

Title: Using the CG command to print bitmap images.

The CG CPCL command allows you to download graphic data directly to the printer.

To best describe how the CG command is used it is advantageous to review how the EG command is used.

The EG command syntax:

Command width height x y data

```
! 0 200 200 210 1
```

```
EG 2 16 50 50
```

```
FFFF800180018001800180018001800180018001800180018001800180018001
```

```
FFFF
```

```
FORM
```

```
PRINT
```

The WIDTH parameter is the width of the graphic in dots (which must be a multiple of 8) divided by 8 to convert it to bytes. 16 dots wide would be "2" (in the example above)

The HEIGHT parameter is the height of the graphic in dots (in this example (16 dots) In the binary data, a 0 = white dot and 1 = black dot.

Each group of width bytes represents one "raster line" in the bitmap graphic, starting at the top and working down.

The most significant bit in each byte represents the left most dot in that group of 8 dots. Here is a conversion between the hexadecimal digits shown in the dump and their binary equivalents:

Hex	Binary
0	0000
1	0001
2	0010
3	0011
4	0100
5	0101
6	0110
7	0111
8	1000
9	1001
A	1010
B	1011
C	1100
D	1101
E	1110

F 1111

To represent the 16x16 square box, the data (shown in boldface) is as follows. bytes bits

```
FF FF 1111111111111111
80 01 1000000000000001
80 01 1000000000000001
80 01 1000000000000001
80 01 1000000000000001
80 01 1000000000000001
80 01 1000000000000001
80 01 1000000000000001
80 01 1000000000000001
80 01 1000000000000001
80 01 1000000000000001
80 01 1000000000000001
80 01 1000000000000001
80 01 1000000000000001
80 01 1000000000000001
80 01 1000000000000001
80 01 1000000000000001
FF FF 1111111111111111
```

! 0 200 200 210 1

EG 2 16 50 50

FFFF800180018001800180018001800180018001800180018001800180018001

FFFF

FORM

PRINT

UltraEdit-32 - [X:\junk\CG_GRAPHICTEST.txt]

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CG_GRAPHICTEST.txt

```
00000010h: 31 20 0D 0A 43 47 20 32 20 31 36 20 35 30 20 35 ; 1 ..CG 2 16 50 5
00000020h: 30 20 FF FF 80 01 80 01 80 01 80 01 80 01 80 01 ; 0 yy€.€.€.€.€.€.
00000030h: 80 01 80 01 80 01 80 01 80 01 80 01 80 01 80 01 ; €.€.€.€.€.€.€.€.
00000040h: FF FF 0D 0A 46 4F 52 4D 20 0D 0A 50 52 49 4E 54 ; yy..FORM ..PRINT
00000050h: 20 0D 0A 0D 0A ; .....
```

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