to second UDG Cursor
O	:	Set an ink to flash
P	:	Plot
Q	:	Alter border colour
R	:	Return to main menu
S	:	No function

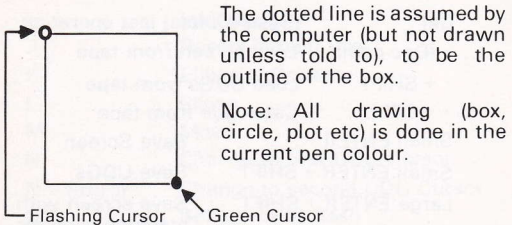
T	:	Make row double height
U	:	Mirror screen vertically
V	:	Solid box
W	:	Special functions
X	:	Circle of spokes
Y	:	Mirror Screen horizontally
Z	:	Wash
SPACE	:	Alter Pen colour
CLR	:	Clear Screen
Del	:	Erase (Delete) last operation
· (Dec point)	:	Load screen from tape
· + SHIFT	:	Load UDGs from tape
· + CTRL	:	Catalogue from tape
Small ENTER	:	Save Screen
Small ENTER + SHIFT	:	Save UDGs
Large ENTER + SHIFT	:	Save screen with machine code for instant recall in programs

1.2 Details of commands

Notations used The flashing cursor is the cursor which flashes between red and yellow and the background colour.

The green cursor flickers between the background colour and bright green.

There are numerous references to boxes with the two cursors as opposite corners. This is shown as follows:-



The dotted line is assumed by the computer (but not drawn unless told to), to be the outline of the box.

Note: All drawing (box, circle, plot etc) is done in the current pen colour.

Commands:-

Cursor Keys + TAB: Scrolls screen in given direction. Horizontal scrolls are by 4 pixels with wrap and vertical scrolls are

by 8 pixels without wrap.

- A Alters the graphics characters for printing with the UDG cursors (see section 4).
- B Draws a box with the two cursors as opposite diagonals (see also "V").
- C Draws a circle of a given radius with the centre being the flashing cursor (see also "W").

- D Draws a line from the green cursor to the flashing one and moves the green cursor as with "M".
- E Erases last operation (as with "DEL").
- F Fills an enclosed shape, if the flashing cursor is inside it. This may not fill the entire shape if it is irregular, and many "fills" may be required.
- F + SHIFT As with "F", except two colours are specified (separated by a comma), and the shape is filled alternately with these colours, giving the impression of many more colours available. The colours should be input in the form: 3, 11 (numbers must be between 0 and 15).
- G Moves a block of the screen to another position, leaving the original block intact. The block of screen moved is a box between the two cursors. Two new co-ordinates should be entered to tell the computer where to put the block in the form x, y, e.g. 100, 80. If the new co-ordinates are to be the top left corner of the new block, then the flashing cursor must be the top left hand corner of the block to be moved.
- H No function.
- I Sets an ink to the user's choice. First input the pen to be changed (0-15), then the replacement ink (0-26). This may affect screen colours. (see also "O").
- J Resets all inks to their default colours which are as in section 5.
- K Draws an ellipse of Spokes. Input the number of spokes, then the width (x), and the height (y). (Centre flashing cursor).

- L Draws an ellipse with width (x), and height (y).
- M Moves the green cursor to the flashing one.
- N Change to first UDG cursor (see section 4).
- N + SHIFT Change to second UDG cursor (see section 4).
- O Sets an ink to be flashing. Input the pen (0-15), the first ink (0-26) and the second ink (0-26), all separated by a comma, e.g. 3, 11, 24 (Screen colours may be affected see also "I").
- P Plots a point at the flashing cursor position.
- Q Alters border colour.
- R Return to main menu (picture stored in memory).
- S No function.
- T Makes a given row double height. Input the row (1-23) and press ENTER.
- U Mirrors the whole screen vertically (slow). Pressing ESC will escape the operation, then "DEL" will restore picture.
- V Draws a solid box with the two cursors as opposite corners.
- W Special functions: Input the radius and the operation separated by a comma, e.g. 80,60.

Table of certain operation numbers:

Operation No.	Shape Drawn
1-10	Circle drawn at speeds (1-10)
30	12 sided figure
45	Octagon (8 sides)
60	Hexagon (6 sides)
72	Pentagon (5 sides)
90	Diamond (4 sides)
123	Triangle (Equilateral)
120-179	Various triangles
180	Straight line (vertical)

This function can be used for drawing fast circles, if the operation number is the speed (1-10).

