

VREngine™ /MD Series

High Resolution Graphics Board

RealVision Inc.

FCC Notice

Federal Communications Commission

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio or television communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the radio or television receiving antenna.
- Move the computer or equipment away from the receiver.
- Plug the computer or equipment into an outlet on a circuit different from that which the radio or television receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

CE Statement

This is Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Copyright Notice

Copyright © 2001-2008 RealVision Inc. All Rights Reserved.

This document, as well as the hardware and software products described or referenced in this document, are confidential and proprietary products of RealVision Inc. They are provided under, and subject to, the terms and conditions of a written license agreement between RealVision and its customers, and may not be transferred, disclosed or otherwise provided to third parties, unless otherwise permitted by that agreement.

VREngine™/MD Series

High Resolution Display Controllers User's Manual

Ver.4.0

RealVision Inc.

3-1-4 Shin-yokohama, Kouhoku-ku, Kanagawa, 222-0033

Tel)+81-45-473-7331 Fax)+81-45-471-7330

URL <http://www.realvision.co.jp/>

URL <http://www.rvu-inc.com/>

All right reserved.

Introduction

Thank you for purchasing the VREngine/MD Series product, Realvision's high-resolution display controllers that target the demands of imaging applications and support high-resolution LCD monitors.

These boards are exclusively designed to deliver the highest quality visual image on 2-Megapixel, 3-Megapixel and 5-Megapixel LCD monitor.

These boards are PCI bus graphics boards.

The VREngine/MD Series has following three products lineup.

VREngine/MD Series lineup

Product	Description
VREngine/MD2W	Graphics board compatible with 2-Megapixel grayscale and color LCD Monitor.
VREngine/MD3W	Graphics board compatible with 3-Megapixel grayscale and color LCD Monitor.
VREngine/MD5W	Graphics board compatible with 5-Megapixel grayscale and color LCD Monitor.

Regarding LCD monitor or related matters, please contact your local supplier or display manufacturer.

About This Manual

- Read through this manual before you use the “VREngine/MD Series” board.
- This manual provides detail information on how to install and configure your VREngine/MD Series high-resolution display controllers. For information regarding your computer monitor, or other attached devices not associated with Realvision Inc. Consult the user’s manuals or your supplier for those devices.
- In this manual, following product specific marks are prepared and indicate that the instructions with these marks have product specific contents. These contents are distinguished from products common matters. Refer this manual with this notice.
 - VREngine/MD2W board specific contents 
 - VREngine/MD3W board specific contents 
 - VREngine/MD5W board specific contents 
- Keep this manual as close to your computer as possible so that you can review to it in need. In case of missing manual, contact your local supplier.
- Attach this manual to the board when you transfer it to a third person.
- This manual is subject to change without notice.

Contents

Introduction	2
About This Manual	3
Contents	4
1. Product Overview	5
2. Installation Overview	5
3. How to Install Hardware	6
3.1. Notice for hardware installation	6
3.2. Configuring DIP Switch Settings	7
3.3. How to install Board into your system	10
3.4. How to Connect to LCD Monitor(s)	12
4. How to Install Driver Software	13
5. Monitor and Display Settings	24
5.1. Display Properties	24
5.2. Advanced Setting	31
5.3. Multi Monitor(s) Setting	32
5.4. Adaptor and Driver Information	41
5.5. Reconfigure monitor , Update and Uninstall	43
6. How to Uninstall Software driver	44
7. Product Information	47
7.1. Technical Specification(VREngine/MD2W)	47
7.2. Technical Information (VREngine/MD3W)	49
7.3. Technical Information (VREngine/MD5W)	51
7.4. Monitor Interface	53
8. Limited Warranty	エラー! ブックマークが定義されていません。
9. About Disposing the Product	エラー! ブックマークが定義されていません。

1. Product Overview

■ VREngine/CMD Series package contains the following:

- Graphics board
- Driver & Installer CD-ROM
- User's Manual

■ Contact your local supplier if any of these items are missing.

■ Save the box and packing manuals in case you need to return the board to supplier for any reason. Shipping damage is not covered under the warranty.

2. Installation Overview

Make sure the installation should be done in following steps :

- 1) Configure DIP switch settings
- 2) Install the board into host system
- 3) Connect with LCD monitor(s) (Connect interface cable(s))
- 4) Power on the host system
- 5) Install driver software
- 6) Set for [Display Properties] in Control Panel
- 7) Reboot the host system

3. How to Install Hardware

This section contains how install hardware into your system. Refer to User's Manual of your computer if you need.

3.1. Notice for hardware installation

When you install the VREngine/MD series graphics board into your system, check the following items.

- It is recommended to ask your vendor to install the VREngine/MD Series into your computer.
- Do not touch connectors, pins of IC/LSI, and patterns on the board directly for preventing to damage by electro-static discharge.
- Clean your hands before installing the board in order to avoid dangers of possible slippage caused by stains or oil stuck to your hands.
- Keep the remaining parts not used at your installation as they may be to use next installation later on.
- Make sure if there are no any damages, deformations, rubbish, or stains on connectors, connector pins, and contacts before doing connection. These defects might be the root cause of short circuits that also might result a fire.
- Be careful in handling with the connectors to prevent a board from dropping down onto or dragging on the floor, so that the connectors are kept clean and no damages.
- Secure the bolts and nuts fastened enough so that dropouts, looseness of bolts can be prevented. Otherwise, short & open circuits may occur.
- Do not step on or put a heavy body on, or add intense heat to the cables. To remove the cables, unfasten the locks and then pull out straightly by grabbing the connectors. Putting mechanical stresses, adding intense heat to the cables, or prying the connectors may cause damages to the cables and connectors and then result in a fire by a short circuit.
- This graphics board is for use only with compatible UL Listed personal computers that have Installation Instructions detailing user installation of card cage accessories.

3.2. Configuring DIP Switch Settings

The VREngine/MD board supports both grayscale and color modes. Multiple VREngine/MD Series boards can be installed in Windows 2000 Operating system or later.

In order to configure for specific display, you may need to change the Dipswitch settings on your board. The DIP switch is located on the corner of the board, opposite to the connectors, as shown in Fig. 3.1

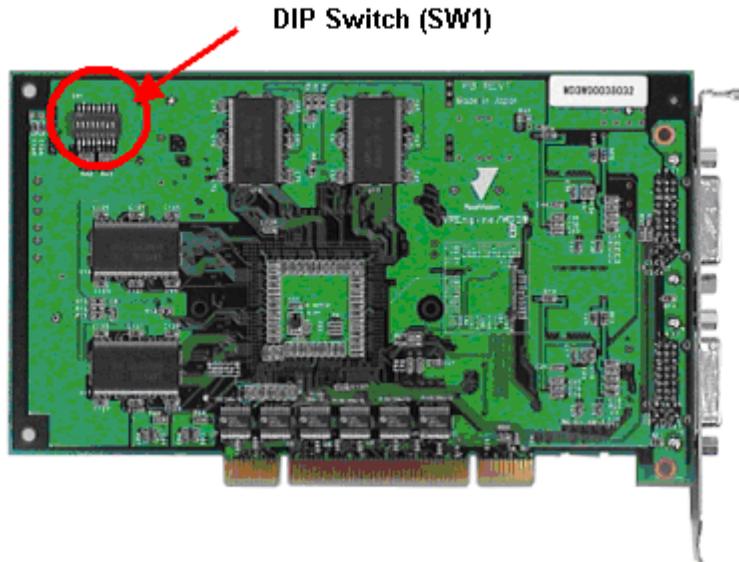


Fig. 3.1 The photo of backside of VREngine/CMD series

■ Settings for grayscale display

To display in grayscale mode, you will need to set the DIP switch as follows before you install the board. The default factory, out-of-box setting for the VREngine/MD2W, VREngine/MD3W and VREngine/MD5W boards is as follows respectively.



Fig. 3.2 Grayscale display settings

■ Setting for color display

To display color mode using this product, you will need to set the Dipswitch as follows before you install the board.



Fig. 3.3 Color display settings

Note)

To change board setting from color display mode to grayscale mode or from grayscale mode to color mode, you will be required to install software driver again. (See "Reconfigure monitor , Update and Uninstall")

■ Setting for multiple board configuration

You can install more than one VREngine/MD Series board into a same system. Dipswitch(s) setting for secondary or later board(s) is as shown in Fig. 3.4



Fig. 3.4 Multiple board setting

Note)

Above settings are applied to secondary or later board. Make sure the first board is set as grayscale mode or color mode.

The maximum number of board to be installed into a same system depends on the specification of host system.

You need to set the VREngine/MD series board(s) as Multiple-board setting when you use graphics adaptors on motherboard, on AGP bus, and on PCI bus.

If you need other settings except for described above, contact your local supplier to confirm the right Dipswitch setting(s).

3.3. How to install Board into your system

How to install board is as follows

- 1) Make sure the power is turned off when you get started. Remove the power code of your computer and peripheral devices hooked to it.

Note)

The internal parts of your computer are still very hot just after the turn off. Wait until everything gets enough cool and then start with the installation.

- 2) Follow User's Manual of your computer to remove the cover.
- 3) Follow User's Manual of your computer and install the board into empty PCI slot.

- (1) If the target slot has a dust cap, remove it.
- (2) Remove the bolts, which fix the rear cover of the PCI slot. The bolts removed will be used to fix the graphics board.
- (3) Make sure the setting for the Dipswitch (SW1) on the corner of the board, opposite to the connectors. (Please see page 7 on Configuring DIP witch Settings)
- (4) Insert the edge connector of the board into the PCI slot slowly with care.
- (5) Make sure if the board is inserted solidly, and then fix the rear panel using the bolts removed at step (2). Make sure the board is installed properly.

Note)

If the board is not properly installed, you need to remove it from the slot and install it again. Do not put excessive force to install or to remove the board so that you can prevent it from damaging the cable, connectors, and the board itself.

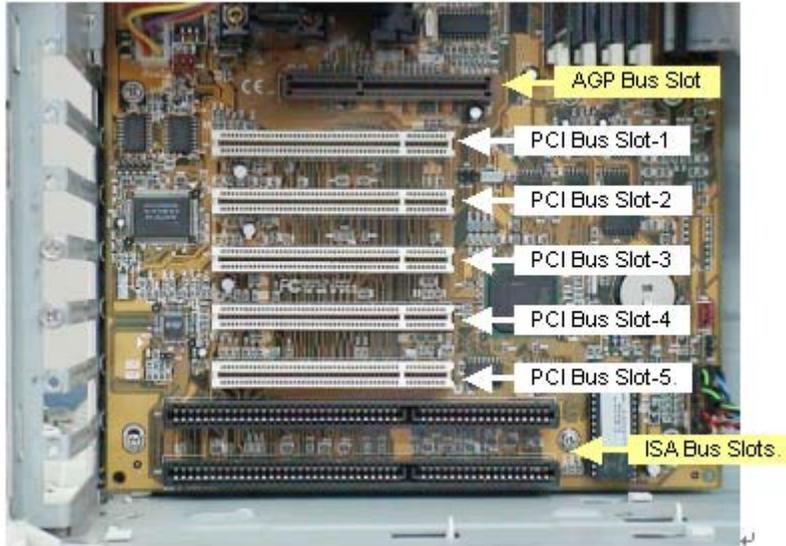


Fig. 3.5 Example of PCI bus slot

Above photo is an example of bus slots situation in PC as host system. You must install VREngine/MD Series board(s) into PCI bus slot(s). In above example, five PCI bus slots are available between AGP bus slot and ISA bus slots. The order of bus slots depends on a PC that you will use, Some PC don't have AGP or ISA bus slot(s).

When you install only one board, you can use any empty PCI bus slot.

When you install multiple boards, you can use any empty PCI bus slot too. However, you may need a bus order or slot number during software driver installation, and please make sure these information before a installation.

