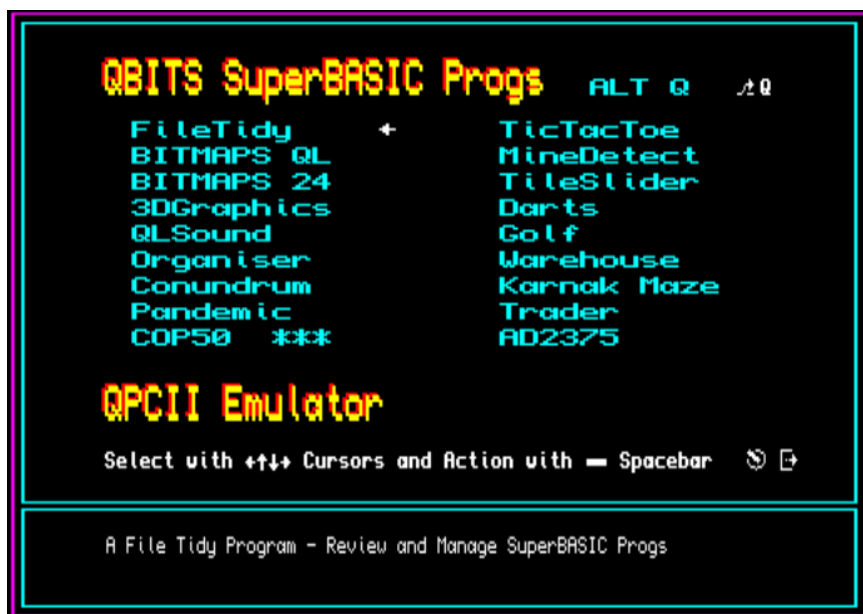




## Sinclair QL Retro-Computing



## Sinclair QL Retro-Computing



## QPC11 Emulator

Installed and run on a Windows PC this Emulates a Sinclair QL Computer.

However, it has a far more advanced O/S with Tony Tebby's SMSQ/E

the successor to his QDOS and an updated expanded SBASIC

to the QL SuperBASIC of Jan Jones day.

Downloads: <https://www.kilgus.net/qpc/downloads/>

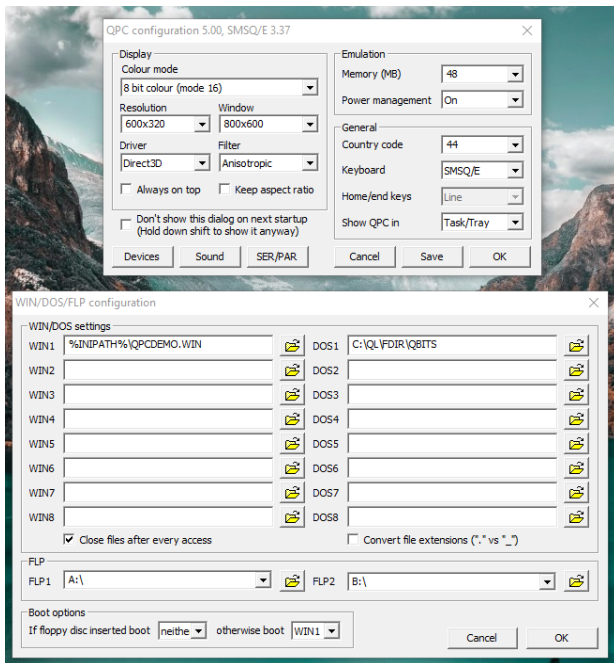
Also Check out: <http://www.dilwyn.me.uk/emu/index.html>

## QPC11 Manual

Issued 2021 with the release of QPC11 v 5.00 it explains Installation, Concepts, and SBASIC keywords. QPC Screen resolution and size is extended from the original 512x256 with additional Colour Palettes.

Download and follow the documentation's instructions to Install.

