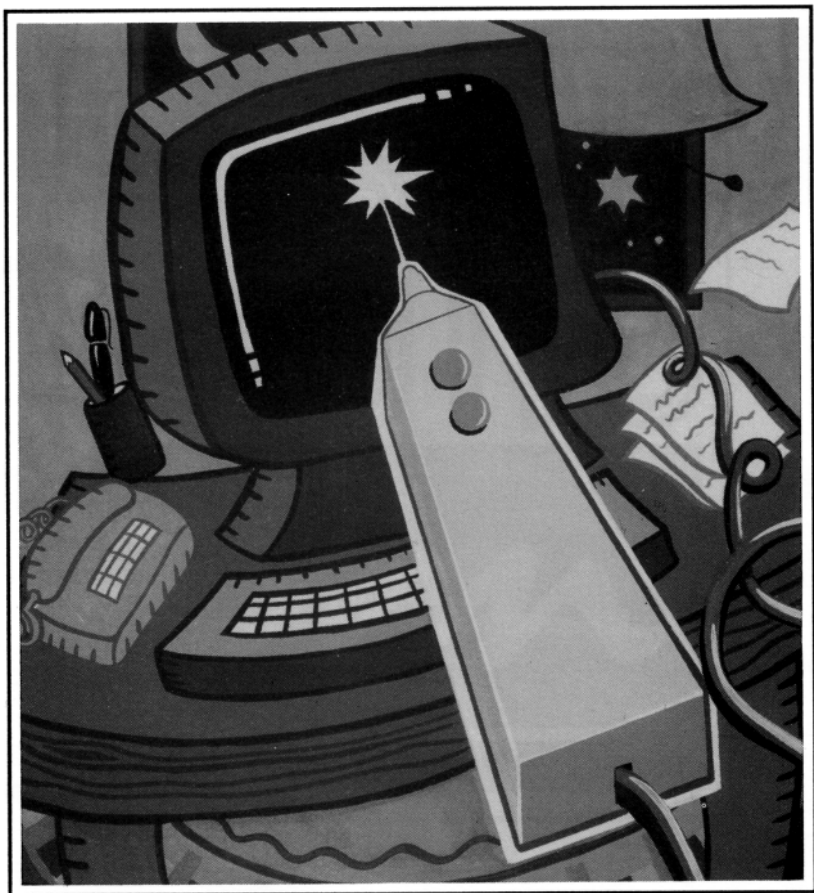


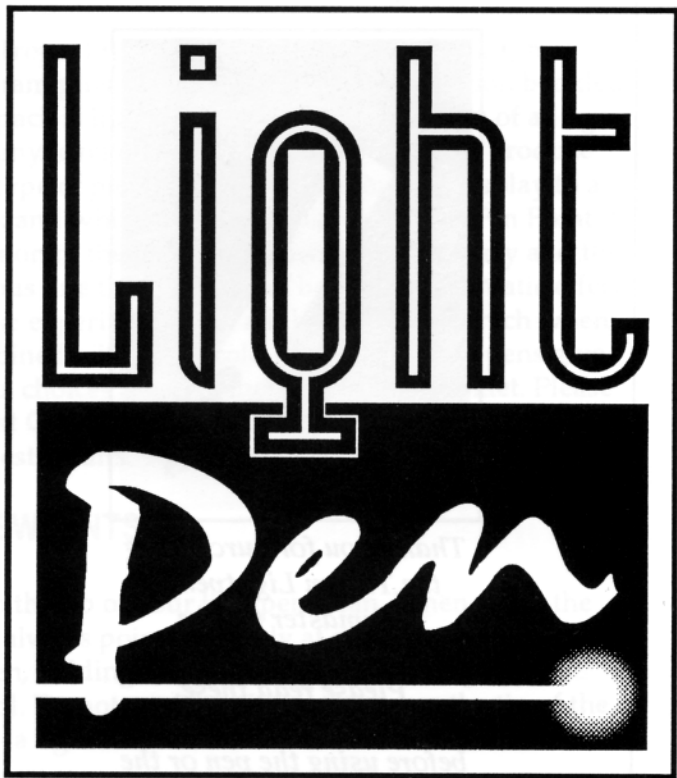
USER MANUAL

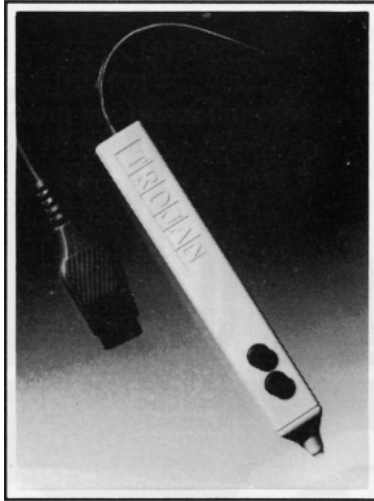
Light Pen

The Trojan
Commodore
C64/128
Lightpen
&
Penmaster
Art Package

COMMODORE
C64/128







*Thank you for purchasing
the Trojan Lightpen &
Penmaster for the
Commodore C64/128.
Please read these
instructions carefully
before using the pen or the
drawing program.*