3.4. How to Connect to LCD Monitor(s)

This chapter contains how to connect to LCD monitor. When you connect to LCD monitor, you confirm following notes and follow the instructions attached to LCD monitor. In case of the exceptional connecting like a two cables connecting, please contact your local supplier or monitor manufacturer ”.

1) Case of one board connecting with one monitor

You must connect DVI connector 1 to a monitor. If you use DVI connector 2, then no image is displayed

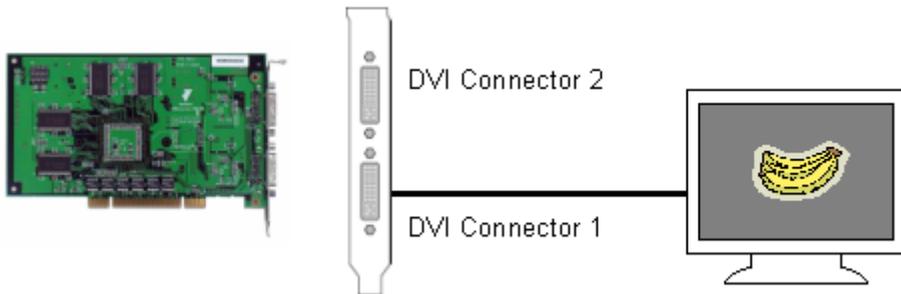


Fig. 3.6 One board connecting to one monitor

2) Case of one board connecting to two monitors

You must connect DVI connector 1 to the monitor on the right side (e.g. Monitor 1), and DVI connector 2 to the monitor on the left side (e.g. Monitor 2). if you change connectors to opposite side, then images are also displayed to opposite side.

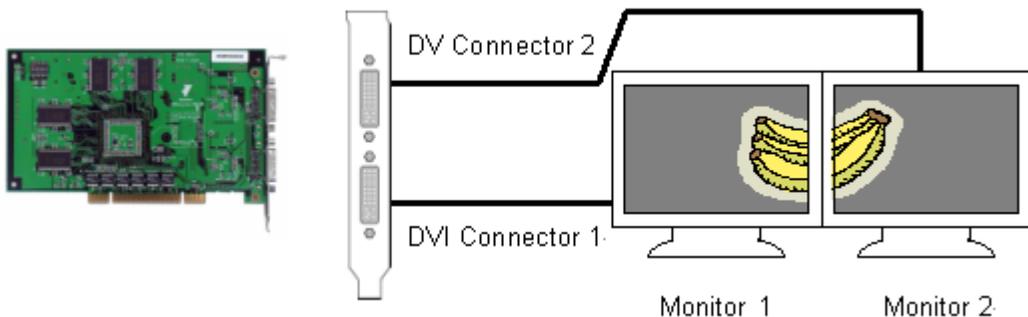


Fig. 3.7 One board connecting to two monitors

4. How to Install Driver Software

This chapter contains how to install the VREngine/MD Series driver software. Install the driver as follows:

- (1) Start installation

After hardware installation, power on, start Windows, and login as administrator. You need administrator privilege in order to install the driver.

- (2) PLEASE NOTE: Cancel "Found New Hardware Wizard"

{Found New Hardware} dialog and {Welcome to the Found New Hardware Wizard} dialog appear. Then you click {Cancel}.

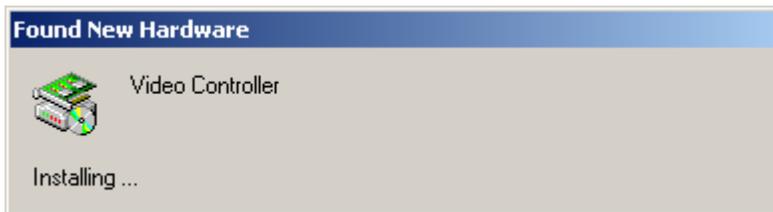


Fig. 4.1 Found New Hardware



Fig. 4.2 Welcome to the Found New Hardware Wizard

(3) Insert Software driver CD-ROM

Insert the [Software Driver CD-ROM] into your CD-ROM DRIVE, and the driver installation program start automatically.

Note)

If the installation software does not start automatically, access the CD-ROM directly (via Windows Explorer or My Computer) and double click **{Setup.exe}** icon.

(4) Start InstallShield wizard

{InstallShield Wizard} dialog will appear, and click **{Next}**.

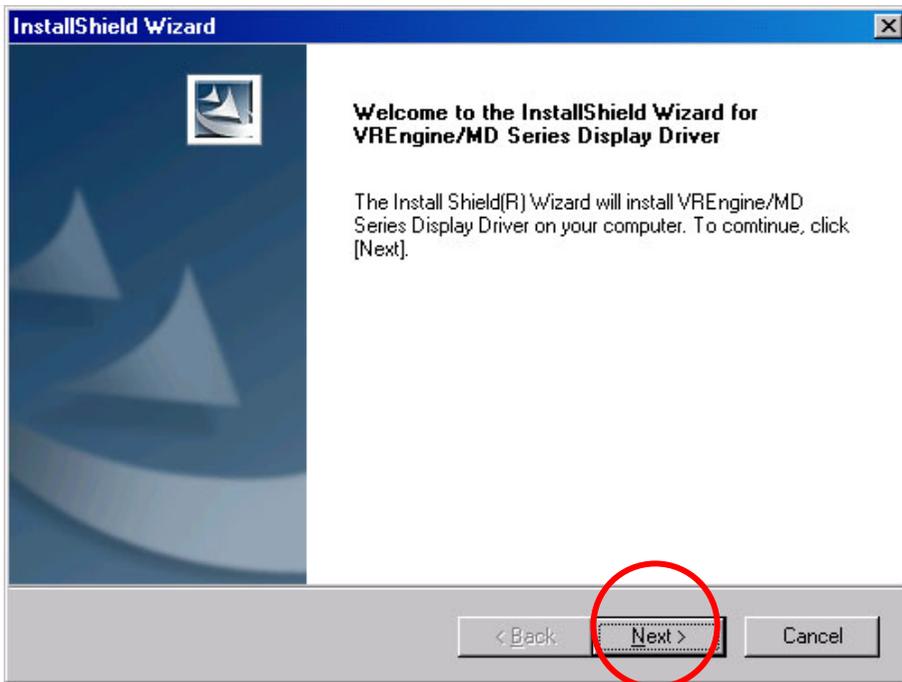


Fig. 4.3 InstallShield Wizard

(5) License Agreement

The **{License Agreement}** dialog box appears, then you can confirm the contents of the License Agreement. If you accept the terms, click **{Yes}**. If you click **{No}**, then this program finishes and driver installation fails

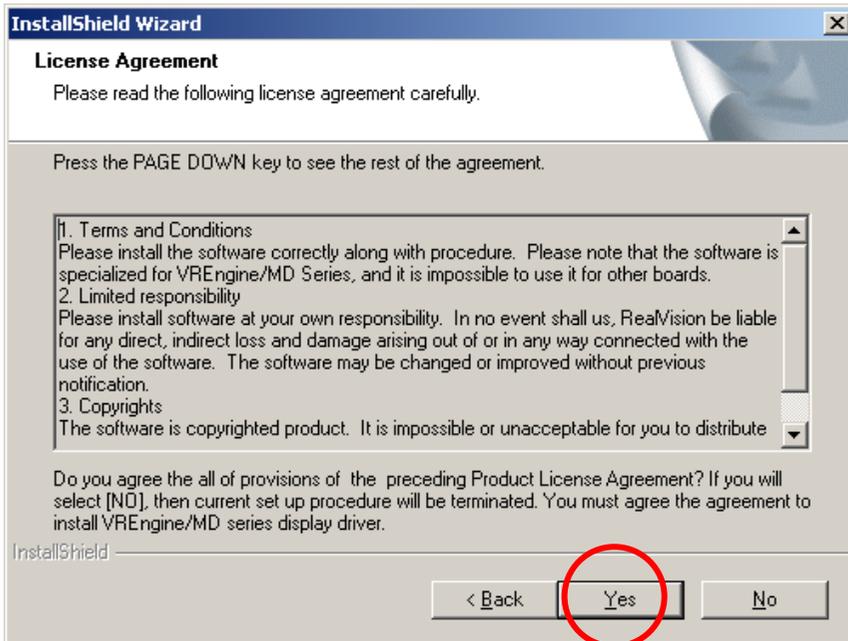


Fig. 4.4 License Agreement

(6) Check number of VREngine/MD board(s)

One of the following dialog boxes appears. Confirm the number of board(s) and click **{OK}**.



Fig. 4.5 Case of Single board installed



Fig. 4.6 Case of Multiple boards installed

(7) Number of Monitor(s) Selection

With the dialog in Fig. 4.7 appear, Confirm the name of product what you install iand select the number of monitor(s) connected to this board. Then click **{Next}**.

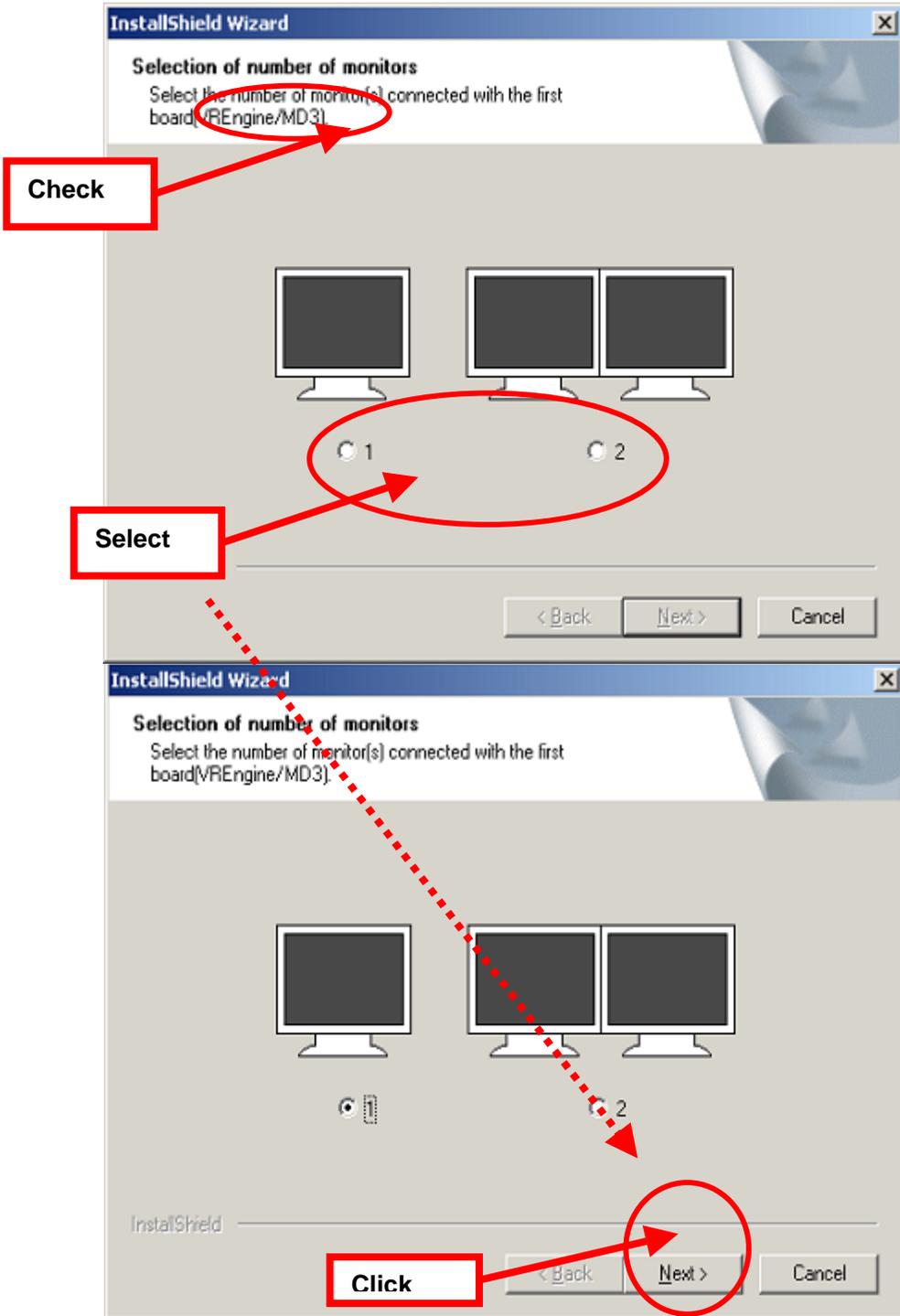


Fig. 4.7 Select number of monitor(s)

(8) Selection of Monitor

The following dialog appears. Select monitor type, and press **{Next}**.