Start **QPC11** and change the configuration to that shown below: -



## QBITSProgs

Download and unzip into a New Files Folder. In **QPC configuration** Click on **Devices** and link **dos1** to your **QBITSProgs** Folder, press OK and then **Save**. Press **Start** and with **QPC11** up and running exit from the demo page and in the SuperBasic Interpreter's Command Window type: - **LRUN Dos1\_QBITSBoot**

The QBITS Progs Menu should now be displayed

Select a Program with Cursor Keys and Spacebar.

# QBITS SuperBASIC Progs

## Introduction

This provides an introduction to key commands for the QBITS Programs. For a more detailed background and code listings see QBITSProgs\_Doc.pdf



This Collection of **QBITS Progs** is configured for use with the **QPC11 Emulator**. In exploring these Progs the reader will hopefully gain an understanding of the simple to more complex programming aspects of the **S/SuperBASIC Environment**. Information can be found in the QL User's Guide, which introduces the SuperBASIC Language and instructions on programming. Further information is supplied with QPCII Documentation.



After downloading and installing a copy of **QPC11**, on start-up change the settings to those shown on previous page. Link the unzipped QBITSProgs Folder to DOS1 and run. Exit to the SuperBASIC command window and type **LRUN DOS1\_QBITSboot**.

**QBITSboot** copies the **QBITSProgs** Menu to ram2\_ and creates a **QBITSConfig** file, which is used to manage common settings. For backward compatibility gx, gy locate the 512x256 screen size to sit within the higher screen resolutions of the QPC11 Emulator. When Exiting a QBITS Programs dn\$ is set to 'ram2\_QBITSProgs'. **LRUN dn\$** Returns to the QBITSProgs Menu.

For Progs that use **Load/Save**: Settings are provided for Dev\$, dn%, dm% and a list of Storage Device names, 'mdv1\_, flp1\_, win1\_, etc. These can be changed to personal choices.



Navigate **QBITSProgs** using Cursor keys <+> then - Spacebar & <+> Enter key to Action. The Spacebar and Enter tail are provided by BLOCK commands.

**CURS0R 24,20:PRINT 'Select using <+> - <+> :BLOCK#0,12,3,130,24,5:BLOCK#0,2,4,198,22,5**

Other examples would be **ALT <+> Esc <+>** and **Exit <+> Info/Help <+> Ctrl <+> Symbols.**



For **QBITSProgs** (E)xit (N)ew (L)oad (S)ave, action by pressing UPPER /lower case Character key shown enclosed in brackets.

# **QBITS SuperBASIC Progs**

## **CONTENTS PART 1**

### **QBITS FTidy**

'A File Tidy Program - to Review Files and SuperBASIC Progs'

### **QBITS BITMAPS**

'Exploring BITMap Design - A Prog for 1980s Style Sprites etc.'

### **QBITS 3D Graphics**

'Exploring 3D Rotation Graphics - Its all in the Coding'

### **QBITS QL Sounds**

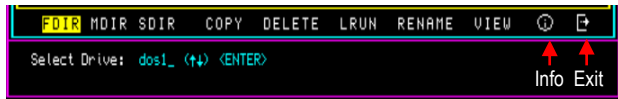
'Exploring the Quirky Nature of the QL SuperBASIC BEEP Command'

### **QBITS Organiser**

'Exploring a 1980s Style Personal Organiser'

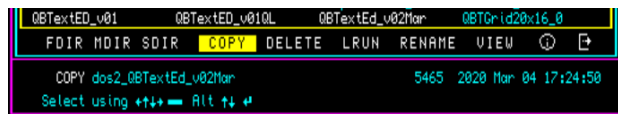
## QBITS File Tidy

On start up a **Help** screen of Commands with a brief description of their functions. First choose a Source device (↕) **DIR**ectory, filenames are then displayed in four columns across the screen. Highlight Commands with ←→ Cursors then Press **Spacebar** or **F M S C D L R V I E** keys.