- X Draws a circle of spokes (centre flashing cursor). Input the number of spokes and the radius.
 - Y Mirrors screen horizontally (slow). Pressing ESC escapes operation. Then pressing "DEL" will restore screen.
 - Z Washes away one pen colour and replaces it with another in a given box (two cursors opposite diagonals). Input the pen to swap (0-15) and the pen to replace it with (0-15).
- SPACE Alters current pen colour (shown by * at foot of screen).
- CLR Clear screen.
- DEL Delete last operation, as with "E".

1.3 Loading and Saving (All at 2000 baud)

When you attempt to load or save a screen you must enter a filename. If you are loading something, pressing ENTER will load the first screen found on tape. If you accidentally press load or save then enter a question mark "?" to escape. Under no circumstances press ESC!

Sometimes after entering a filename the program will return to the main menu. This is NOT a fault, the computer simply has to re-arrange its current memory status. Press "1" (for superplotter) and try to save or load again.

1.4 Controls for loading or saving:-

- (Decimal Point) : Load screen from tape.
- + SHIFT : Load UDGs from tape.
- + CTRL : Catalogue from tape.
- Small Enter : Save screen.
- Small Enter + Shift : Save UDGs
- Large Enter + Shift : Save screen with machine code for use in your own programs (see section 6)

2 UDG Designer

Note: UDG = User Defined Graphic

Controls:-

Cursor keys : Move cursor around grid.

Copy : Fill or delete block in grid.

I : Invert character

M : Mirror character horizontally.

C : Clear grid.

A : Alter UDG. Input the UDG code to alter (32-255) and press ENTER. This can then be altered and resaved (perhaps as a different character if required).

ENTER : Finish Graphic.

3 View UDGs

Simply shows the current UDGs (124-255).

4 UDG Cursors and Graphics

Pressing 'A' while in the superplotter mode will give you a display of the current UDGs. Any one of these (or characters 32 — = onwards) , can be set up to one of the numeric keys on the numeric keypad (0-9). Input the required code for each key or press ENTER to leave it as it was.

4.1 The first and second UDG Cursor

- 4.2 Pressing 'N' while using the superplotter presents you with the UDG cursor. You move with the cursor keys (or joystick) and by pressing one of the keys on the numeric keyboard, a graphic corresponding to the number will be printed at the current cursor position. (These graphics may have been set up using the superplotter's 'A' command). Finer movement can be obtained by pressing SHIFT and the cursor keys.

Pressing SPACE alters the current pen colour.

NOTE: All printing here is Transparent and so the colours actually printed may vary, depending on the background colour.

- 4.3 Pressing SHIFT and 'N' gives you the second UDG cursor. This is similar to the first, except printing is not transparent, and the background colour for each graphic can be changed by pressing SHIFT and SPACE. It should be noted that finer cursor movement is not available here.

To return to the superplotter from these cursors. press 'R'.

5 Default Colours (See also page IV 6 of User Guide)

Pen Colour	Corr. Ink Colour	Actual Colour	Pen Colour	Corr. Ink Colour	Actual Colour
0	0	Black	8	8	Bright Magenta
1	26	Bright White	9	20	Bright Cyan
2	18	Bright Green	10	21	Lime Green
3	6	Bright Red	11	24	Bright Yellow
4	2	Bright Blue	12	22	Pastel Green
5	13	White (Grey)	13	3	Red (Brown)
6	15	Orange	14	9	Green (Dark)
7	16	Pink	15	6,24	Red/Yellow flashing

6 Using Screens and UDGs in your own programs

First save Screen (using large ENTER + SHIFT) and/or Udgs onto a tape.

In the BASIC Program enter:- MEMORY 25100
TO LOAD SCREEN, TYPE LOAD""
TO BE ABLE TO USE SCREEN, TYPE CALL 25101
and press ENTER.

To recall the screen type | Recall, making sure that you are in MODE 0.

| is obtained by pressing SHIFT and @.

If the screen is altered it can be stored in memory again by | Store.

To load UDGs simply type SYMBOL AFTER 121: LOAD"" and they will load into the current memory location.

The new commands + screen can be saved from BASIC using:- Save "(program)",b,25100,16485 and the graphics by:-
Save "(graphics)",b,42976,1056.

7 Possible Errors

You should not press ESC at any time, except to escape from "CAT", or from mirroring the screen.

If you do press ESC at an input then the program will be lost.

However the screen can still be saved with the commands:-

```
CLS : SAVE "! screen",b,&c000,&4000
```

but start the tape before you do this.

Also the graphics can be salvaged with:-

```
CLS : SAVE " Graphics",b,42976,1056
```

- 7.1 While the program is in use, it may occasionally return to the main menu. This is usually because you have made an error. Press "1,2 or 3" to return to the section of your choice.