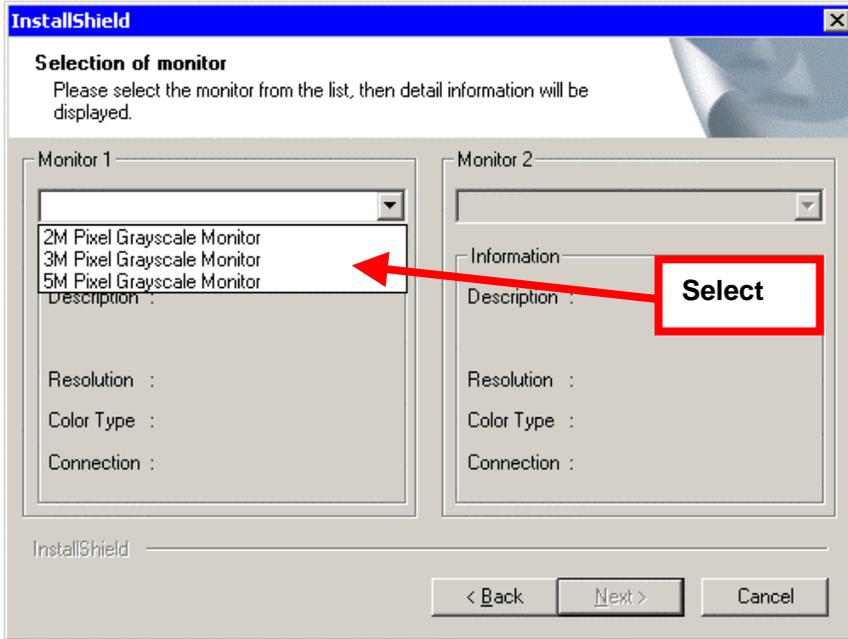


Fig. 4.8 Selection of monitor

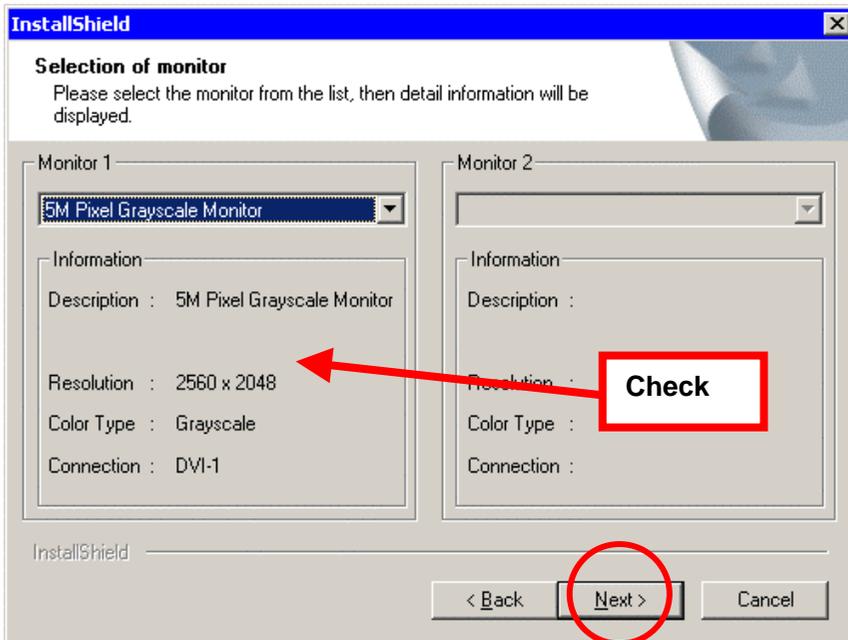


Fig. 4.9 Selection of monitor-2

Note)

In case of selecting two monitors in the stage of “(7)”, select monitor-1 and the installer sets the same PC as a monitor-1 to a monitor-2 automatically.

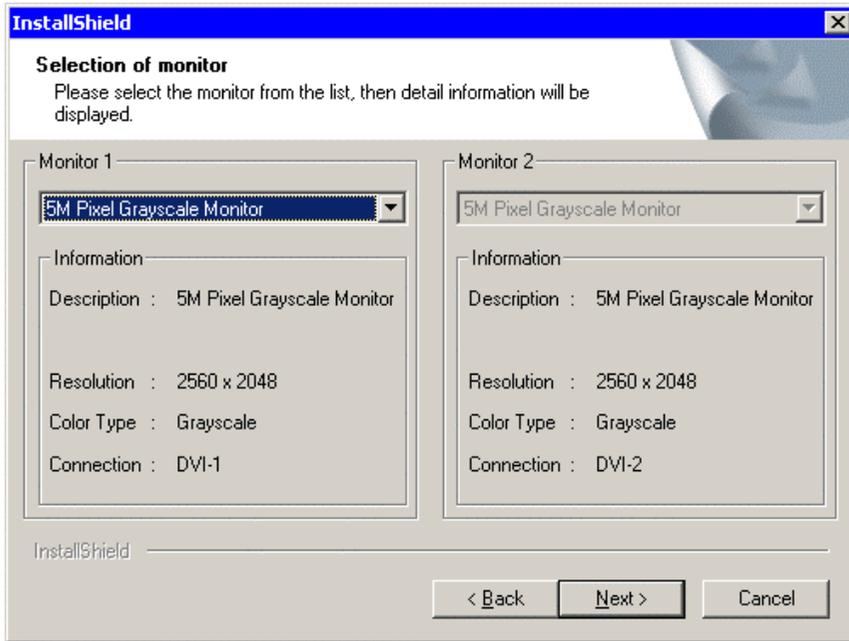


Fig. 4.10 Selection of monitor-2

The monitors compatible with each product are as follows.

Product Name	Monitor Name
VREngine/MD2W	2M Pixels Grayscale Monitor
VREngine/MD3W	3M Pixels Grayscale Monitor
VREngine/MD5W	5M Pixels Grayscale Monitor

(9) Confirmation of monitor parameters

The dialog as shown in Fig. 4.11 appears, and shows the parameters of this monitor. Confirm its contents, and press **{Next}**.

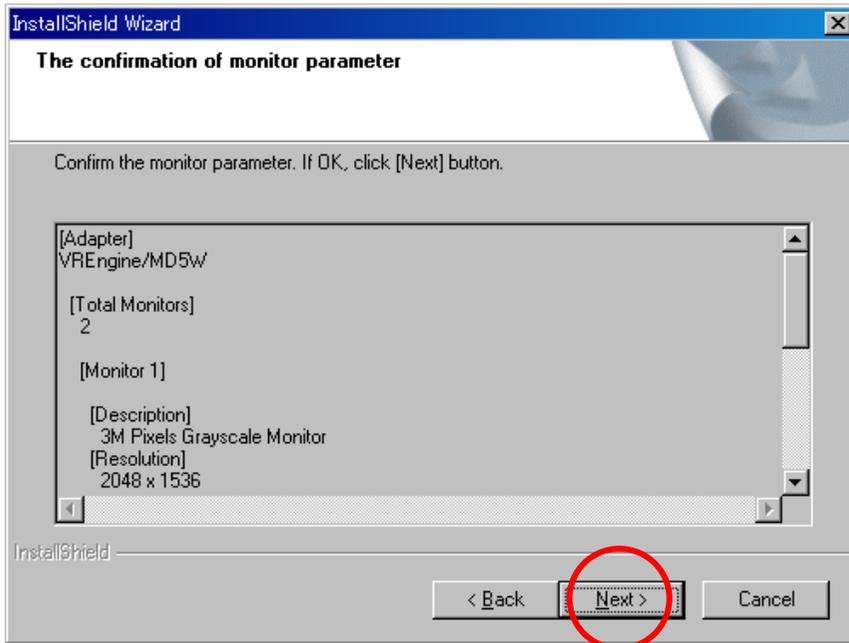


Fig. 4.11 Confirmation of monitor parameter

Note)

If you install multiple boards into the same system, you must repeat **{Selection of number of monitor}**, **{selection of monitor}** and **{confirmation of monitor parameter}** for respective boards.

(10) Start Copying Files

The dialog as shown in Fig. 4.12 appears and shows installation parameters as Current Settings. Confirm these settings, and press **{Next}**. The installer starts installing driver software with shown settings.

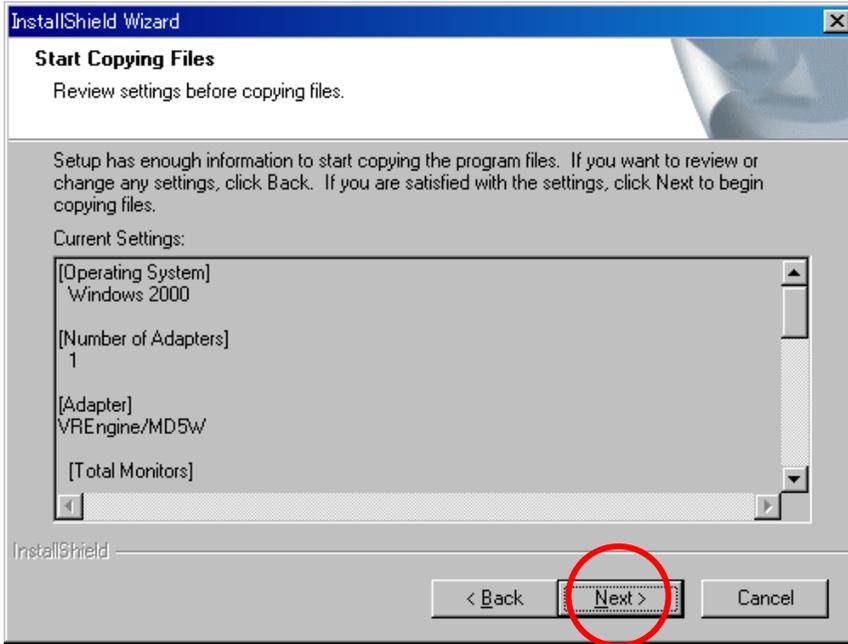


Fig. 4.12 Start Copying Files

Note)

Clicking **{Back}**, you can re-configure all of monitor settings.

(11) Digital Signature

{Digital Signature Not Found} dialog appears, and you click **{Yes}**. This dialog will appear one time of for each monitor(s) for Windows2000 or one time for each board(s) for Windows XP.

