

TASWIDE

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Taswide is a utility program for the ZX Spectrum which gives program output to the screen at 64 characters per line (cpl) as well as the normal 32 cpl.

SUMMARY

Numbers in square brackets are for the 16K Spectrum.

32 cpl – 32 characters per line (normal Spectrum character size)

64 cpl – 64 characters per line (Taswide extra character size)

To load Taswide execute: CLEAR 63222 [30454]
 LOAD "" CODE

To initialise the 64 cpl generator execute:
 RANDOMIZE USR 64300 [31532]

To switch to 64 cpl execute: PRINT CHR\$ 3;

To switch to 32 cpl execute: PRINT CHR\$ 2;

The 64 cpl generator must be re-initialised after CLEAR, CLS, NEW, RUN, automatic listings, and after using AT and TAB in 32cpl.

LOADING TASWIDE

Taswide occupies 1492 bytes of memory beginning at memory location 63223 [30455]. (Numbers in square brackets refer to the 16K Spectrum.) This is below the User Defined Graphics area of memory and also leaves room for the Tasman Printer Interface software and the software for some other interfaces.

Before loading Taswide move RAMTOP down by executing:
 CLEAR 63222 [30454]

Taswide will then remain safely in memory even if NEW is executed.

Load the program from the side of the cassette labelled 48K [16K] by executing:
 LOAD "" CODE

and then playing the tape.

INITIALISING THE 64 CPL GENERATOR

Once Taswide has loaded the 64 cpl generator can be initialised by executing:
 RANDOMIZE USR 64300 [31532]

This statement can be typed direct from the keyboard or can be contained within a program. It does not matter if this statement is executed more than once.

The 64 cpl generator must be re-initialised after CLEAR, CLS, NEW, RUN, and after automatic listings (listings obtained by just pressing ENTER). Therefore programs that are to be executed using RUN rather than GOTO should contain the statement:

```
RANDOMIZE USR 64300 [31532]
```

before any PRINT statements that are to print at 64 cpl.

PRINTING AT 64 CPL

Once the 64 cpl generator has been initialised using RANDOMIZE USR 634300 [31532] 64 cpl printing can be turned on by executing:

```
PRINT CHR$ 3;
```

The output from subsequent PRINT statements will be at 64 cpl. To revert to the usual Spectrum character size of 32 cpl execute

```
PRINT CHR$ 2;
```

The two character sizes can be mixed on the screen and within the same PRINT statement. For example:

```
PRINT "Taswide";CHR$ 3;" from";CHR$ 2;"Tasman"
```

CONTROL CODES IN PRINT STATEMENTS

The control codes INK, PAPER, FLASH, BRIGHT, INVERSE, TRUE VIDEO and INV. VIDEO can be used in PRINT statements in the normal way. Each of these control codes will effect a 32 cpl size area of the screen. The OVER control code cannot be used.

FORMATTING – AT, TAB, AND COMMAS IN PRINT STATEMENTS

AT, TAB, and commas can be used in PRINT statements in the normal way with the additional advantage that when 64 cpl is turned on there are 64 print positions across the screen rather than the usual 32.

A comma in a print statement defines four print positions across the screen rather than the usual two. For example, the output from:

```
10 RANDOMIZE USR 64300
20 PRINT 1,2
30 PRINT CHR$ 3; 1, 2, 3, 4
```

is:

```
1           2
1           2           3           4
```

With AT and TAB there are 64 print positions across the screen numbered from 0 at the left to 63 at the right of the screen. For example:

```
10 RANDOMIZE USR 64300
20 PRINT CHR$ 3;
30 PRINT "Taswide"; TAB 20; "by"; TAB 40; "Tasman"
```

gives, on running:

```
Taswide           by           Tasman
```

The 64 cpl generator must be re-initialised after using AT and TAB in 32 cpl by executing RANDOMIZE USR 64300 [30454].

PROGRAM LISTINGS

You can list your programs at 64 cpl but you cannot edit or move the cursor up or down these listings. With 64 cpl initialised type:

```
PRINT CHR$ 3; LIST
```

If you press ENTER when the listing is complete you will obtain an automatic listing and the 64 cpl generator must be re-initialised by executing RANDOMIZE USR 64300 [31532]. You can then revert to normal 32 cpl text by executing PRINT CHR\$ 2;

64 CPL USER DEFINED GRAPHICS

The 64 cpl character generator has a base address of 62976 [30208]. The four most significant bits of each entry in the character generator must be zero.

Example: to define graphics "A" as a box. Page 186 of the Spectrum manual gives the code of graphics "A" as 144. Execute

```
POKE 62976 [30208] + 144 * 8,    BIN 00001111
POKE 62976 [30208] + 144 * 8 + 1, BIN 00001001
POKE 62976 [30208] + 144 * 8 + 2, BIN 00001001
POKE 62976 [30208] + 144 * 8 + 3, BIN 00001001
POKE 62976 [30208] + 144 * 8 + 4, BIN 00001001
POKE 62976 [30208] + 144 * 8 + 5, BIN 00001001
POKE 62976 [30208] + 144 * 8 + 6, BIN 00001001
POKE 62976 [30208] + 144 * 8 + 7, BIN 00001111
```

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