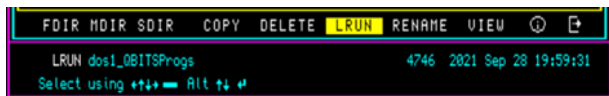
### FTidy File Directory

**FDIR** displays the **DIR**ectory of the Default or last **Device** chosen. Select **MDIR** to Make a new SubDirectory. If SubDIRirectories are shown then Select **SDIR** to access SubDIR levels. Action with <↕> **ENTER**: The Filenames of the selected **Device** or **SubDIR**ectory are written to **FList** which is Read and Sorted to generate the Filename columns to screen.



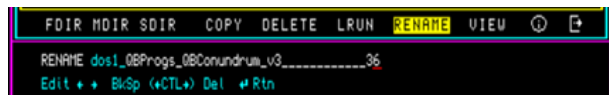
### FTidy COPY / DELETE

Select single or multiple files. The Filename(s) are identified by moving through the files listed and highlighting with the Spacebar. For **COPY** select a destination **Target** device then a second pass is made through the selected list with a 'y/n' for each file before any action is carried out. The selected Filenames are then copied from **Source** to **Target** device. For **DELETE**, the highlighted Filename(s) are confirmed with 'y/n' before Deleting.



### FTidy LRUN

Select a Filename, the full Filename up to 36 characters is displayed together with its Byte length and Time/Date stamp. You are then prompted with **LRUN** filename 'y/n'.



### FTidy RENAME

Select an existing Filename (**file\$**) and edit the string (**str\$**) with the simple **Line Editor**. Checks are made that the Filename doesn't already exist, if not a **COPY** of the file is made with new Filename to source and then the old file is Deleted.

### FTidy VIEW

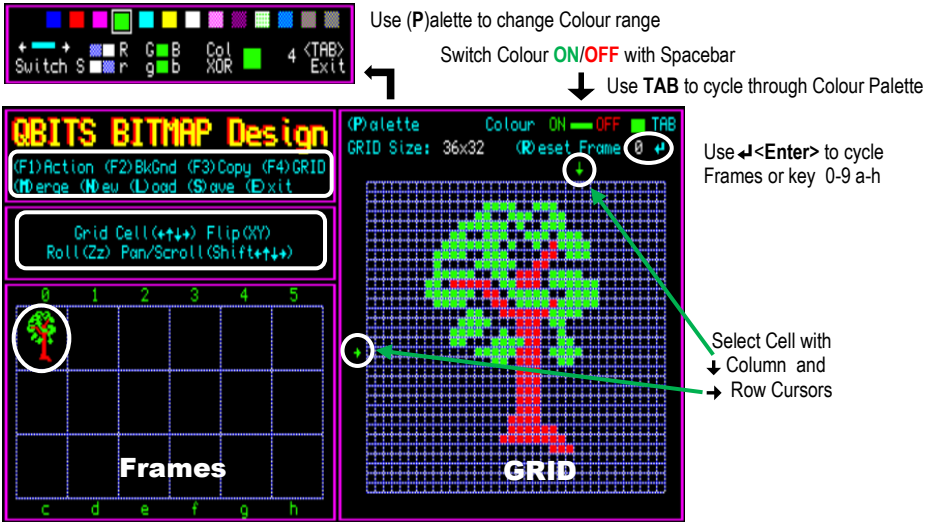
Being able to read the contents, especially the first few lines of a program was seen as a necessary addition to help in recognising a file for what it was. Opening a selected file and reading it requires a little fineness. If a Byte file, a wraparound new line is required after so many characters. For a SuperBASIC or ASCII Character file then acknowledgment of an Enter for each new line.

### Note: Executable Files

For this one method would be to write a **SuperBASIC** Program that loads the Byte Program Code into memory and activates its operation. That Load Prog can then be **LRUN** from **FTidy**.

# QBITS BITMAP Design

The screen layout below has a **BITMAP GRID** area for **Object Designs** of up to 36x32 Pixels and **Frames** in three rows of six identified as 0 to 9 & a to h. Each **GRID Cell** is filled with a background colour, the default being Black (0) use **(F2)BkGnd** to choose an alternative from the Colour Palette. Select 'P' for Pallet to change any of the 14 Colours. **Spacebar** switches between Colour selection and changing the colour parameters rR,gG,bB keys with 'S' to choose stipple. (TAB) returns to Grid and is used to cycle through Colour Pallet for selecting Grid Cell colour.