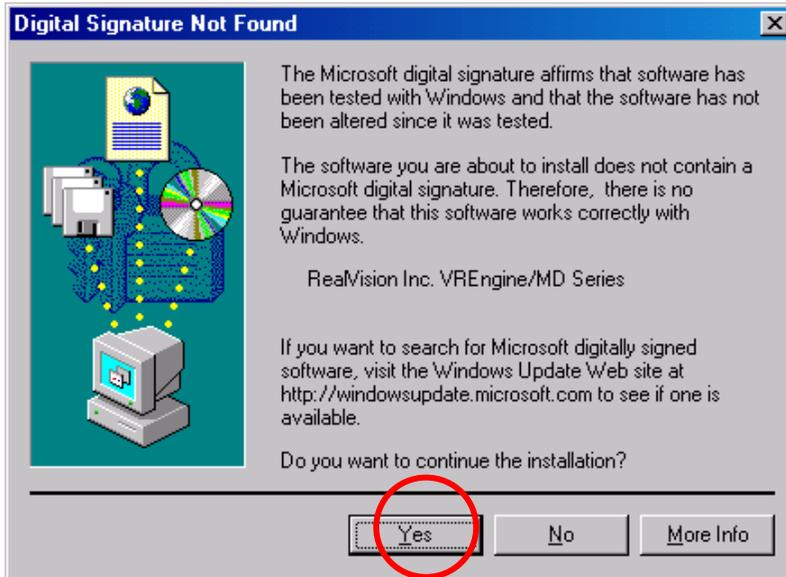


Fig. 4.13 Digital Signature-1

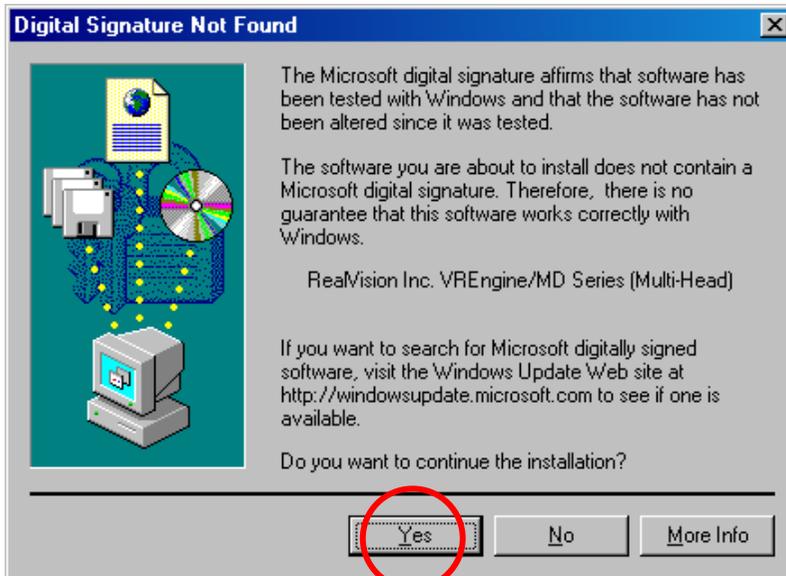


Fig. 4.14 Digital Signature-2

(12) With Multi-Monitor Setting

If multiple monitors are installed, the following dialog will appear. If all of the monitors are utilized independently, you will not need to configure multi-monitor setting. If you wish to access Multi-Monitor, you click **{Yes}**. Otherwise, you click **{No}**. For additional information about multiple monitor settings, see "Multi Monitor(s) Setting".

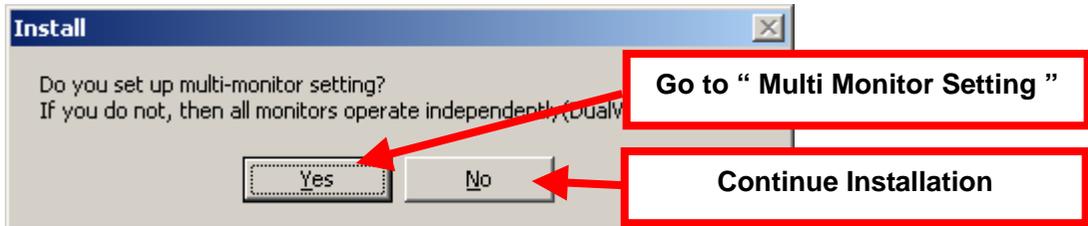


Fig. 4.15 Multiple Monitor Settings

If you click **{Yes}**, see "(13) InstallShield wizard complete". And if you click **{No}**, see "Multi Monitor(s) Setting".

(13) InstallShield wizard complete

{InstallShield Wizard Complete} dialog will appear, and select {Yes, I want to restart my computer now}. Then, click {Finish}. Windows will restart and installing operation will become complete.

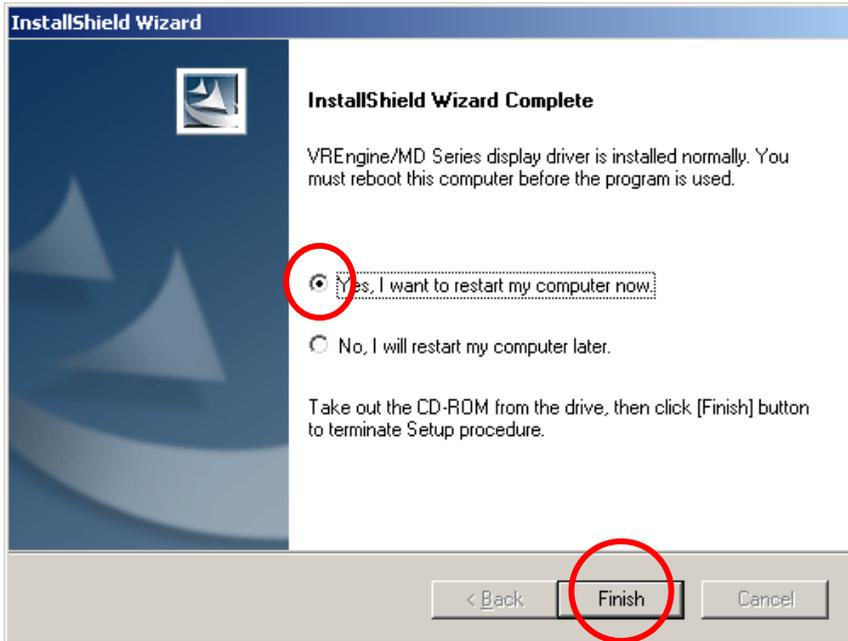


Fig. 4.16 InstallShield wizard complete

Note)

When you add board(s) or change a PCI bus slot, you will need to un-install the driver(s) (See "Multi Monitor(s) Setting") once and you need to install a software driver again.

When multiple boards are installed, you see the boot failure with the BIOS on the motherboard in some cases. For a solution to this problem, try placing the boards in different slots, so that system detects the boards in a different order. If that fails to solve the problem, contact your local supplier.

5. Monitor and Display Settings

This chapter contains how to configure displays and Monitors.

5.1. Display Properties

To Configure display properties,

- 1) Double-click **{Display properties}** in {control Panel}, and display the dialog as shown in Fig. 5.1.
- 2) Click **{Settings}** tab, and display the dialog shown in Fig 5.2.

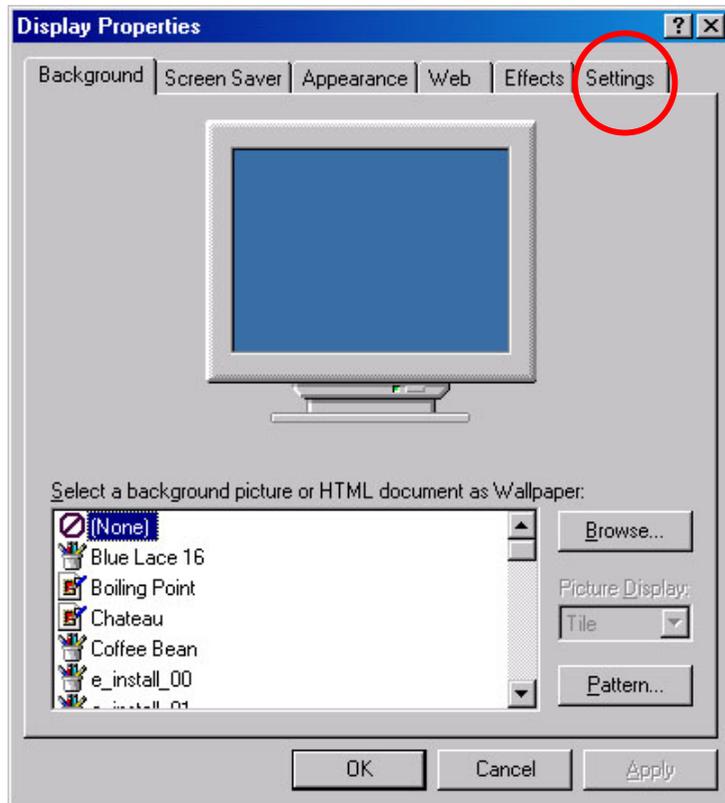


Fig. 5.1 Display Properties

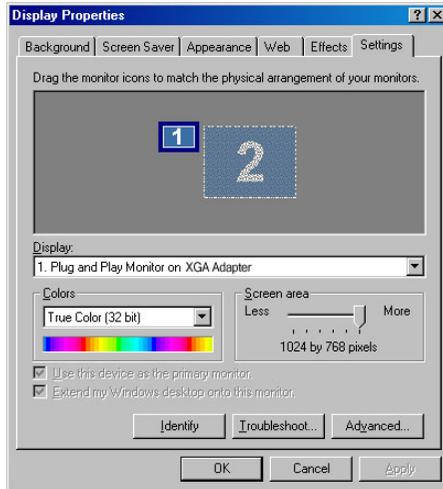


Fig 5.2 Settings tab

Note)

A dialog shown in Fig 5.2 is an example with following condition:

- 1st monitor is connected to the graphics board which is installed in AGP or PCI bus or the adaptor on the motherboard.
- 2nd monitor is connected to VREngine/MD Series board.
- VREngine/MD Series board is already installed, but it is not configured. So the connected monitor displays nothing.

If only one VREngine/MD series board is installed, 2nd display icon does not appear and 1st monitor icon is the monitor connected to VREngine/MD Series board.

To display the connected monitor, configure as follows

- 1) Click 2nd monitor icon.
- 2) Select resolution from {Screen area} slider-bar.
- 3) Select pixel format from {Color} combo-box.
- 4) Check {Extend my Windows desktop onto monitor}.
- 5) Click {Apply}, and the monitor will display desktop.

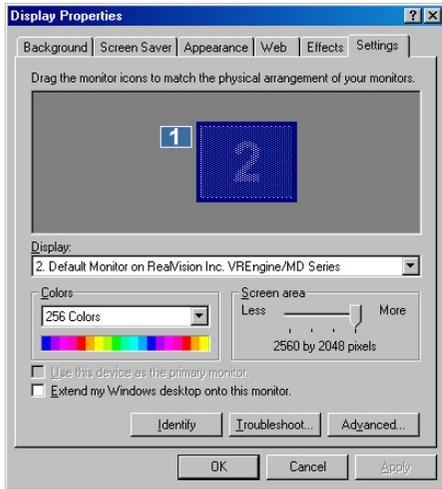


Fig. 5.3 Select Monitor

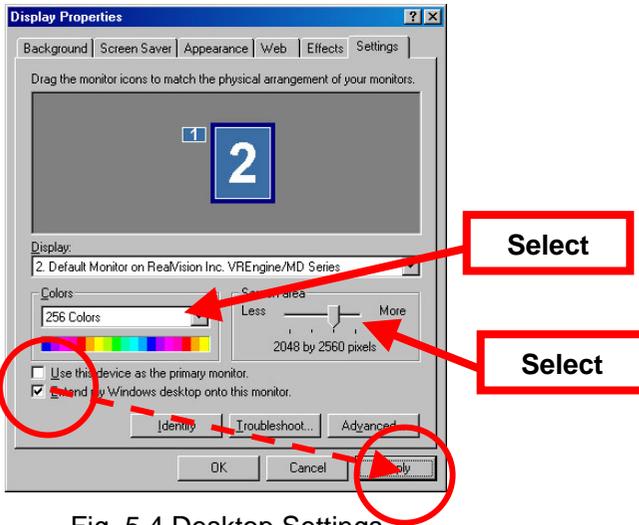


Fig. 5.4 Desktop Settings

Detailed information related to respective settings

- Select Color format → [Colors]
In case of grayscale monitor, you can select only 256colors.
In case of color monitor, you can select color format from 256colors, High Color (16bit Colors) and True Color (32bit Colors).

- Select resolution → [Screen area]
You select display resolution. portrait and landscape mode depends on its resolution.

