

VT03 Picture Drawing Note

Is suitable picture of files color plate specification to the VT03 system:

- 1.1. Draws up VT03 picture files size have to decide in 256x240 pixels or 512x240 pixels(Scrolling).Color plate is only support 256 colors mode, the entire color or high color not support.
- 1.2. Each of 16 colors is one "Color area", Sprite and Background extension mode situation uses the first color area 16 colors.
- 1.3. Background normal mode, May use the first 4 color area together 64 colors. Use 16x16 as a unit to distinguish color of area each together corresponding.
- 1.4. Sprite Extension mode only use 16 colors and it is the first color area.
- 1.5. Sprite 16 colors mode. Which color area want to take in the game, When drawing the picture, you may assign the painting color area 1~4 color area corresponds is the VT03 color area. But please pays attention to an animation only have 16 colors to be allowed to use.

Note1: When picture transform to background 64 color mode, please pays attention to the cross color area question, otherwise can have the color wrong situation.

Note2: When use background 64 color mode. If exits the Irq line surpass 1(to contain), then that this picture is unable to use Up/Down scrolling function.

Note3: A picture use as a background use, the most left side first 8 Pixels fixed for transparent pixels. If you haven't specify these 8 pixels of background color as transparent pixel, it will appear a crevice in the television screen left side.(About 8pixels)

Or the register \$2001 D2 and D1 all write 1 can cover this problem.

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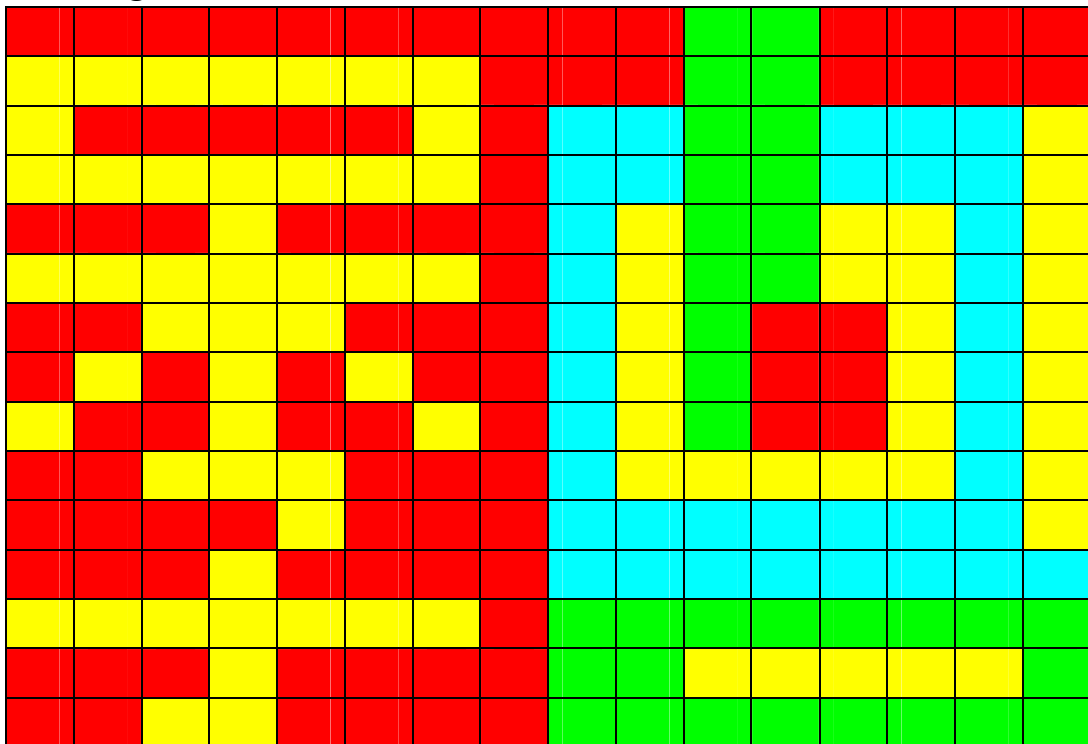
***When use 64 colors background mode will need Irq to cut the bank. The related picture procedure and instruction setting reference is as follows:

VT03 64 colors specification

1. 64 colors means that its color palette has $16 \times 4 = 64$ colors can use °
2. Color palette has 0,1,2,3 together 4 color area , Each color area has 16 colors(Contains the bottom color) :

0		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Bottom	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
2	Color	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
3		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

3. Use 16(pixels) × 16(pixels) as an unit. Divide the entire picture to show the scope as following:



---→The most lower row is used for color area, so in the vertical direction only have 15 ea(The entire television screen together have 16X15 ea (16pixels X 16pixels).)

4. Each unit(16 pixels X 16 pixels) is a color area , together 4 colors area distribution It means that each 16 pixels X 16 pixels area only can use the color which in the same color area, it can not use the cross color area.

VT03 Picture Drawing Note

***How to write Irq Instruction ***

```

=====
;
;
=====
TestNumber      equ      0
IrqOn    macro
              sta      $e003
              endm

;
IrqOff    macro
              sta      $e002
              endm

;
IrqLong macro      reg
    lda reg
              sta      $c000
              sta      $c001
              endm
SAVE_STATUS:      MACRO
    pha
    txa
    pha
    tya
    pha                      ;; save status.
    ENDM
RESTORE_STATUS: MACRO
    pla                      ;; restore status.
    tay
    pla
    tax
    pla
    ENDM

Reset:
    ;.....
    ;.....
    ;.....
    cli

```

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Loop:

jmp Loop

Nmi:

SAVE_STATUS

;Irq Control

lda rg2001

sta \$2001

jsr IrqCtl

RESTORE_STATUS

rti

;

=====

;

=====

IrqCtl:

lda #\$4c ;JMP address

sta Irq_Sub

lda Irq_Ctl

asl a

tax

lda IrqTbl,x

sta Irq_Sub+1

lda IrqTbl+1,x

sta Irq_Sub+2

lda Irq_Line

sta \$c000

sta \$c001

sta \$e003

rts

;

VT03 Picture Drawing Note

Irq:

SAVE_STATUS

jsr Irq_Sub

?ss

RESTORE_STATUS

rti

;IrqProgHead

IrqTbl:

DW Prog00

DW Prog01

Prog00:

;Auto generate part

IrqOff

EndFlow

Prog01:

;Auto generate part

; Draw(1)

IrqOff

IrqTextBank #\$24

Move Irq_Cnt,\$S00

EndFlow

.ENDS

RESET .SECTION

DW Nmi,Main,Irq

.ENDS