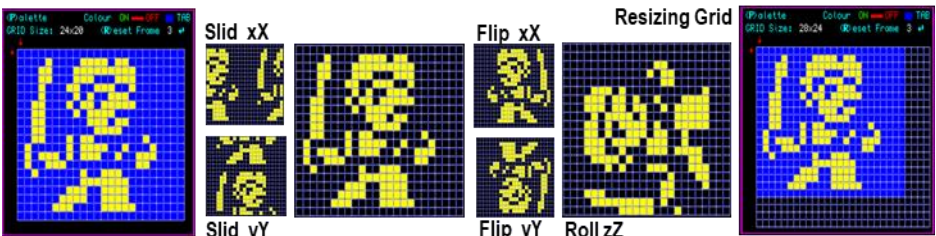
**Flip(XY)** Swaps Left-Right / Top-Bottom

**Roll (zz)** Turns Grid 90° Clockwise / Anti-clockwise

**Pan/Scroll (Shift ← ↑ ↓ →)** moves the columns horizontally and rows vertically. **(R)eset** clears all the Cells of selected **Frame** back to **Black** (Colour = 0). **(N)ew** prompts for a Save before clearing all Frames.

## QBITS BITMAP GRID Flip Roll & Slid

As the **GRID** is stored as an Array swapping or moving entries (column/row) with a **Flip** left or right, top to bottom or **Slid** with Pan and Scroll a column or row at a time is relatively simple. A 90° **Roll** requires a little more sophistication when relocating cell entries from corner to corner. When a resized **GRID** is selected this allows an expansion of the Sprite area. The left Grid 24x20 has been transposed into the 28x24 on the right leaving unused areas to the right and bottom still shown with a default Black Background.

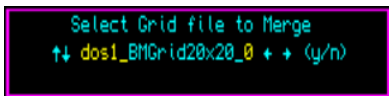


## QBITS BITMAP Commands

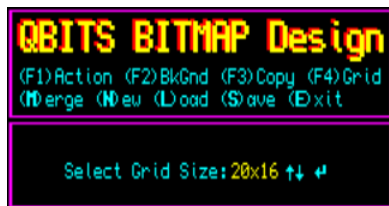
On start-up you are prompted to select a GRID Size.

### QBITS BITMAP (M)erge

This allows two GRID Files of same or different GRID Sizes to combine their Frames [ 0 TO 9 ].



**Note:** If Files different Grid sizes, (L)oad smaller First, then **Resize** with (F4)Grid command.

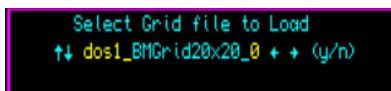


### QBITS BITMAP (N)ew

This will reset all Frames, but will first present the opportunity to (S)ave current Frame Set

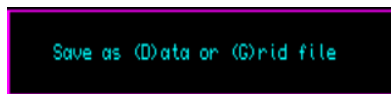
### QBITS BITMAP (L)oad

You can only Load a BITMAP File that has the same Selected GRID Size.



### QBITS BITMAP (S)ave

You can Save BITMAP Files as a GRID in Array Format or as Lines of DATA.

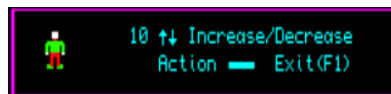


### QBITS BITMAP (E)xit

Press UPPER case 'E' any other key than 'yY' will continue with Prog.



**(F1)Action** - this runs the sequence of Frames. Set PAUSE to -1 and Step though at your own pace or set a 1-20 Frame delay and run the sequence...



