



VREngine™/MD3

VREngine/MD3 is RealVision's first advanced display controller which targets the demand of imaging applications. Based on RealVision's own custom graphics ASIC technology, the VREngine/MD3 delivers the highest quality visual image on 3-Megapixel LCD displays. A single VREngine/MD3 display controller supports single head QXGA (2048x1536 or 1536x2048) or dual head (4096x1536 or 3072x2048) resolutions. And with built-in VGA support only a single card is required for image viewing and VGA boot, thus leaving additional PCI slots open for other uses. The VREngine/MD3 supports popular operating environments such as Microsoft® Windows® NT4.0, Windows® 2000, Windows® XP, Linux, Sun Solaris™.

FEATURES

Supports 3-Megapixel QXGA (Quad-XGA)

- 2048 x 1536 pixel (Landscape form)
- 1536 x 2048 pixel (Portrait form)

Dual Head Display

- 4096 x 1536 pixel (Landscape form)
- 3072 x 2048 pixel (Portrait form)

Hardware Pivot

Dual view function

10-bit Gray-scale display capability

VGA display capability

Supports 3-Megapixel Digital LCD monitor

DVI Monitor Display Interface (2 Channels)

PCI Bus Card

Operating Systems

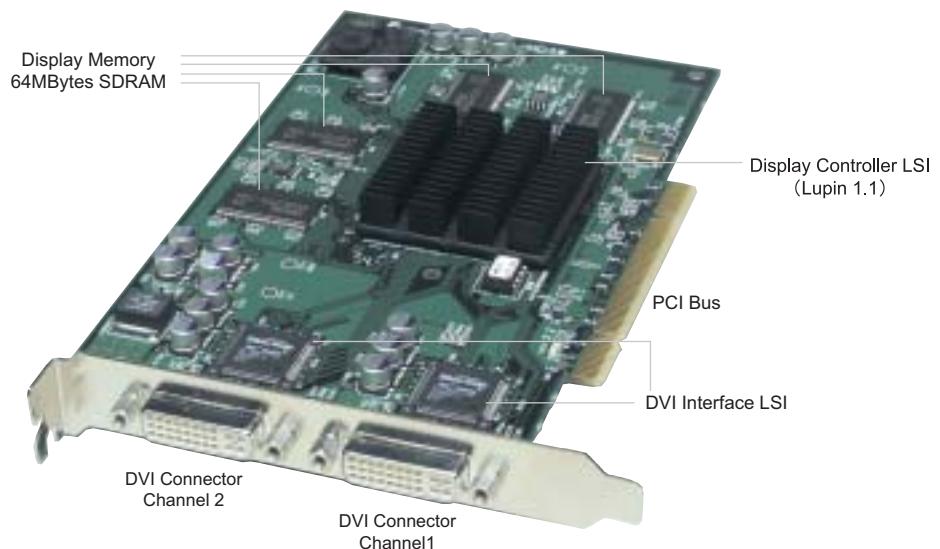
- Windows
- Solaris
- Linux
- Mac OS (Under development)



Newly developed High-resolution Display Controller LSI (Lupin 1.1)

Card Name	Operating System	Platform
VREngine/MD3W	Windows NT 4.0	IBM PC Compatibles
	Windows 2000 Professional	
	Windows XP	
	Linux	
VREngine/MD3S	Solaris 8	Sun Workstation
VREngine/MD3M	MacOS 9.2	Power Macintosh
	MacOS X	

Board Outline





Display Color

The format of color format in Frame memory (bpp : bit per pixel)

Color	Format
8bpp	256 shades gray
10bpp	1024 shades of gray (Note)

(Note) On Board Gamma table which can set 256 gray-scales from 1024 gray-scales.

Display Resolution

Single Head

- 2048 x 1536 pixel (Landscape)
- 1536 x 2048 pixel (Portrait)

Dual Head

- 4096 x 1536 pixel (Landscape)
- 3072 x 2048 pixel (Portrait)

Number of connectable monitors

- Maximum 2 monitors
(More than 2 monitors are connectable using multiple board [Max 4] configuration)

Display Output Interface

- DVI (Digital Visual Interface) DVI-D 2 Channels

Maximum Drawing Performance

- 3.2 Giga pixels /sec

Drawing Functions

- Supports Landscape and Portrait form drawing (Counter clockwise)
- Point drawing (1 pixel width)
- Line drawing
- Polygon drawing
- BITBLT
 - Graphic memory to Graphic memory
 - Host memory to Graphic memory(supporting Scatter Gather DMA)
- Transparent BLT
- Index DIB color conversion (8 bit index color)
- Raster operation (Dynadic operation)

Hardware Pivot

- High speed Pivot form drawing by display controller

Support VGA display (depends on monitors)

Gamma Correction

- Supports linear, non-linear or dynamic palette modes.
- 2 monitors are controlled independently.

