GRAPHICS

Enhanced Video Display Processor

V9978 E-VDP-III

PRELIMINARY

■ OUTLINE

The V9978 is a video display processor (VDP) which features as follows. Having a high-speed drawing and animation functions, it provides various screen modes which can be used for games, AV and OA purposes. Also, as a monitor, it supports many types of display units such as home TV sets, CRT for personal computers and LCD panels.

■ FEATURES

Game Specifications:

For this type, there are two pattern display modes as follows.

- P1 (Display resolution 256 × 212 2 screens)
- P2 (Display resolution 512 × 212)

Various highly advanced functions are available such as powerful sprite function and omnidirectional scroll function.

AV Specifications:

For this type, there are four kinds of bit map display modes which can be displayed on the NTSC or PAL frequency monitor as follows.

- B1 (Display resolution 256 × 212)
- B2 (Display resolution 384 × 240)
- B3 (Display resolution 512 × 212)
- B4 (Display resolution 768 × 240)

- Capable of doubling the resolution in the vertical direction by using the interlace.
- Display is possible up to 32,768 colors/dot.
- Built-in color palette (64 colors selected out of 32,768 colors).
- Omnidirectional smooth scrolling is possible.
- Superimposition and digitization are possible.

- Allows use of the monitor screen to the fullest extent in four directions as the display range by using the over-scan mode (B2, B4) in such application as for the telopper.
- Supports the high-speed hardware drawing commands such as the screen transfer, font color development and line.
- The hardware cursor display function is available.

OA Specifications:

For this type, there are two kinds of bit map display modes which can be displayed on the high resolution monitor as follows.

- B5 (Display resolution 640 × 400)
- B6 (Display resolution 640 × 480)

- Capable of displaying up to 16 colors/dot (Selectyable out of 32,768 colors depending on the color palette).
- Omnidirectional smooth scrolling is possible.
- Supports the high-speed hardware drawing commands such as the screen transfer, font color development and line.
- The hardware cursor display function is available.

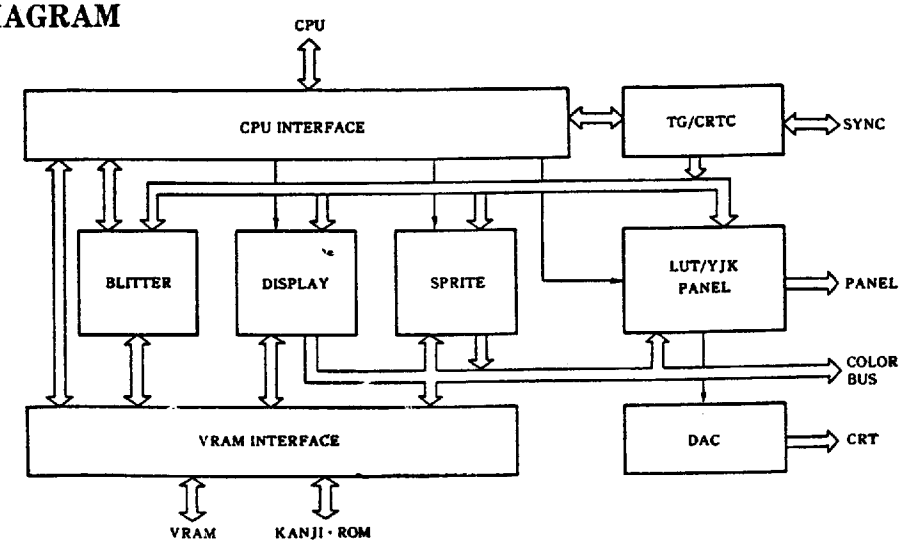
Others:

- Built-in DA converter
- Linear RGB output
- Direct connection of CG ROM such as KANJI ROM is possible.
- Useable VRAM

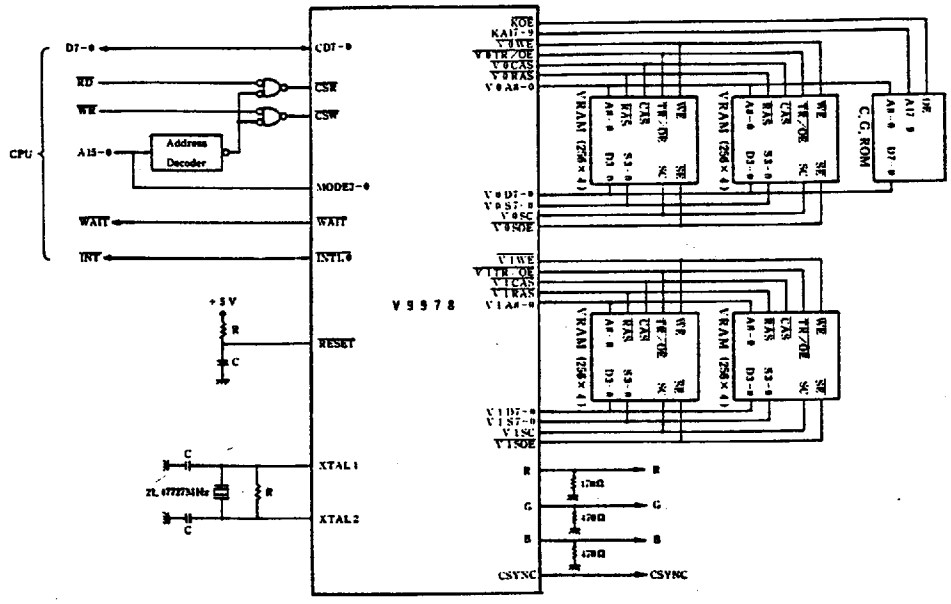
  64K × 4
  128K × 8 } Dual port DRAM (The access time is 120ns, but 100ns for the B6 mode.)
  256K × 4

- As the VRAM capacity, 128KB, 256KB and 512KB configurations are possible.
- Capable of direct access from CPU to VRAM by means of the 16 bit bus.
- Use of the LCD panel (1 screen panel and single drive type of 2 screen panels) is possible.

■ BLOCK DIAGRAM



■ SYSTEM CONFIGURATION



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