THE TROJAN LIGHTPEN

The Trojan Lightpen Pack comprises of a Graphics program plus a Light Pen and this instruction booklet. The pack is intended for use by micro users of all ages and any level of expertise. It can be used to produce any type of picture from a full colour art display to a black and white technical illustration. The Pin Point function in the program allows pixel accuracy and the various line thicknesses can be used to dramatic effect. Please experiment with all the functions which when combined with all 16 colours and the three pens give more choices than we mention in this booklet. Please adjust CONTRAST and BRIGHTNESS on the screen for best results.

A FEW HINTS

Keep the tip of your lightpen clean. When using the pen, always point it directly at and square to the screen, holding it as you would a normal pen or pencil. Do not apply undue pressure on the tip of the pen - a light touch is all that is needed.

LOADING THE SOFTWARE

The software is supplied on both cassette tape and disk.

To load from cassette :-

1. Insert the cassette into the recorder.
2. Press SHIFT/RUN STOP key.
3. Press PLAY on the recorder.

The program will now Load and Auto run. Loading time is approximately 2.5 minutes.

To load from disk :-

1. Insert the disk into the drive.
2. Type LOAD "PENMASTER",8 and RETURN.
3. Type RUN when the software is loaded.

WHEN THE PROGRAM IS LOADED

1. Plug the Lightpen into the No. 1 Port which is on the right hand side of your micro.
2. Carry out the calibrating procedure as shown on the screen.
3. The MAIN MENU will now appear on the screen.

THE MAIN MENU

To select an option from the menu you must point the tip of the pen at the centre of the box to the right of the required option, then press button one (the front button) of the pen.

LINE TYPES

The first column down the left hand side of the menu screen are all "LINE TYPE" options. When you have selected the type of line that you require the description on the menu will change to reverse print and remain that way until you choose any other LINE TYPE option. The LINE TYPE which you select will be used with any of the following options :- BOX,CIRCLE, LINE, BANDING, RAYS and DRAW.

1. THIN. This option will produce a uniformly thin line.
2. QUIL. 1,2 & 3. These options produce a thicker line in the "X" direction than in the "Y" direction, thus giving a "Copperplate" effect. QUIL 1,2 & 3 are graded to give a progressively thicker line.
3. THICK. This option will draw a uniformly thick line.

4. YDOT. This option produces a dotted line in the "X" direction and can be used to produce vertical lines in the DRAW option.

5. YDOTI. This option produces a dotted line in the "Y" direction and can be used to produce horizontal lines in the DRAW option.

6. DOTLI. This option produces a dotted line in the draw option or in any of the GEOMETRIC options.

GEOMETRIC OPTIONS

The GEOMETRIC options can all be drawn in any of the LINE TYPES so be sure to select the line type which you require before choosing a GEOMETRIC option.

BOX

1. Select the BOX option.
2. Use the pen to move the cursor to the point on the screen where you require one corner of the box to be positioned.
3. Press the Front Button to set the cursor.
4. You may now Pin Point the cursor by using the CRSR keys. When the cursor has been Pin Pointed

press the Front Button to lock the cursor in position.

5. Position the 2nd cursor where you require the opposing corner of the BOX to be.
6. Press the Front Button to set the 2nd cursor.
7. You may now PIN POINT the cursor. The BOX will appear on the screen using Dynamic Banding and the 2nd cursor can be re-positioned by using the CRSR keys.
8. When the correct position has been acquired press the Front Button to lock the 2nd cursor and BOX position.

You may now repeat this option as many times as required.

9. Press the Back Button to return to the MAIN MENU.

BANDING

1. Select the BAND option.
2. Use the pen to move the cursor to the required starting point.
3. Press the Front Button to set the cursor.
4. You may now PIN POINT the cursor. Press the Front Button to lock the cursor in position.
5. Move the 2nd cursor to the required position.
6. Press the Front Button to set the 2nd cursor. A line

will now appear on the screen using Dynamic Banding.

7. You may now Pin Point the cursor.

8. Press the Front Button to lock the 2nd cursor. The first line in the banding operation will be drawn on the screen.

9. Move the cursor to the third position and follow instructions 5 to 8 above.

You may carry out the above operation as often as required.