- Advanced settings → [Advanced]
Advanced settings dialog will appear, and configure following two settings.
 - Color/Palette Setting
 - Screen Update setting

Note)

WindowsXP does not support 256 colors. So that you cannot select 256 colors from combo-box on {Settings} tab contained {display properties} dialog.

In case of using WindowsXP and grayscale monitor, configure as follows.

- 1) Select target monitor on [settings] tab.

- 2) Click [Advanced] button, and {Adaptor} dialog appears.

- 3) Select {adapter} tab, and click {Mode List} button. The list of Color mode is displayed.

- 4) Select resolution, and click {OK}.

{Advanced} button shown in Fig. 5.4, and a dialog as shown in Fig. 5.5 appears.

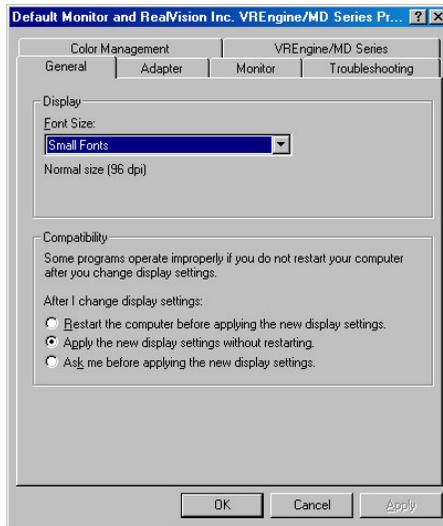


Fig. 5.5 Advanced Setting-1

Then click **[VREngine/MD Series]** tab, and a dialog as shown in Fig. 5.6 appears. You can configure following two parameters for respective monitor(s).

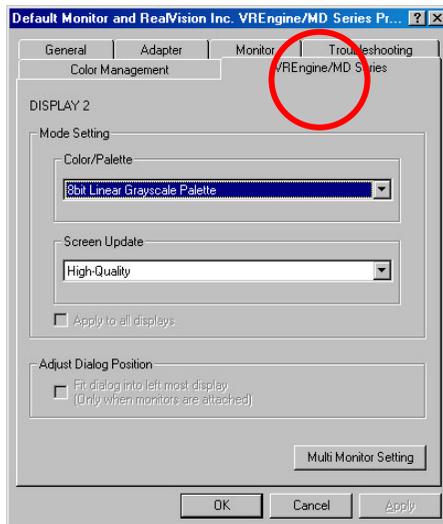


Fig. 5.6 Advanced Setting-2

Note)

If multiple monitors are installed, you must configure all installed monitors.

■ [Color/Palette] setting

For detailed information related to selectable parameters, See “Advanced Setting”

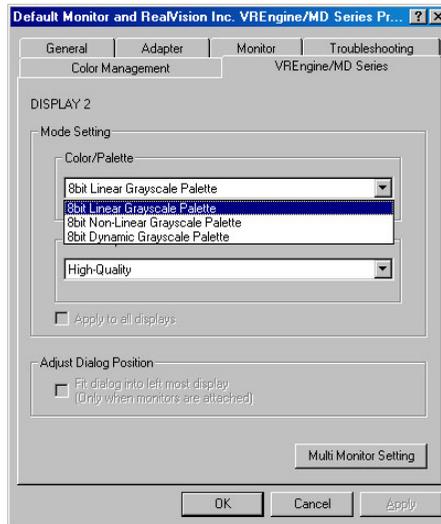


Fig. 5.7 Color/Palette setting

■ [Screen Update] setting

For detailed information related to selectable parameters, see “Advanced Setting”

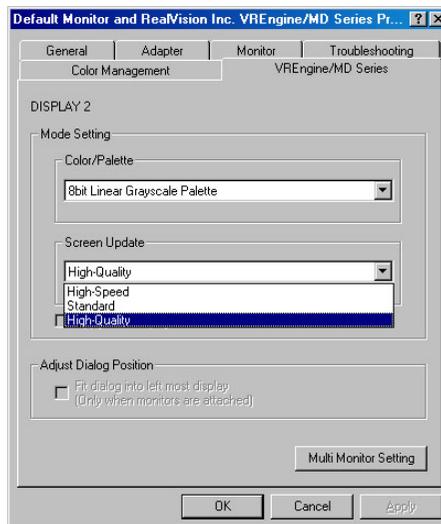


Fig. 5.8 Screen Update Setting

Click **[Multi Monitor Setting]**, and you can configure Multi Monitor Setting. For detailed information related to Multi Monitor Setting, See “Multi Monitor(s) Setting”.

■ [Apply to All Monitors]

If you use multiple monitors and All of Installed monitors are same model, this check box will be available. If you check this check box, you can apply same parameters to all monitors at same time.

Note)

All of parameters are applied through clicking {OK} and {apply}, but changes are not available yet. When you change parameters, a dialog will appear and ask you whether to reboot your host system. Changes will be available through rebooting.

[Adjust Dialog Position] is not available.

5.2. Advanced Setting

Setting	Description
<p>Color/Palette Setting</p>	<p>There are three pallet modes for adjusting grayscale display: (1) 8 bit linear gray scale pallet mode, (2) 8 bit non-linear gray scale pallet mode, and (3) 8 bit variable gray scale pallet mode. Those modes are available only when grayscale display is selected. In case of color display, " 8/16/24 bit colors" is shown and no change is allowed.</p> <p>●8bit linear grayscale pallet This is a 256 gray scale of 0-255 fixed pallet mode. It is quite different from ordinary system pallet since it is designed for medical imaging where the grayscale is greatly of importance. If your application is a medical imaging, use this mode.</p> <p>●8bit non-linear grayscale pallet This is also a fixed pallet mode where the first and last 10 entries are for the system pallet and remaining 236 entries are aligned in linear order.</p> <p>●8bit dynamic grayscale pallet It is a pallet mode that the pallet can be freely set up by a application program.</p>
<p>Screen Update Setting</p>	<p>There are three screen update modes for adjusting gray scale display: High-Speed, Standard and High-Quality</p> <p>●High-Speed This is a fastest screen update mode. The High-Speed drawing may cause staircase-patterned afterimages. If such an afterimage is displayed, select another mode.</p> <p>●Standard This mode takes a mean position between Hi-speed mode and Hi-definition mode in terms of the display speed.</p> <p>●High-Quality The smoothest display mode with no afterimages.</p>

5.3. Multi Monitor(s) Setting

To configure {Multi Monitor setting}, Click {VR Engine/MD Series} icon in {Control panel}. The following is an example of Windows 2000.

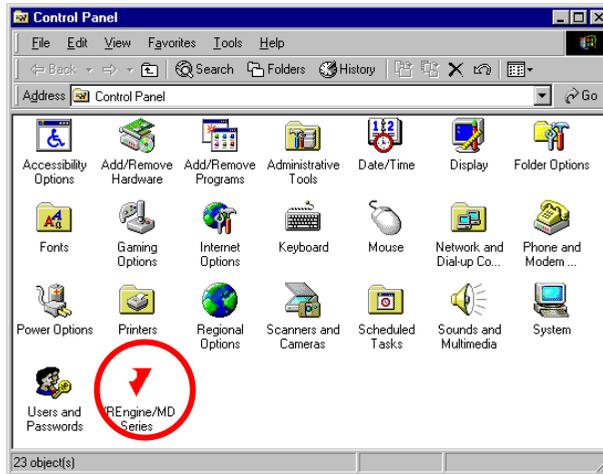


Fig. 5.9 Control Panel

A dialog as shown in Fig. 5.10 will appear.

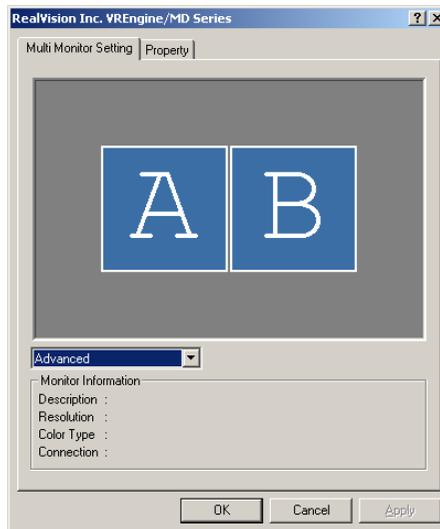


Fig. 5.10 {Multi-Monitor} tab

Note)

Fig. 5.10 is an example of the case which satisfies following:

- One VR Engine/MD Series board and two monitors are installed
- Two monitors are All-Independent Setting

The nomenclature here is different than in {Display properties}, each monitor connected to VR Engine/MD Series board is named as follows: A, B, C, , , , ,

Click each monitor's symbol, and each respective monitor's information is displayed as shown in Fig. 5.11. The color of the symbol associated to the selected monitor is displayed in black.

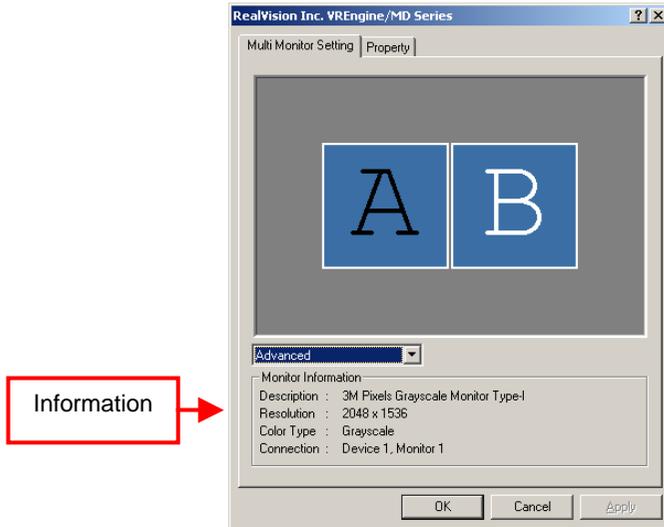


Fig. 5.11 Monitor Information

- ◆ **{Description}**
The monitor's model name selected at the time of installation is displayed.
- ◆ **{Resolution}**
The resolution of the monitor is displayed.
- ◆ **{Color Type}**
The monitor color type is displayed: grayscale or color.
- ◆ **{Connection}**
The board and monitor ID are displayed.

The VREngine/MD Series board has NEW feature that makes multiple monitors into one virtual monitor.

The way to combine two monitors is as following.

- 1) Select monitor that connect to other monitor.
- 2) Right-click, and a menu will appear
- 3) Select way to connect in this menu.
- 4) Then a menu that shows targeted monitor(s) will appear.
- 5) Select targeted monitor, and selected monitor and targeted monitor are combined into one virtual monitor.

And you can select any connected and targeted monitor you like.



Fig. 5.12 Menu which shows way to combine.

A dotted line in Fig. 5.13 shows that A-monitor and B-monitor are combined.

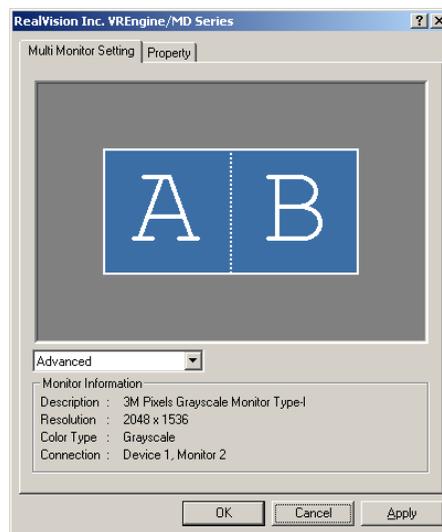


Fig. 5.13 combined two monitor

◆ **{Connect to the right}**

{Connect to the right} is the command that connects the selected monitor to right hand side of target monitor. Select as shown in Fig. 5.14, B-monitor will be connected to right hand side of A-monitor, and two monitors are made into one virtual monitor.

