Introduction
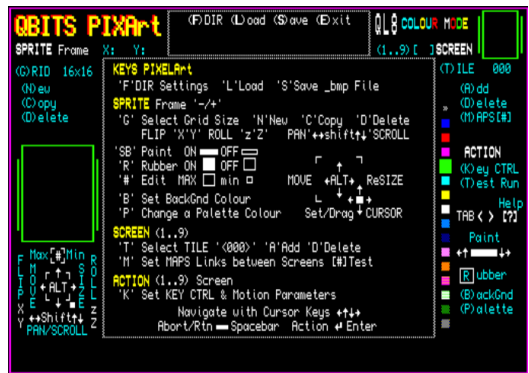
The appeal of computer games prompted by eighties home computers expanded rapidly with extended graphics capabilities and creation of 2D images named Sprites. These Graphics are represented by tiny dots, pixels displayed to screen. As a Matrix of dots, they are stored in memory as a Bitmap.

The creating and modifying of these Pixel Characters or Objects soon became a recognised Art form.

The original aspiration was to write a Program in SuperBASIC that could be used to create a simple RETRO Game for the Sinclair QL Platform. Unfortunately, the performance of running a program with the Interpreter of a BBQL was unacceptably slow and Sprite Bitmaps require lots of memory. Therefore, the program had to wait for more advanced QL Platforms with faster processing and larger memory storage. Another consideration then arose with coding compatibility to run on the extended range of QL Platforms.

QBITS PIXEL Art

To begin with the QL Basic Interpreter although slow to execute code, does provide an environment with which to develop ideas. To build a RETRO style Game quickly revealed the limitations of my knowledge base. This prompted the approach of dividing the program into manageable sections.

For **Stage One** a Sprite Designer is based on a previous QBITS BITMap Designer, for **Stage two** Sprites were designed for use as Tiles and copied across to provide the building blocks of a Retro Screen background. For **Stage Three** Sprites design were to act independently as hazards or rewards with one or more under direct Player Control. Added to this a limited ability to Test Run these attributes. **Stage Four** would be to save as an independent working Retro Game with embedded Title, Menu and Play Instructions.

The aim was the Project would be complete and added as an addition to the 2023 QBITS Progs Review. Unfortunately the work will now continue into 2024.

Note: The following two pages give a quick overview of the functions developed so far.

QBITS PIXArt WIP

The Program is a Work in Process developed with the QPC2 environment which offers several Colour Modes. The QBITS PIXArt Prog uses Colour_QL mode to display number range 0-7 in solid colour or range 8-255 as a colour, contrast and stipple combination. Colour_PAL mode uses 0 to 255 to display colours selected from a Palette of 16 million (24Bit RGB values).
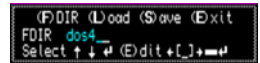
Select with Left [**QL8** or **PAL**] Right Cursor and Enter:

Note: Default is QL8 [reverting to Mode 4 for BBQL]

QBITS PIXArt -File Management

To change **F**ile **DIR**ectory Press (F) Select Drive and Enter. Then Press (E) to Edit Drive/SubDIRectroy name. Enter to Complete.

Press (L) for Load. Select Drive with Up/Down Cursors and Enter. Program carries out a search for **_bmp** files. Select a file with Up/Down Cursors. Abort with Spacebar or load with Enter.
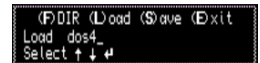
Press(S) to Save Current File. Press (E) to Edit filename. A file saved in SPRITE Mode will contain a minimal header. A file saved in SCREEN Mode contains an extended header with Screen BackGnd and MAPing information.