**(F2)BkGnd** – Select a Background colour. Reverse action by Selecting same Background colour again.

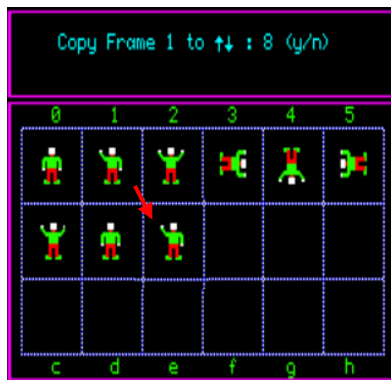


**(F3)Copy** - from current Frame to selected Frame.


**Note:** The Frames show a simple Sprite in various positions. Using (F3) Copy Frame (0) is copied to Frame (1). The left arm position is altered. Copying this to Frame (2) the next change is made and so on. In copying Frames, **Flip**, **Slid** and **Roll** commands can be used to build up a sequence of altered images.

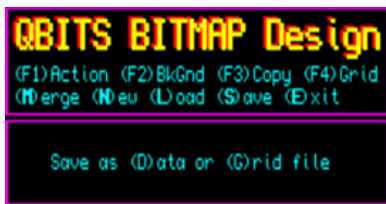
**(F4)GRID** - use to select any of the available Grid Sizes with Up/Down Cursors to expand a grid size or resize for a BITMAP File to Load or Save.

**Note:** In Saving to a smaller Grid Size may delete Pixels on the edges of the current design.



## QBITS BITMAP Files

(S)ave options are as (D)ata or a (G)rid File. Select type (D) or (G) then device and Filename. A search will return with a message 'DEVICE ERROR', 'Overwrite y/n' or 'Saving...'.  




For (L)oad Select Device and Grid File. A search will return 'File NOT Found' or 'Loading...'

## QBITS BITMAP Files

- BMGrid05x07\_0** Character Fonts 0-9A-H
- BMGrid20x16\_0** Animation Sprite
- BMGrid24x20\_0** Sprites Collection
- BMGrid36x32\_0** Background Scene

## QBITS BITMAP 24

For true colour this uses the **Colour\_24 (P)**alette which has no Stipple just **Red Green & Blue** each with a range of 0-255 or in Hex 00-FF. Changing the Pallet colour range use Spacebar and rR,gG,bB much the same as with BITMAP QL.

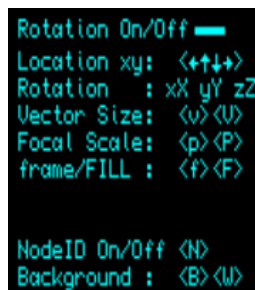
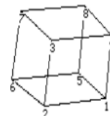
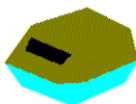
**Note:** INK, BLOCK etc. colour attributes are more easily written in Hex numbers (\$num).

**000000** **Red** = num DIV 65536  
**TO** **Green** = num MOD 65536 DIV 256  
**FFFFFF** **Blue** = num MOD 65536 MOD 256



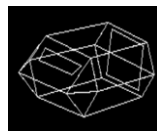
## QBITS 3D Graphics

Select Shape. Turn auto-rotation ON/Off with spacebar.  
 Rotate anticlockwise with lower case '**x,y,z**' and clockwise with UPPER case '**X,Y,Z**'  
 Resize with '**v**' to Decrease and '**V**' to Increase.  
 Change Focal Point - Increase with '**p**', Decrease with '**P**'  
 Key '**f**' toggles hidden planes On/Off '**F**' adds Frame Colour



(N)ode turns Numbering ID On/Off

Background colour (B)lack or (W)hite changes PAPER colour (bg1) and INK (bg2) either a Black background with white INK, or White background with black INK.