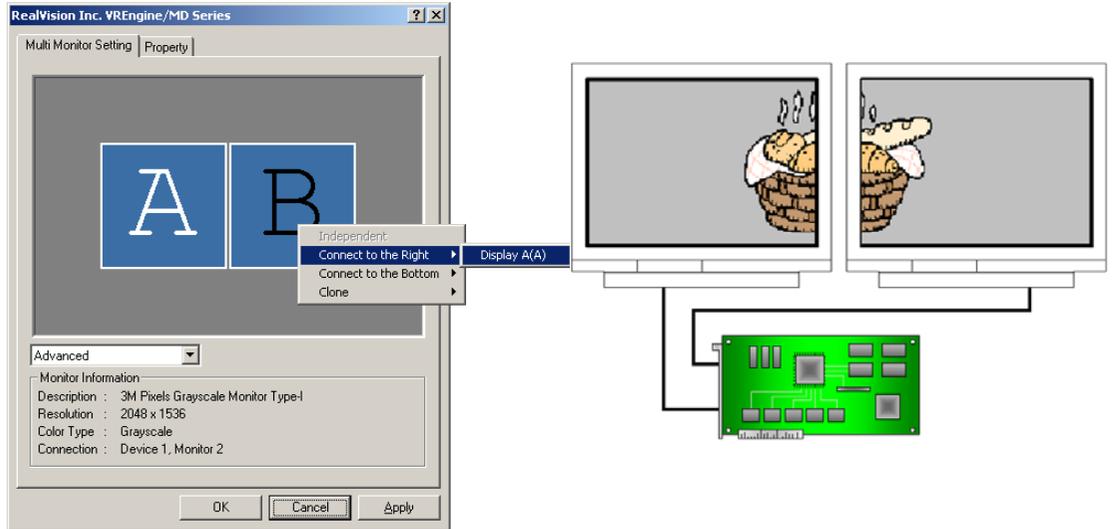


Fig. 5.14 Connect to the right

◆ **{Connect to the bottom}**

{Connect to the bottom} is the command that connects the selected monitor to bottom of target monitor. Select as shown in Fig. 5.15, B-monitor will be connected to A-monitor bottom, and two monitors are made into one virtual monitor.

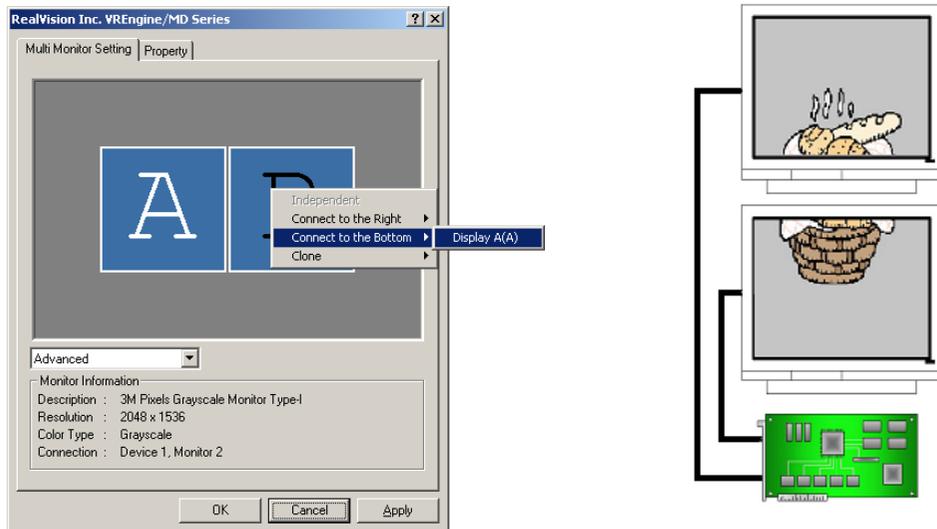


Fig. 5.15 Connect to the bottom

◆ **{Clone}**

{Clone} is the command that makes selected monitor to display the same screen as the target monitor. Select as shown in Fig. 5.16. {B} monitor displays a same screen displayed on {A} monitor.

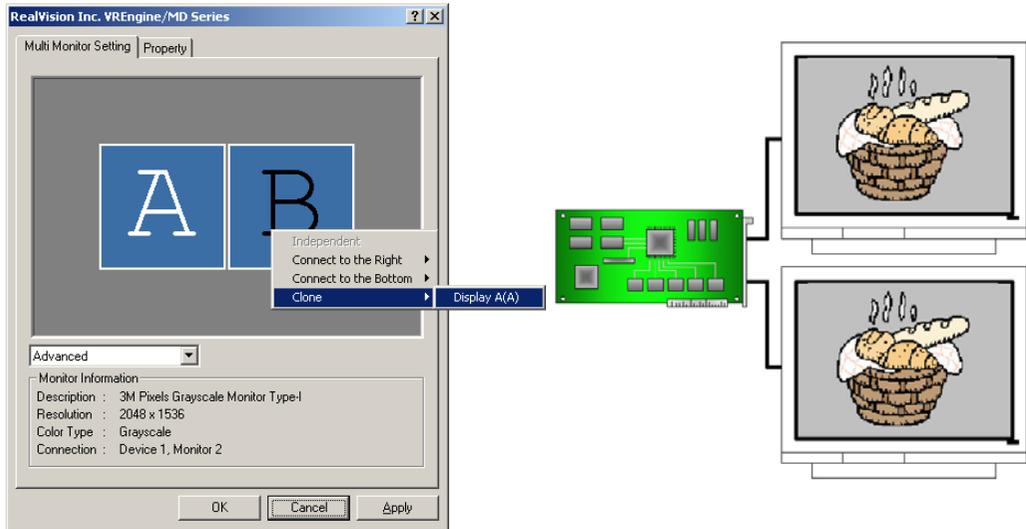


Fig. 5.16 Clone

Select **{Clone}**, a list-box will appear on right part of dialog. Through switching this list-box, you can separately display the screen of the original monitor from that of the clone.

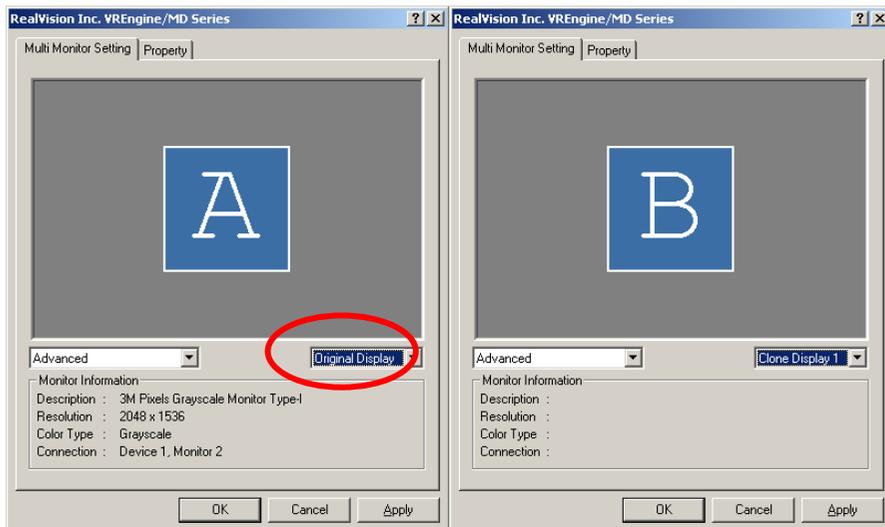


Fig. 5.17 Clone mode

◆ {Independent}

{Independent} is the command that deletes the relationship between selected monitor and target monitor. {Independent} is not available when selected monitor has no relationship.

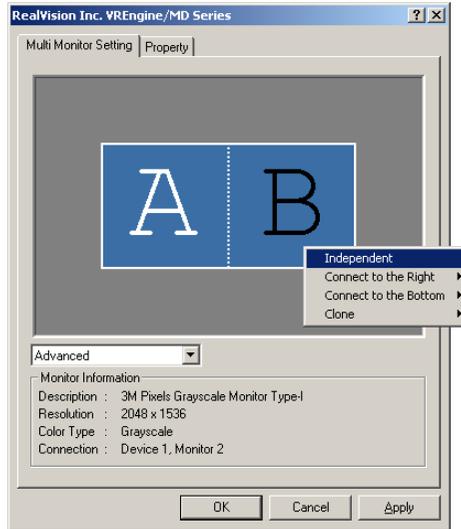


Fig. 5.18 Independent

Note)

All of parameters are applied through clicking {OK} and {Apply}, but changes are not available yet. When you change parameters, a dialog will appear and ask you whether to reboot your host system. Changes will be available through rebooting.

If you do not configure all monitors one by one, you can select and apply popular setting all together through you select it from the list-box. The supported popular settings are **{All-Independent}**, **{Attachment in the Device}** and **{All-Attachment}**.

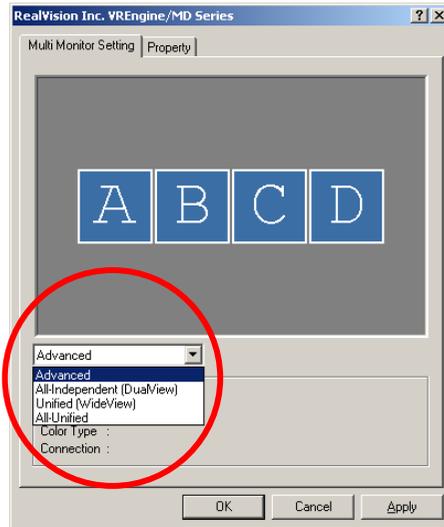


Fig. 5.19 popular setting

◆ **{All-Independent (DualView)}**

If you select **{All-Independent (DualView)}**, all relationships between the monitors that are connected to the VR Engine/MD Series board(s) are destroyed, and you can utilize monitor separately.

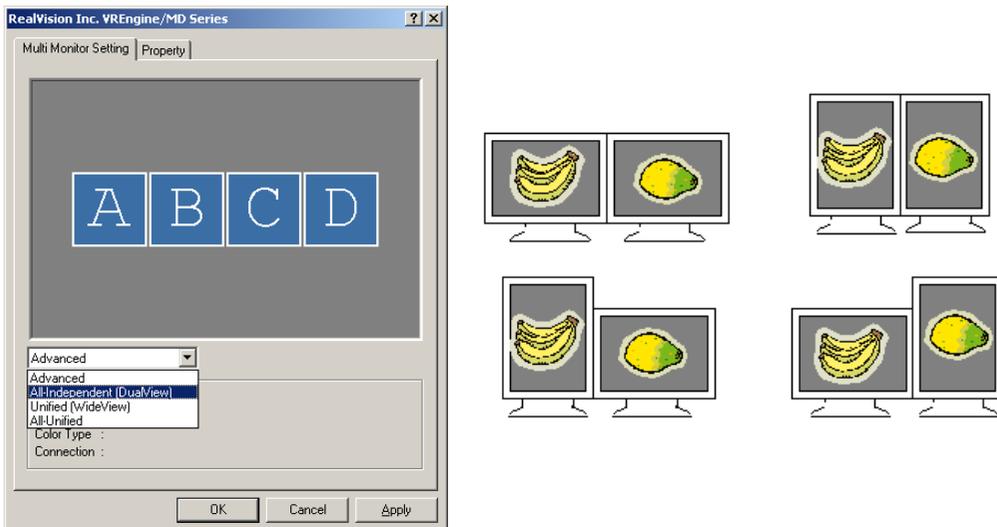


Fig. 5.20 All-Independent

◆ **{Unified (WideView)}**

If you select **{Unified}**, all relationships between monitors that are connected to the VREngine/MD Series board are destroyed at once and the monitors that are connected to the same board are made into one virtual monitor for every board(s).

