

Path: D:\HCMUT\OEC\HTN\ComputerGraphic\3x3.bmp

00 01 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0E 0F

00000000  
00000010  
00000020  
00000030  
00000040  
00000050

42 4D 5A 00 00 00 00 00 00 00 36 00 00 00 28 00  
00 00 03 00 00 00 03 00 00 00 01 00 18 00 00 00  
00 00 24 00 00 00 00 00 00 00 00 00 00 00 00 00  
00 00 00 00 00 00 FF FF FF FF FF FF FF FF 00  
00 00 FF FF FF FF FF FF FF FF FF 00 00 00 FF FF  
FF FF FF FF FF FF FF 00 00 00

BMZ.....6...(.  
.....  
..\$.  
.....  
.....  
.....

Bits per pixel = 18h = 24 8 blue, 8 green, 8 red  
Size of image = 500x500 pixels  
Size of image = 750,000 bytes  
Print resolution ppm

## FILE SIZE

Path: D:\HCMUT\OEC\HTN\ComputerGraphic\3x3.bmp

```
00 01 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0E 0F
```

```

00000000  42 4D 5A 00 00 00 00 00 00 00 36 00 00 00 28 00  BMZ.....6... (
00000010  00 00 03 00 00 00 03 00 00 00 01 00 18 00 00 00  .....
00000020  00 00 24 00 00 00 00 00 00 00 00 00 00 00 00 00  ..$.
00000030  00 00 00 00 00 00 FF FF FF FF FF FF FF FF 00  ....7180 = 750,000 bytes
00000040  00 00 FF FF FF FF FF FF FF FF FF FF 00 00 00 FF FF  .....
00000050  FF FF FF FF FF FF FF 00 00 00  .....

```

## Reserved

Path: D:\HCMUT\OEC\HTN\ComputerGraphic\3x3.bmp

00 01 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0E 0F

|          |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|
| 00000000 | 42 | 4D | 5A | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | BMZ.....6...(.<br>Bits per pixel = 18h = 24 8 blue, 8 green, 8 red |
| 00000010 | 00 | 00 | 03 | 00 | 00 | 00 | 03 | 00 | 00 | 00 | 01 | 00 | 18 | 00 | 00 | .....  |
| 00000020 | 00 | 00 | 24 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | ..\$......   |
| 00000030 | 00 | 00 | 00 | 00 | 00 | 00 | FF | FF | FF | FF | FF | FF | FF | FF | FF | 7180 = 750,000 bytes   |
| 00000040 | 00 | 00 | FF | FF | FF | FF | FF | FF | FF | FF | FF | 00 | 00 | 00 | FF | .....  |
| 00000050 | FF | FF | FF | FF | FF | FF | FF | 00 | 00 | 00 |    |    |    |    |    | print resolution ppm.....  |

## Offset to pixel data

Path: D:\HCMUT\OEC\HTN\ComputerGraphic\3x3.bmp

00 01 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0E 0F

|          |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                           |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---------------------------|
| 00000000 | 42 | 4D | 5A | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 36 | 00 | 00 | 00 | 28 | 00 | BMZ.....6...(. .          |
| 00000010 | 00 | 00 | 03 | 00 | 00 | 00 | 03 | 00 | 00 | 00 | 01 | 00 | 18 | 00 | 00 | 00 | .....                     |
| 00000020 | 00 | 00 | 24 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | ..\$. .                   |
| 00000030 | 00 | 00 | 00 | 00 | 00 | 00 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | 7180...750000 bytes       |
| 00000040 | 00 | 00 | FF | FF | FF | FF | FF | FF | FF | FF | FF | 00 | 00 | 00 | FF | FF | .....                     |
| 00000050 | FF | FF | FF | FF | FF | FF | FF | 00 | 00 | 00 |    |    |    |    |    |    | print resolution ppm..... |

$$0x36 = 54$$

## Size of DIB header

Path: D:\HCMUT\OEC\HTN\ComputerGraphic\3x3.bmp

00 01 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0E 0F

00000000

42 4D 5A 00 00 00 00 00 00 00 00 36 00 00 00 28 00

BMZ.....6...(.  
Bits per pixel = 196 = 24 8 blue, 8 green, 8 red

00000010

00 00 03 00 00 00 03 00 00 00 01 00 18 00 00 00

.....

00000020

00 00 24 00 00 00 00 00 00 00 00 00 00 00 00 00

..\$......

00000030

00 00 00 00 00 00 FF FF FF FF FF FF FF FF 00

.....7180 = 750,000 bytes

00000040

00 00 FF FF FF FF FF FF FF FF FF FF 00 00 00 FF FF

.....