8 Loading the Demo Screens

The three demonstration screens are situated on side one of the cassette, directly after the main "Artist" program.

To LOAD them, go into the superplotter mode (Press "1" at main menu), and then press the decimal point key on the numeric keypad.

The computer will ask you for a filename. Simply press ENTER and press PLAY on the cassette player (Datacorder). Repeat this process to load the other screens.

Side 2 Sprite Designer

1 Designing the sprite

Controls

Cursor keys to move the cursor about the grid.
Copy to fill a block.

C : Clears Grid

A : Alter Sprite: Alters a sprite (already in the memory). This displays the sprite on the main grid and allows the sprite to be altered and resaved, even as another sprite for animation etc. Sprite numbers are in the range (1-12).

M Mirror: Mirrors the current sprite horizontally.

P Pen Swap: Allows any colour (pen) on the current sprite to be altered to another, e.g. makes a red car into a blue one. Input the two colours, separated by a comma, i.e.:-
col 1 (in range 0-15), col 2 (0-15),
e.g. 3,4 and press ENTER.

ENTER: FINISHES current sprite.

This can then be saved in memory by inputting a sprite number between (1-12), or by pressing ENTER, (or entering 0, will simply not save the sprite).

SPACE: Alters the current PEN colour

2 **Print Sprites**

Using this option, sprites can be printed on a background created by Amstrad Artist (Side 1). It should be noted that these sprites are static.

This mode has a number of control keys, most of which are duplicated from the superplotter in Amstrad Artist.

The duplicated controls are:-

CLR,	· + CTRL,
DEL,	· (Dec point),
R,	Small ENTER
cursor keys	
cursor keys + SHIFT	
cursor keys + CTRL	

pressing SHIFT and zero (main keyboard), has the same effect as pressing SHIFT + Large Enter while using the Superplotter on side 1.

Other controls are:-

S : prints a sprite (1-12) with the cursor being the top left hand corner.

S + SHIFT : As for "S" except printing is transparent. i.e. background is not destroyed.

3 **View Sprites**

This simply displays all the current sprites (1-12), in memory.

4 **Save Sprites**

This option saves the sprites as blocks of DATA, and therefore they cannot directly be used in your own programs. However, the data must be stored for use with the DATA — M/CODE program which is next on the tape.

5 **Load Sprites**

This option loads previously defined sprites into memory from tape. These must have been saved as DATA, i.e. using option 4, above.

* The same things apply for saving and loading as those mentioned in section 1.3 of the superplotter instructions.

7 **Sprite DATA — M/CODE Conversion**

This program is situated on the tape after the Sprite designer program, and again is loaded by pressing the CTRL and small ENTER keys.

Once loaded, the computer will give you on-screen instructions.

7.1 Enter the filename of the Data which you have saved using option 4 of the sprite designer. (Simply press ENTER to load the first Data found on the tape).

7.2 Once the data has loaded, the screen will flash between red and yellow colours, while the machine code is compiled. DO NOT TOUCH the KEYBOARD!

When the data has been compiled, you have the option of saving the machine code. Entering a question mark (?) skips this option.

The machine will then clear, and you will be presented with a new screen logo. The sprites are now ready for use.

Using the Sprites in your own programs

If you want to ensure that the colours of the Sprites are the same as in the sprite designer section, you should refer to the section in this manual about Default Colours. When you leave the Data-M/Code conversion program, this is so, with the exception that PEN 1 is INK 24 and not INK 26.

To load Sprites into your program type:-

```
MEMORY 37999 : LOAD "" and press ENTER
```

To make them active type:-

```
CALL 38000
```

You now have access to the Sprites through a new command, | SPRITE. (| is obtained by pressing SHIFT and @).

This has three parameters in the form:-

```
| SPRITE,no,x,y
```

Note: everything separated by a comma. There are 3 commas.

where no. is the
Sprite number (1-17)

"x" and "y" are the co-ordinates of the top left-hand corner of the Sprite.

A new co-ordinate system has been used for the Sprites only, with 0,0 being the TOP LEFT HAND CORNER of the screen.

"X" can be in the range 0-143 and

"Y" can be in the range 0-184.

- 8.1 ***NOTE:** Sprites can only be used in MODE 0.
One other command is also supplied: This takes the form:-

| PAUSE,dur

where "dur" is the duration, (1-255). This suspends program operation for the given period of time.

- 8.2 To save the Sprites from BASIC, you should type:-

SAVE "Spritecode",b,38000,4000

***NOTE:** You should not try to combine, the Sprite routine with any screen saved using the "SHIFT + Large ENTER" option of the Superplotter on Side 1.