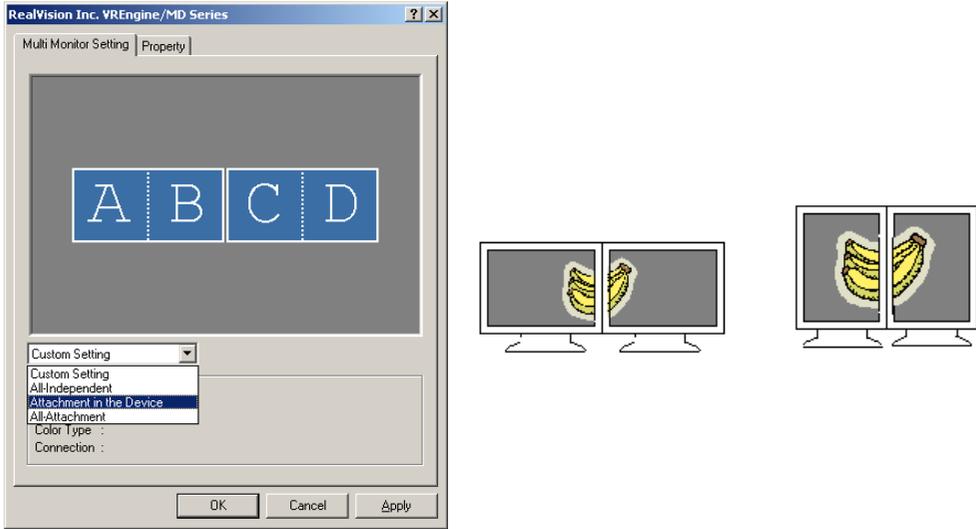


Fig. 5.21 Attachment in the device

◆ **{All-Unified}**

If you select **{All-Unified}**, all monitors that are connected to the VREngine/MD Series board are made into one virtual wide monitor. **{All-Unified}** is not available when system has only one VREngine/MD board.

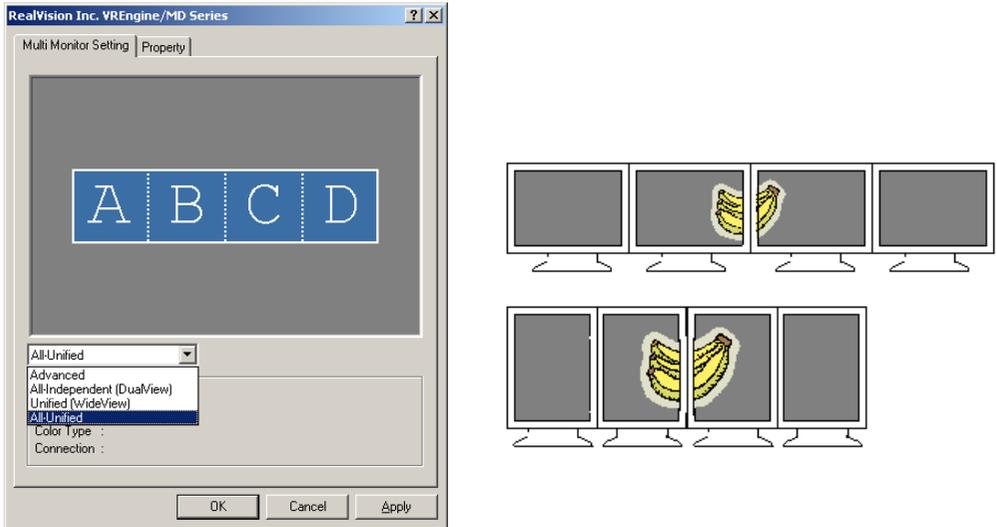


Fig. 5.22 All-Attachment

Notes for Using Multiple Monitors Independently

Using Multiple Monitors with Independent Mode, Windows considers one VREngine/MD Series board as two devices. So that you must remember the followings when you utilize this setting:

- 1) You must configure manually the same {Color Type} and the same {Resolution} to each respective monitor connected to the same VREngine/MD Series board.
- 2) Each independent monitor as one system device needs to be actually connected to one VREngine/MD board. You can confirm the combination of monitor number and a physical monitor with {identify} button.
- 3) Using Windows NT, you cannot utilize multiple monitors with Independent Mode since Windows NT does not support multiple monitors.
- 4) Your viewing software may dictate which mode you use.

Notes for other settings

About **{Power Options}** – only **{Turn off monitor}** is supported. **{System Stand By}** and **{Hibernate}** are not available.

5.4. Adaptor and Driver Information

Double-click [VR Engine/MD Series] icon in {Control Panel}. Fig. 5.23 is an example of windows2000.

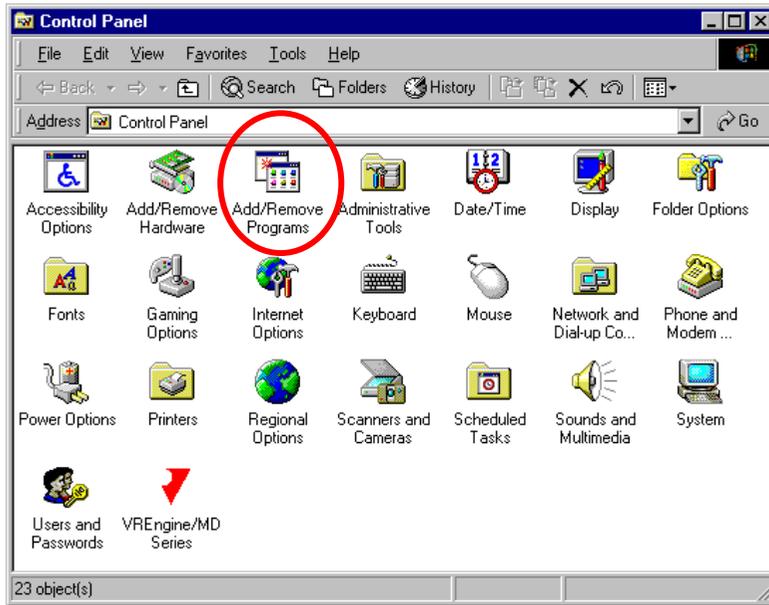


Fig. 5.23 Control Panel

A dialog as shown in Fig. 5.24 will appear.

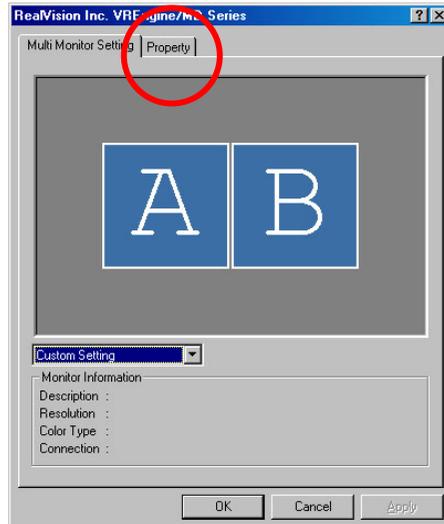


Fig. 5.24 Property tab

Select {Property} tab, so that the dialog displays the detailed information as shown in Fig. 5.25.

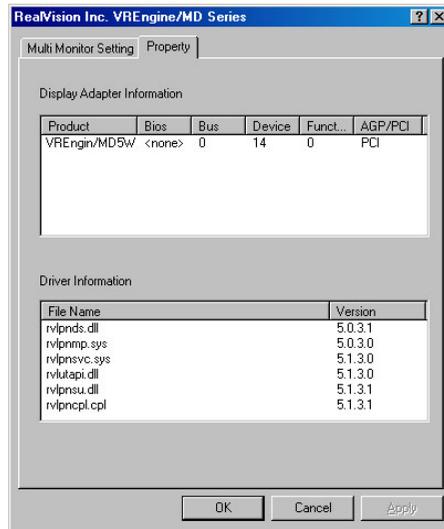


Fig. 5.25 Detailed Information

This dialog contains following information.

- **Display adapter Information**
The product name, Bios, location and etc are displayed.
- **Driver Information**
The List of driver files and these versions are displayed.

5.5. Reconfigure monitor , Update and Uninstall

Insert [Driver & Installer CD-ROM]. The driver software starts automatically, and a dialog as shown in Fig. 5.26 will appear.

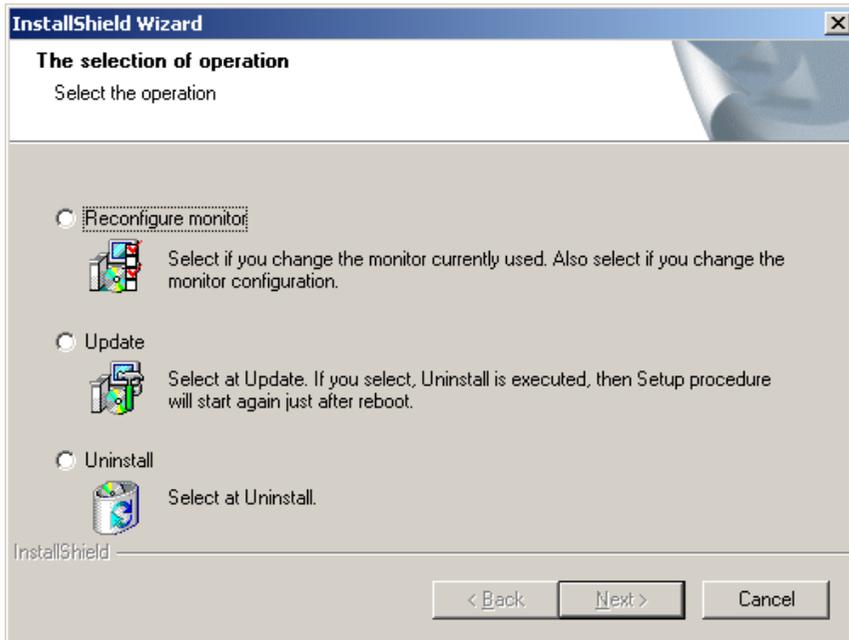


Fig. 5.26 Select operation

Note)

If the dialog does not appear automatically, refer to {driver & installer CD-ROM} and double-click **{Setup.exe}** directly.

- **Reconfigure Monitor**
If you want to replace/add monitor(s), select this.
- **Update**
If you want to update driver software or add/remove the VREngine/MD Series board, select this. The installer uninstalls driver software at once, and then installs driver software. For additional information related to installation, See "How to Install Driver Software.
- **Uninstall**
If you want to uninstall driver software, select this. There is a method of uninstalling driver software besides this. For additional information related to un-installation, see "How to Uninstall Software driver".

Note)

If you select **{Reconfigure monitor}** and **{Update}**. All previous settings including Multi Monitor setting are re-initialized.

6. How to Uninstall Software driver

This chapter contains how to uninstall driver software as an example of widnows2000.

Double click **{Add/Remove Program}** in **{Control Panel}**, and start uninstalling driver software.