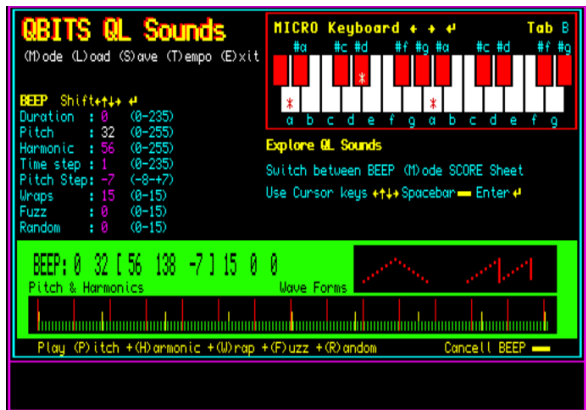


## QBITS QL Sounds

**BEEP Mode** allows changes to the Sound attributes. Select one of the 24 Keys from the Micro Keyboard use Left/right Cursors and Enter.

Use Shift Up/Down Cursors. To select Attribute and change value with Left/Right Cursors.

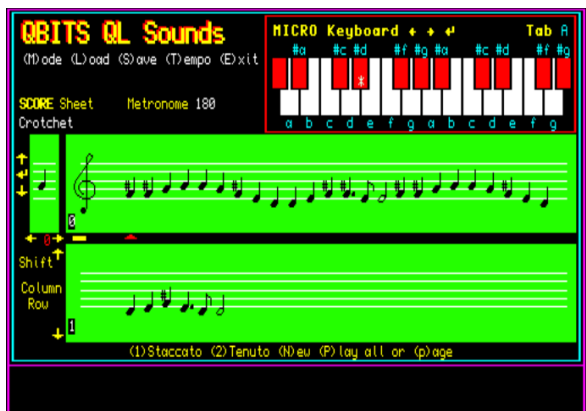
Press Enter and the Waveform Pitch & Harmonics are displayed graphically.



For Sounds - Pitch through to Random press key **(P)** **(H)** **(W)** **(F)** **(R)**. Cancel with Spacebar.

**SCORE Mode** use Left/Right Cursors and Enter to select Note position on Stave. Select Notes, Rests, with Up/Down Cursors. Enter places selected on Stave at position of marker.

Shift Left/Right cursors to move Stave Marker, switch between Rows with Spacebar. Use Shift Up/Down cursors to change the Stave Rows displayed (0-9).



**(1)**Staccato Shortens Note (dot)

**(2)**Tenuto Lengthens Note (dash)

**(N)**ew clears Score Sheet. **(P)**lays all 0-9 rows, **(p)**age plays only the Stave rows displayed.

## QBITS QL Sound Menu

**(M)**ode switches between **BEEP** and Musical **SCORE**. For Storage and Retrieval of data files QBSDat\_0 to 9 use **(S)**ave and **(L)**oad.

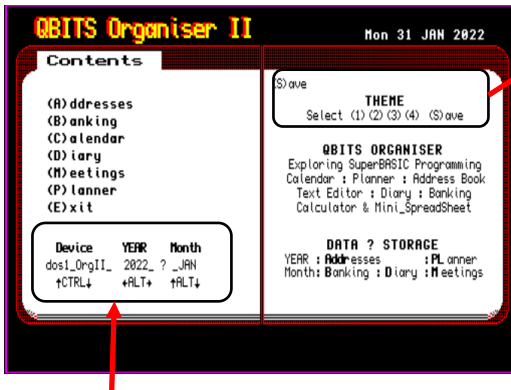
**(T)**empo is only active in Musical **SCORE** Mode.

**(E)**xit prompts with Y/N. Answer 'yY' – LRUN QBITSProgs.



# QBITS Organiser

**Init\_Date** sets the **Year & Month** to QL Clock. Initialising the Organiser Loads a Config File or displays 'File NOT Found' with Page Backgrounds remaining default white.



## QBITS Organiser Themes

Select (1) (2) (3) (4) and (S)ave **Theme**. The Config File details the background colours to be deployed. See Code Line 1091 DATA 7,7,7,7,7,7,7 etc.