Display memory

- On board 64Mbytes SDRAM

Video Output Specifications

- Dot clock 65MHz
- Horizontal timing signal 96.72KHz
- Vertical timing signal 60Hz
- Refresh rate 60Hz

Bus Interface

- PCI Bus (Version 2.2 Compliant), 32 bit width, 33MHz

Board power dissipation

- Maximum 15W

Operating Environment

- Host system Windows based PC(PC/AT compatibles)
Sun Blade™ 100 or Sun Ultra60™ or greater
G4 based Power Macintosh
- CPU speed more than 500MHz
- Host system bus PCI 32bit, 5V/3.3V (PCI Version 2.2 compliant)
- Bus frequency 33MHz
- Main memory size More than 256Mbytes

Operating Systems

- Windows NT 4.0 Workstation (later than Service Pack 6)
- Windows 2000 Professional
- Windows XP
- Linix
- Solaris 8
- Mac OS 9.2 (Under development)
- Mac OS X (Under development)

Certifications

- UL/cUL, FCC Class A, CE

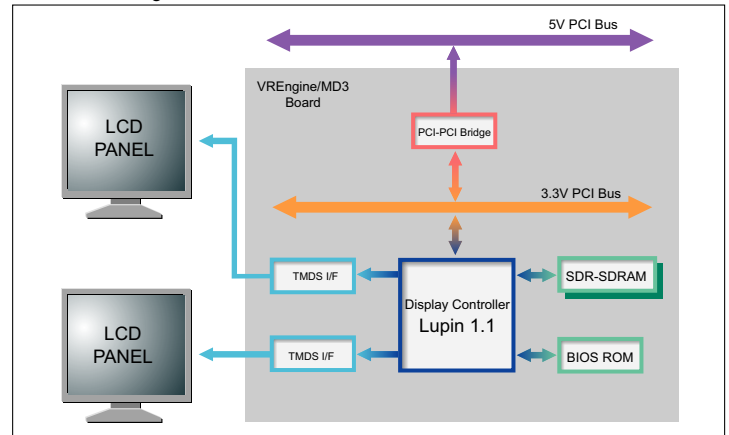
Mechanical Specifications

- Board size 174.5 (W) x 106.7 (H) mm
- Number of occupied slot 1 slot

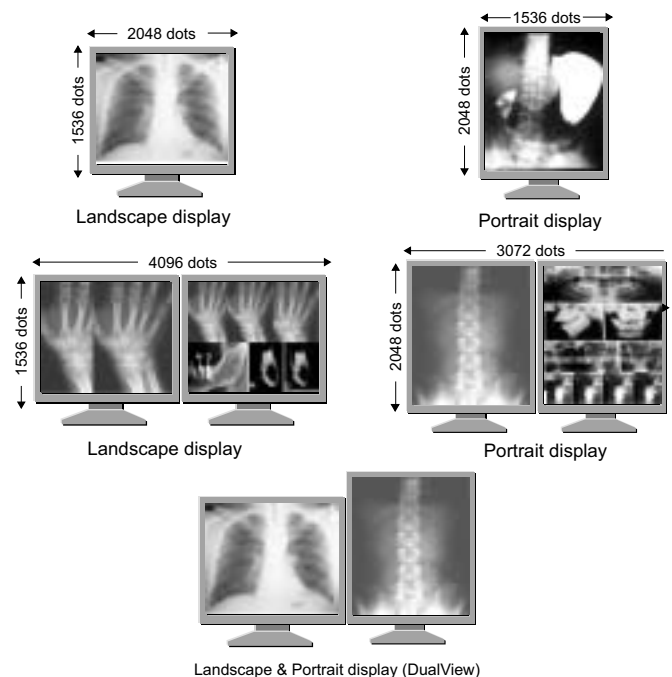
Monitors

- 3M digital LCD monitor

Board Block Diagram



Display form and Maximum display resolution



Three Drawing modes for Dual Head configuration

- Wide view
Two displays are drawn as single display.
- Twin view
Mirror image of the first display is drawn on another display.
- Dual view
Two displays are drawn as two independent displays.

Note)

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RealVision Inc.

3-1-1 Shinyokohama, Kouhoku-ku, Yokohama-shi 222-8505 Japan
TEL: +81-45-473-7331 FAX: +81-45-473-7330
EMAIL: rv-sales@realvision.co.jp WEBSITE: www.realvision.co.jp

RVU Inc.

3080 Olcott Street, Suite 203-B, Santa Clara, CA 95054, U.S.A.
TEL: +1-408-845-9410 FAX: +1-408-845-9457
EMAIL: sales@rvu-inc.com WEBSITE: www.rvu-inc.com