10. Press the Back Button to return to the MAIN MENU.

RAYS

1. Select the RAYS option.

2. Use the pen to move the cursor to the required centre position of the RAY.

3. Press the Front Button to set the centre cursor.

4. You may now Pin Point the centre cursor. Press the Front Button to lock the centre cursor.

5. Move 2nd cursor to the required position.

6. Press the Front Button to set the 2nd cursor.

7. You may now Pin Point the cursor. Press the Front Button to lock the cursor and to draw the first line in the RAY.

8. Follow instructions 5,6 & 7 as often as required to build the RAY.

9. Press the Back Button to return to the MAIN MENU.

LINE

1. Select the LINE option.
2. Use the pen to move the cursor to the point on the screen where you wish to start the line.
3. Press the Front Button to set the cursor.
4. You may now Pin Point cursor. Press the Front Button to lock the cursor.
5. Move the 2nd cursor to the position where you require the other end of the line.
6. Press the Front Button to set the cursor.
7. You may now Pin Point the cursor. Press the Front Button to lock the cursor and to draw the line.
8. Press the Back Button to return to the MAIN MENU.

TRIANGLE

1. Select the TRIA option.
2. Use the pen to move the cursor to the point where you require one corner of the TRIANGLE to be positioned.

3. Press the Front Button to set the cursor.
 4. You may now Pin Point the cursor. Press the Front Button to lock the cursor.
 5. Move the 2nd cursor to a point where you require the second corner to be positioned.
 6. Press the Front Button to set the 2nd cursor. The first line of the TRIANGLE will now appear on the screen.
 7. You may now Pin Point the cursor. Press the Front Button to lock the cursor in position.
 8. Move the cursor to the final point of the TRIANGLE.
 9. Press the Front Button to set the cursor. The triangle will now appear on the screen.
 10. You may now Pin Point the 3rd cursor. Press the Front Button to lock the cursor and draw the TRIANGLE.
- You may now repeat the operation as often as required.
11. Press the Back Button to return to the MAIN MENU.

CIRCLE

1. Select the CIRC option.
2. Use the pen to position the cursor at the point on

the screen where you want the centre of the circle.

3. Press the Front Button to set the cursor.
4. You may now Pin Point the cursor. Press the Front Button to lock the cursor in position.
5. Move the 2nd cursor to a point on the screen where the circumference of the CIRCLE will dissect the cursor.
6. Press the Front Button to set the 2nd cursor. The CIRCLE will now appear on the screen.
7. You may now Pin Point the 2nd cursor. Press the Front Button to lock the cursor and draw the CIRCLE. You may now repeat this operation as often as required.
8. Press Back Button to return to the MAIN MENU.

FILL

1. Select the FILL option.
2. Select the desired FILL pattern from the FILL menu.
3. Use the pen to place the cursor in the enclosed area to be filled.
4. Press the Front Button to set the cursor.
5. You may now Pin Point the cursor. Press the Front Button to FILL the area.
6. The Area selected will firstly be filled in the

current pen colour. The Border will flash while the area is mapped. The area will then change to the pattern selected.

7. To quit this option while filling is in operation you must hold down the SPACE bar until the fill aborts. N.B. The area to be filled must be enclosed by a solid line to prevent the pattern from "leaking" to surrounding areas. A BRUSHED line is not "leakproof".

It is NOT possible to FILL over a pen colour by using the same pen as that used to draw the colour originally. This also applies to the background colour. You may use this option as often as required if the pattern is to be repeated.

8. Press the Back Button to return to the MAIN MENU.

TEXT

1. Select the TEXT option.
2. Select the TEXT size and type required from the TEXT menu.
3. Use the CRSR keys to move the flashing cursor to the required starting point.
4. Type the required TEXT on the keyboard. Use the SPACE bar to move the cursor onto the next line.

5. Press the RETURN key to return to the MAIN MENU.

FREEHAND DRAW

1. Select the DRAW option.
2. Use the pen to move the cursor to the starting point required for drawing.
3. Press and hold down the Front Button when drawing and move the pen smoothly over the screen at a reasonable speed. Use the Front Button as you would lift a pen or a pencil from paper when drawing normally.
4. Press the Back Button to return to the MAIN MENU.

BRUSH

1. Select the BRUSH option.
2. Follow the instructions for the DRAW option.

COPY

1. Select the COPY option.
2. Place the cursor at bottom left hand corner of area

to be copied.