## QBITS Working Dates

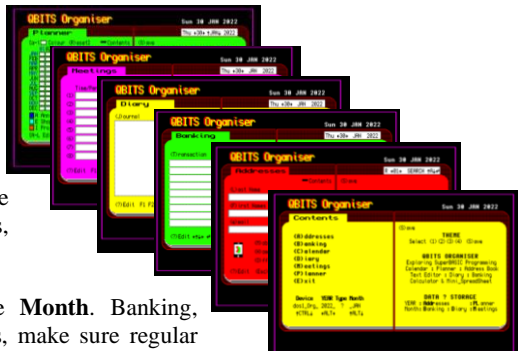
For **Banking Diary & Meetings** Select **Day** of the Month. For **Planner** Select **Day & Month**.

## QBITS Organiser Settings

**CTRL UP/Down** cursor keys to change the Default **Device**. To check try doing a **Theme Save**. If Device not valid a **DEVICE ERROR** will be given.

**ALT Left/Right** cursor keys to change **Year**. All Data files are affected by this, make sure regular backups are carried out.

**ALT Up/Down** cursor keys to change **Month**. Banking, Diary, and Meetings are affected by this, make sure regular backup are carried out.



## QBITS Organiser DATA Files

The Organiser Year/Month DATA Files are Searched for when entering the relevant Organiser Page. If found they are Loaded. If not 'File NOT Found' will be returned.

## QBITS DATA File Format

Ex: win1\_OrgII\_2022\_Addr Address List File  
Ex. dos1\_OrgII\_2022\_D\_JAN Diary Page File

## QBITS Organiser Controls

Cursor Left/Right/Up/Down <Spacebar> <Enter> <Exit>  
← → ↑ ↓ — ↵ (Esc)  
Edit (?) [key First Letter of (H)eading...] (Esc) to Return

## QBITS Organiser Entry

Top right of Organiser Page is a toolbar for changing the current entry.

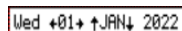
For Addresses this allows change of Record or Search by Name.



For other entries a change of Day within current Month.



The exception being the Planner Page which has Day & Month



To change Calendar Year change Year on Contents Page before entering Calendar Page.

## QBITS Organiser TextED

The Organiser Pages display Text Boxes of single or multiple rows dependant on their use. To enter a Text box press key bracketed character of heading for example (J)ournal. A RED underscore will be displayed in the textbox indicating current cursor position. Enter text. To exit press (Esc) key.

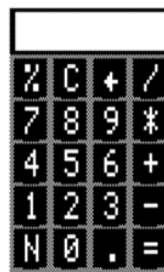
**Addresses, Banking, Diary, Meetings and Planner** each use differing Character handling Formats. For control of the differing Code Sets, a method of scalable character groups is deployed beginning with numbers 0-9 and printable characters such as space, hyphen, period, then adding upper-case alphabetic characters followed by lower case, then finally building to a full set to include all punctuation characters, mathematical symbols and brackets etc.

'space' ! " # \$ % & ' ( ) * + , - . /	codes	32 - 47
0123456789	codes	48 - 57
: ; < = > @	codes	58 - 64
ABCDEFGHIJKLMNOPQRSTUVWXYZ	codes	65 - 90
[ \ ] ^ _	codes	91 - 96
abcdefghijklmnopqrstuvwxyz	codes	97 - 122
{   } ~	codes	123 - 126

## QBITS Organiser Calculator

The Calculator Editor is for working with currencies printed to two decimal places. The Arithmetic Functions are [+] Add, [-] Subtract, [\*] Multiply, [/] Divide. Percentage a number [\*] times a value of [%]. Other keys, [=] Equal sign, [,] Decimal Point, [N]egate +/-number, [C]lear all, [↵] Delete last character.

(C)calculator



## QBITS Organiser page Exit

When leaving an Organiser Page, by pressing <Spacebar> or 'S' a (S)ave Y/N prompt is displayed. If answer is 'Yy' (Yes) the DATA File will be Saved as a New file or if previously saved then an Overwrite Y/N prompt will be given.

If the Device or Medium is not found a **DEVICE ERROR** will be given. If Data is required to be saved return without Saving to the **Contents** Page and Select a Device that is attached (**Do not change Year or Month**). Return to **Organiser Page** last accessed, the field entries should still be there so that they can now be saved.