If file exists an overwrite prompt is displayed.
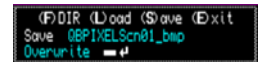
QBITS PIXArt – SPRITE Mode

Loading a SPRITE _bmp file will set the Grid Size. Press (G)rid to change – use Left Right Cursors to select Columns and Up/Down Cursors to change Rows. Abort with Spacebar or Action with Enter. Grid commands are **(N)ew (C)opy** and **(D)elete**. Use **-/+** to select a Sprite frame. If set to **0** entries are displayed in Pixel Grids Size as a group across central screen.
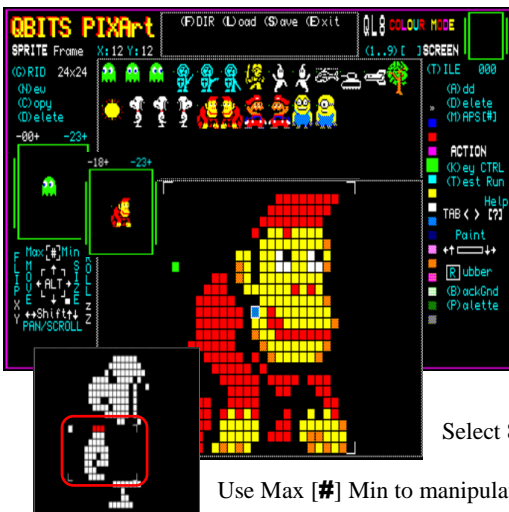
Use **TAB** or **< >** Chevrons to set colour, **Cursor Keys** to select a Grid Cell and Toggle Paint ON/OFF with **Spacebar.** Use **[R]**ubber to remove.

Use **xX** and **yY** to **Flip** horizontally and vertically Grid Cells

Use **zZ** to **Rotate** 90 degrees clockwise and anti-clockwise.

Use **Shift** key with **Left Right Up Down** Cursors to **PAN** or **SCROLL** Grid cells.

Press **(B)** change BackGnd Colour

Select 8..15 of Palette - Press **(P)** to change colour.

Use Max [**#**] Min to manipulate a selected area of Grid Cells.

QBITS PIXArt – SCREEN Mode

Use **-/+** to Select Tile to display in SPRITE frame. Press (A) to add Tile to Library it is shown in Tile frame top right. Total number incremented.

For SCREEN Select Tile with **< >** Chevron keys. Press (**D**) to Delete Selected Tile.

Position Cursor and toggle Spacebar ON/OFF to Paint an individual Tile, row or column. Use [**R**]ubber to remove.
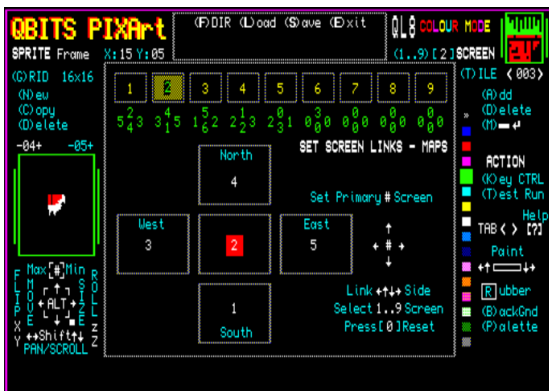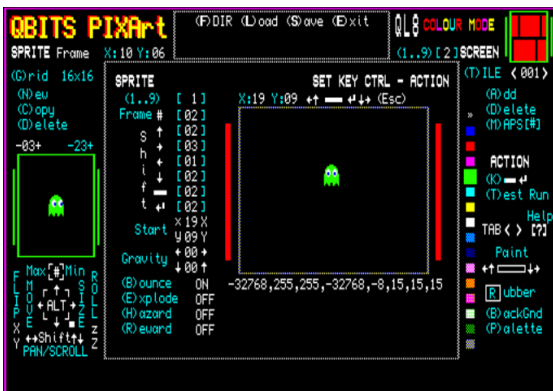

QBITS PIXArt – MAPS

Press (M) to enter MAPS Links.

Select a Primary Screen **1..9**

Use Cursors to select direction then set screen Link **1..9.** The top of MAP window shows the Link settings.

To Exit press Spacebar or Enter. Then Press **#** and move Cursor to any compass exit point to check if SCREEN's are Linked.

QBITS PIXArt - ACTIONS

Where movement or specific actions are required, Selected Sprites can be set with controls.

This allows changes to displayed Sprite for Jump, Fire of a weapon, direction, collision response such as bounce or explode and set one sprite to controlled movement.

Sound added for some Actions.

Press (**A**) and centre window runs a check of CTRL Key Action.

QBITS PIXArt – (T)est Run
This awaits further development?