00000050

FF FF FF FF FF FF FF 00 00 00

.....  
Print resolution ppm

## Image width (3 pixels).

Path: D:\HCMUT\OEC\HTN\ComputerGraphic\3x3.bmp

00 01 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0E 0F

00000000 42 4D 5A 00 00 00 00 00 00 00 00 36 00 00 00 28 00 BMZ.....6...(.  
00000010 00 00 03 00 00 00 03 00 00 00 01 00 18 00 00 00 .....  
00000020 00 00 24 00 00 00 00 00 00 00 00 00 00 00 00 00 ..\$.  
00000030 00 00 00 00 00 00 FF FF FF FF FF FF FF FF 00 .....  
00000040 00 00 FF FF FF FF FF FF FF FF FF 00 00 00 FF FF .....  
00000050 FF FF FF FF FF FF FF 00 00 00 .....  
Bits per pixel = 18h = 24 8 blue, 8 green, 8 red  
Size of image = 7180 = 750,000 bytes  
Print resolution ppi.....

## Image height(3 pixels).



## Number of color planes

Path: D:\HCMUT\OEC\HTN\ComputerGraphic\3x3.bmp

00 01 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0E 0F

00000000 42 4D 5A 00 00 00 00 00 00 00 36 00 00 00 28 00 BMZ.....6...(.  
00000010 00 00 03 00 00 00 03 00 00 00 01 00 18 00 00 00 .....  
00000020 00 00 24 00 00 00 00 00 00 00 00 00 00 00 00 00 ..\$.  
00000030 00 00 00 00 00 00 FF FF FF FF FF FF FF FF 00 .....  
00000040 00 00 FF FF FF FF FF FF FF FF FF 00 00 00 FF FF .....  
00000050 FF FF FF FF FF FF FF 00 00 00 .....  
Print resolution ppi.....

## Bit per pixel

Path: D:\HCMUT\OEC\HTN\ComputerGraphic\3x3.bmp

00 01 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0E 0F

00000000

42 4D 5A 00 00 00 00 00 00 00 00 36 00 00 00 28 00

BMZ.....6...(.  
Bits per pixel = 18h = 24 8 blue, 8 green, 8 red

00000010

00 00 03 00 00 00 03 00 00 00 01 00 18 00 00 00

.....

00000020

00 00 24 00 00 00 00 00 00 00 00 00 00 00 00 00

..\$......

00000030

00 00 00 00 00 00 FF FF FF FF FF FF FF FF 00

.....7180 = 750,000 bytes

00000040

00 00 FF FF FF FF FF FF FF FF FF FF 00 00 00 FF FF

.....

00000050

FF FF FF FF FF FF FF 00 00 00

.....  
Print resolution ppi

$$0x18 = 24$$



## Compression

Path: D:\HCMUT\OEC\HTN\ComputerGraphic\3x3.bmp

00 01 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0E 0F

00000000 42 4D 5A 00 00 00 00 00 00 00 36 00 00 00 28 00 BMZ.....6...(.  
00000010 00 00 03 00 00 00 03 00 00 00 01 00 18 00 00 00 .....  
00000020 00 00 24 00 00 00 00 00 00 00 00 00 00 00 00 00 ..\$.  
00000030 00 00 00 00 00 00 FF FF FF FF FF FF FF FF 00 .....  
00000040 00 00 FF FF FF FF FF FF FF FF FF 00 00 00 FF FF .....  
00000050 FF FF FF FF FF FF FF 00 00 00 .....  
Bits per pixel = 18h = 24 8 blue, 8 green, 8 red  
512x512 image = 512x512x3 = 786432 bytes  
Print resolution ppm

## No compression

## Image size

Path: D:\HCMUT\OEC\HTN\ComputerGraphic\3x3.bmp

00 01 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0E 0F

00000000

42 4D 5A 00 00 00 00 00 00 00 00 36 00 00 00 28 00

BMZ.....6...(.  
Bits per pixel = 18h = 24 8 blue, 8 green, 8 red

00000010

00 00 03 00 00 00 03 00 00 00 01 00 18 00 00 00

.....

00000020

00 00 24 00 00 00 00 00 00 00 00 00 00 00 00 00

..\$......

00000030

00 00 00 00 00 00 FF FF FF FF FF FF FF FF 00

.....7180..750.000 bytes

00000040

00 00 FF FF FF FF FF FF FF FF FF FF 00 00 00 FF FF

.....

00000050

FF FF FF FF FF FF FF 00 00 00

Print resolution ppi.....

$$0x24 = 36$$

## Horizontal resolution

## Vertical resolution

Path: D:\HCMUT\OEC\HTN\ComputerGraphic\3x3.bmp

00 01 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0E 0F

|          |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                  |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------------------|
| 00000000 | 42 | 4D | 5A | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 36 | 00 | 00 | 00 | 28 | 00 | BMZ.....6...(. . |
| 00000010 | 00 | 00 | 03 | 00 | 00 | 00 | 03 | 00 | 00 | 00 | 01 | 00 | 18 | 00 | 00 | 00 | .....            |
| 00000020 | 00 | 00 | 24 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | ..\$. .          |
| 00000030 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | .....            |
| 00000040 | 00 | 00 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | 00 | .....            |
| 00000050 | FF | FF | FF | FF | FF | FF | FF | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | .....            |

Number of colors in the palette (0 means default).

Important Colors - All colors are important