

MSP DisplayPort Sub-Cmd usage v0.2a

MSP DisplayPort Sub-Cmd “MSP_DP_DRAW_RECTANG_LINE= 8” draw rectangle and line

Command	Msg Id	Notes
MSP_DP_DRAW_RECTANG_LINE	8	Write a string

Parameters:

Data	Type	Notes
attribute	uint8	high 4bit define the num of rectangle, low 4bit turn on/off display on screen.
cx1_low_8bit	uint8	left-up Coordinate X1 low 8bit
cx1_high_8bit	uint8	left-up Coordinate X1 high 8bit
cy1_low_8bit	uint8	left-up Coordinate Y1 low 8bit
cy1_high_8bit	uint8	left-up Coordinate Y1 high 8bit
cx2_low_8bit	uint8	right-down Coordinate X2 low 8bit
cx2_high_8bit	uint8	right-down Coordinate X2 high 8bit
cy2_low_8bit	uint8	right-down Coordinate Y2 low 8bit
cy2_high_8bit	uint8	right-down Coordinate Y2 high 8bit

attribute	High 4bit	0 = ignore; 1 to 6 select which rectang draw。 Only support 6 rectang or line at same time.
	Low 4bit	0 = turn off display; = 1 white ; = 2 black; other ignore.
while ignore or turn off display, the rectang don't update by the parameters of coordinate.		

Ref Code:

```
static int drawRectang(uint8_t attr, uint16_t x1, uint16_t y1, uint16_t x2, uint16_t y2)
{
    int res;
    uint8_t buf[10];

    buf[0] = MSP_DP_DRAW_RECTANG_LINE;
    buf[1] = attr;

    buf[2] = x1&0xff;
    buf[3] = (x1 >> 8)&0xff;
    buf[4] = y1&0xff;
    buf[5] = (y1 >> 8)&0xff;

    buf[6] = x2&0xff;
    buf[7] = (x2 >> 8)&0xff;
    buf[8] = y2&0xff;
    buf[9] = (y2 >> 8)&0xff;

    res = output(MSP_DISPLAYPORT, buf, 10);
    return res;
} ? end drawRectang ?
```

NOTICE:

Drawing a horizontal line: y1 = y2

drawing vertical line: x1 = x2

PAL canvas resolution (x, y) : 360 * 288

NTSC canvas resolution (x, y) : 360 * 234

X and Y must be less than the canvas resolution coordinate values, while Y2 >= Y1 and X2 >= X1

Example:

Using the first box attribute, draw a square with the color of line:

```
drawRectang(((1<<4)|(1)), 10, 10, 50, 50);
```

Using the third box attribute, draw a rectangle with the color of line:

```
drawRectang(((3<<4)|(1)), 10, 10, 50, 50);
```

Use the second box attribute to draw a white horizontal line:

```
drawRectang(((2<<4)|(1)), 10, 100, 150, 100);
```

Use the second box attribute to draw a white vertical line:

```
drawRectang(((2<<4)|(1)), 60, 20, 60, 80);
```

Disable or turn off the drawing of the first box attribute: rectangle or line

```
drawRectang(((1<<4)|(0)), 100, 100, 60, 60); --- the (x, y) value is free
```

Disable or turn off the drawing of the first attribute: rectangle or line

```
drawRectang(((2<<4)|(0)), 100, 100, 60, 60); --- the (x, y) value is free。
```

Using the fifth box attribute, draw a square box with black lines:

```
drawRectang(((5<<4)|(2)), 10, 10, 50, 50);
```

Using the sixth box attribute, draw a rectangle with a black line:

```
drawRectang(((6<<4)|(2)), 10, 10, 50, 50);
```