3. Press the Front Button to set the cursor.
4. You may now Pin Point cursor. Press the Front Button to lock the cursor in position.
5. Move the 2nd cursor to the top right hand corner of the area to be copied.
6. Press the Front Button to set the 2nd cursor. A box surrounding the area to be copied will now appear.
7. You must now Pin Point the 2nd cursor. Press the Front Button to lock the cursor.
8. Select the size of the COPY required from the menu.
9. Move the cursor to the bottom left hand corner of the area in which you wish the copy to be drawn.
10. Press Front Button to set the cursor.
11. You may now Pin Point the cursor. Press the Front Button to produce the COPY.
You may repeat this option as often as required.
12. Press Back Button to return to the MAIN MENU.

NOTE If you wish to change the colour of anything drawn on the screen you must do so using the COPY option with the pen colour required.

WASH

Example of use:-

1. Draw a line using Pen 1 in Green.
2. Draw a line using Pen 2 in Green

Draw these lines so they intersect each other.

3. Change colour of Pen 2 to Pink.
4. Select the WASH option.
5. Select WASH PEN on the WASH menu.
6. Watch as the result appears on the screen!

NOTE. To wash a pen in the background colour - i.e ERASE the current pen - select ERASE PEN on the WASH menu. No matter how many colours have been used with the current pen they will all be changed to the current pen colour when the WASH option is used leaving other pens untouched.

SAVE

1. Select the SAVE option.
2. Select TAPE, DISK or RETURN from the SAVE menu.
3. A file name must be entered at this point. Up to 8 characters may be used.

4. Follow instructions on screen. For full details of the disk drive, read the Commodore disk drive users manual.

LOAD

1. Select the LOAD option.
2. Select the required option from the LOAD menu.
3. Enter the file name.
4. Follow the on instructions on screen. For full details of the disk read the Commodore disc users manual.

It is also possible to load and display a picture without using PENMASTER.

TYPE;-

LOAD "Screen Name",1,1 to load a screen from tape.

TYPE :-

LOAD "Screen Name",8,1 to load a screen from disk.

To display the loaded screen Type:- SYS22272(return).

CALIBRATE

1. Select the CALI option.
2. Follow the on-screen instructions.

PRINT

1. Select the PRINT option.

The PRINT option allows printout of the picture to be made to any CBM or EPSON compatible printers provided the user has a suitable interface.

If you are using a serial to parallel interface and an EPSON compatible printer select the serial interface and either of the epson printout options.

NEW

1. Select the NEW option.
2. Select YES at the bottom of screen to clear the current screen.

ERASE

1. Select the ERASE option.

This option erases the last option draw on the screen.

BORDER COLOUR

1. Select BORD

This option changes the border colour to the current pen colour.

CURSOR COLOUR

1. Select CUCO

This option changes cursor colour to the current pen colour.

PENS 1,2 and 3.EXAMPLE:

1. Select Pen 1.
2. Select colour Blue.
3. Select Pen 2.
4. Select colour Green.
5. Select Pen 3.
6. Select colour Red.
7. Select Pen 1.
8. Draw line on screen using DRAW option.
9. Select Pen 2.
10. Draw line on screen using DRAW option.

11. Select Pen 3.

12. Draw line on screen using DRAW option so that all lines intersect at several points.

NOTE that where lines intersect the colours do not merge as would have happened if only one Pen had been used.

BACKGROUND COLOUR

1. Select BACK.

2. Select colour.

NOTE:- The Pen will only draw on a bright colour and will NOT draw over black. You may draw on a bright colour and if a dark background is required simply change the background to black or any other colour. The BACKGROUND colour can also be used to draw shapes on top of other pen colours or to erase them.

COLOUR OPTIONS

The two columns on the right hand side of the menu allow you to select any of the 16 colours.

OTHER FILES ON THE DISK AND TAPE.

There are several files on the disk including:-

DISP DISK ONLY

A file written in BASIC to display the pictures on the disk in sequence. All the pictures on the disk have been created with the TROJAN LIGHTPEN.

Picture files on the disk include:-

TITLE, BOOK, SNOOPY, SHINING, CHALKS AND RUSTLER.

BASIC TAPE AND DISK

This file simply shows how to read the x and y position of the pen in BASIC.

Please read the cassette label for details.

THE PROGRAM-INSTRUCTIONS-PACKAGING AND PEN DESIGN ARE STRICTLY COPYRIGHT AND MUST NOT BE COPIED IN ANY WAY WITHOUT THE WRITTEN PERMISSION OF TROJAN PRODUCTS.

Returns Procedure

All Trojan Lightpens are fully tested before leaving our factory, but if a fault develops within six months of purchase please return it undamaged in its original packaging, enclosing proof and date of purchase to:

Lightpen Returns Department,
Trojan Products,
Unit 7, Dafen Park,
Llanelli,
Dyfed. SA14 8LX.



UNIT 7, DAFEN PARK
LLANELLI, DYFED. SA14 8LX.