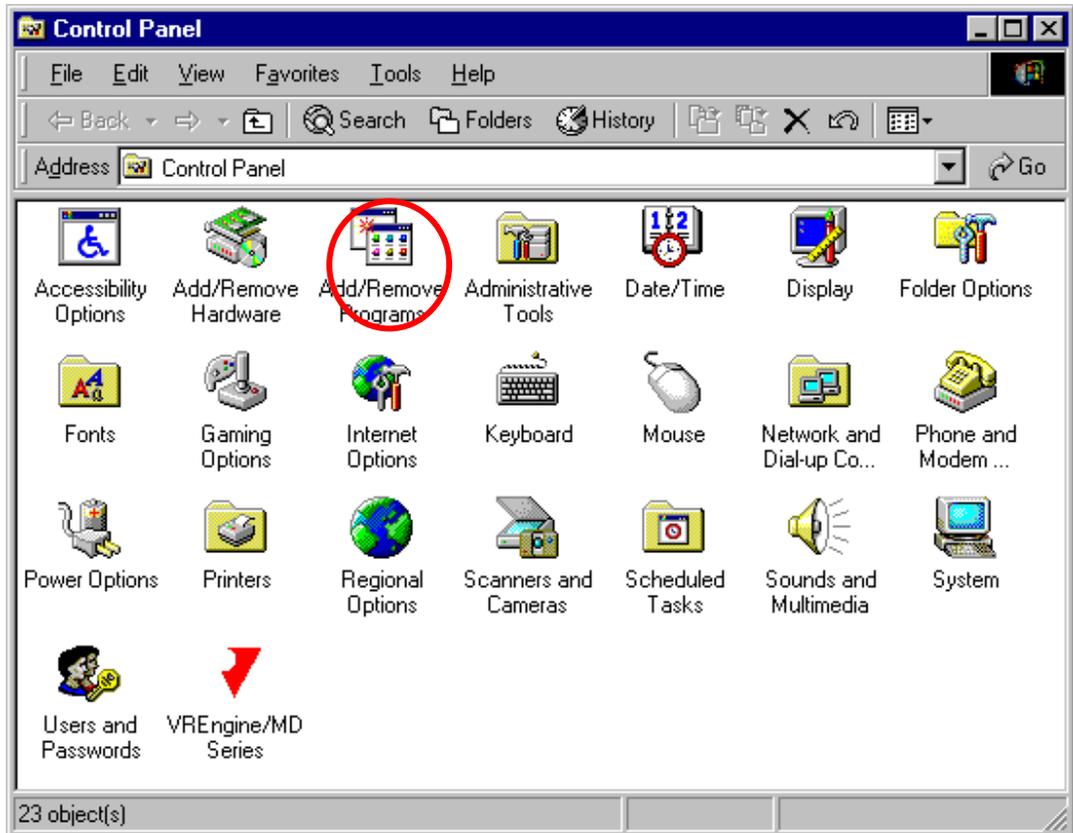


Fig. 6.1 Control Panel

The **[Add/Remove Program]** dialog will appear.

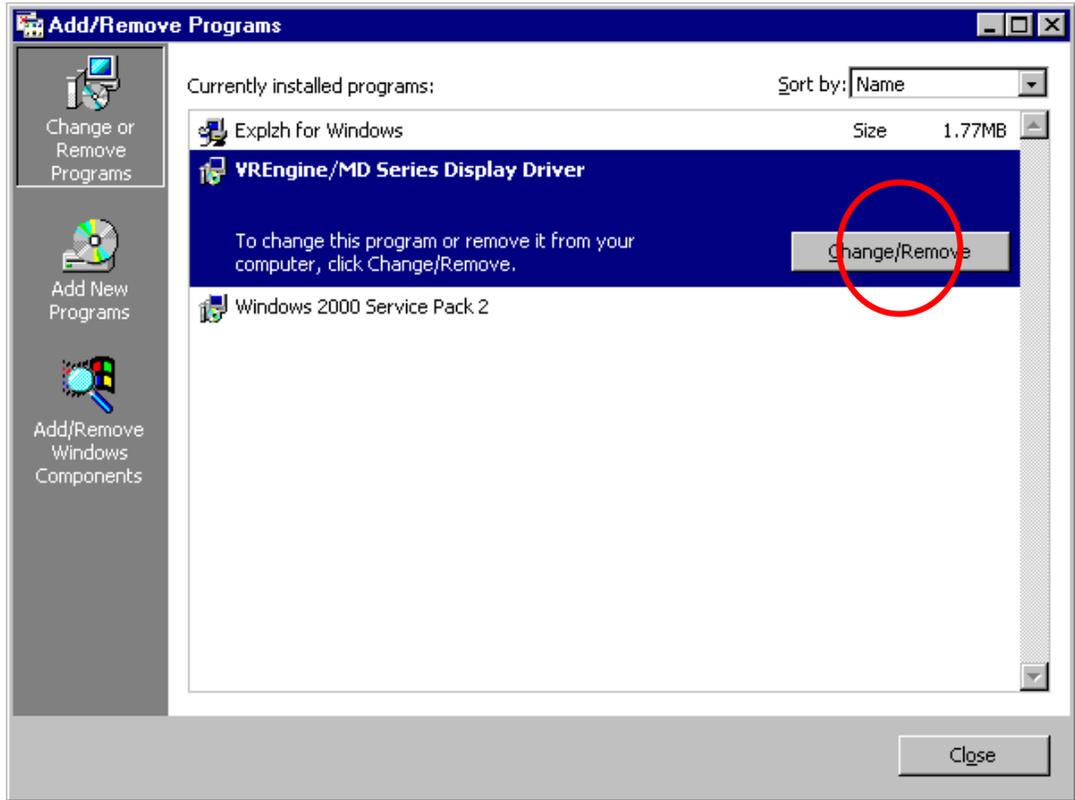


Fig. 6.2 Add/Remove Program

You click **{VREngine MD Series Display Driver}** on the list of **{Current Installed Programs}**, so that the **{Change/Remove}** button will appear. You click it.

The dialog as shown in Fig. 6.3 will appear. Click **{Yes}**, and start uninstalling. A dialog will appear and shows the progress in operation.



Fig. 6.3 Confirm uninstallation-1

Note)

You must reboot your host system for uninstalling driver software. Before you start uninstalling, you have to terminate all of applications.



Fig. 6.4 Confirm uninstallation-2

Uninstalling driver software will be complete through rebooting your host system. Click **{Yes}**, and reboot your host system.

7. Product Information

7.1. Technical Specification(VREngine/MD2W) **MD2W**

Operating Conditions	Host system	DOS/V compatibles
	Operating systems	Windows NT 4.0 Workstation (ServicePack 6 or greater) Windows 2000 Professional Windows XP
	Host processor	intel IA32, AMD, etc.
	Operating frequency	>500MHz
	Host bus spec.	PCI 32-bit / 5V, 3.3V (PCI Version2.2 compliant)
	Host bus frequency	33MHz
	Size of main memory	>256Mbytes
	Operating voltage	5V ±0.25V
	Power consumption	15W (max)
Mechanical Spec.	Board size (Outline)	174.5 (W) x 106.7 (H) mm or 7.1 (W) x 4.2 (H) inch
	Weight	158g / 0.34lbs
	# of occupied slot	PCI bus slot x1
	# of board	PCI board x1
Display Resolution	Single-monitor case	1600 x 1200 pixel (Landscape) 1200 x 1600 pixel (Portrait)
	Multi-monitor case	3200 x 1200 pixel (Landscape) 2400 x 1600 pixel (Portrait)
Connectable Monitor <small>Note 1)</small>		2M-VESA compliant digital LCD monitor 2M-digital LCD monitor
# of connectable monitors		Max 2 monitors
Display Mode <small>Note 2)</small>	Single-monitor case	Landscape Portrait
	Multi-monitor case	Landscape + Landscape Portrait + Portrait
VGA display function <small>Note 3)</small>	Available	VGA standard compliant
Rotate-direction of Screen	Counter clockwise	At Landscape – Portrait switching
# of display bits		8-bit/pixel grayscale 10-bit/pixel grayscale (Integrated Gamma table can select 256 scales from 1024 scales) 8, 24-bit/pixel color
Display memory size		64Mbytes SDRAM
Video Output Std.	DVI (Digital Visual Interface)	DVI-D
Video Output Spec.	Dot Clock	161.9MHz or 132.5MHz
	H-Sync	75KHz
	V-Sync.	60Hz
	Refresh Rate	60Hz
Certification		UL/cUL, FCC, CE
Condition for preservation	Temp. & Humidity	-40 – 75°C / -40 – 167F 5 – 100% (None condensing)
	Altitude	Lower than 11,000m / 36,000ft

Note 1) Supported display modes are as follows

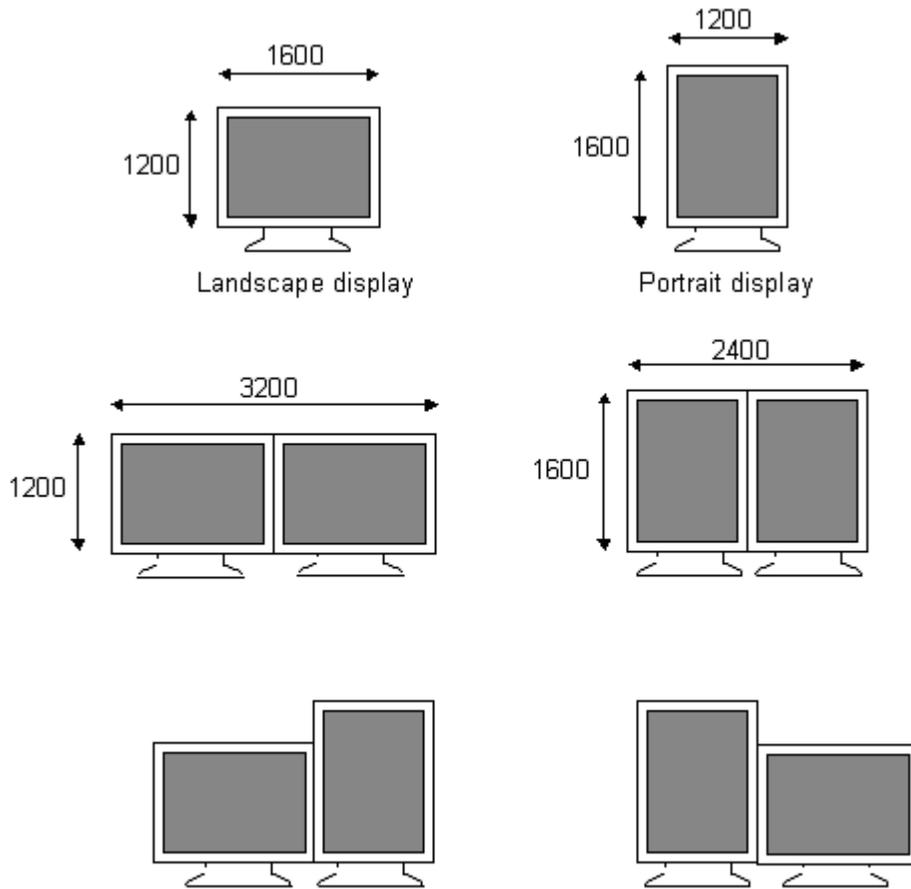


Fig. 7.1 VREngine/MD2W display mode settings

Note 2) Although VGA output is VGA Standard compliant, user subjects to the use of Multi-scan monitor since refresh rate might be 70Hz up video mode.

7.2. Technical Information (VREngine/MD3W)

MD3W

Operating Conditions	Host system	DOS/V compatibles
	Operating systems	Windows NT 4.0 Workstation (ServicePack 6 or greater) Windows 2000 Professional Windows XP
	Host processor	intel IA32, AMD, etc.
	Operating frequency	>500MHz
	Host bus spec.	PCI 32-bit / 5V, 3.3V (PCI Version2.2 compliant)
	Host bus frequency	33MHz
	Size of main memory	>256Mbytes
	Operating voltage	5V ±0.25V
	Power consumption	15W (max)
Mechanical Spec.	Board size (Outline)	174.5 (W) x 106.7 (H) mm or 7.1 (W) x 4.2 (H) inch
	Weight	158g / 0.34lbs
	# of occupied slot	PCI bus slot x1
	# of board	PCI board x1
Display Resolution	Single-monitor case	2048 x 1536 pixel (Landscape) 1536 x 2048 pixel (Portrait)
	Multi-monitor case (only MD3W)	4096 x 1536 pixel (Landscape) 3072 x 2048 pixel (Portrait)
Connectable Monitor		3M-digital LCD monitor
# of connectable monitors		Max 2 monitors
Display Mode ^{Note 1)}	Single-monitor case	Landscape Portrait
	Multi-monitor case (MD3W only)	Landscape + Landscape Portrait + Portrait
VGA display function _{Note 2)}	Available	VGA standard compliant
Rotate-direction of Screen	Counter clockwise	At Landscape – Portrait switching
# of display bits		8-bit/pixel grayscale 10-bit/pixel grayscale (Integrated Gamma table can select 256 scales from 1024 scales) 8, 24-bit/pixel color
Display memory size		64Mbytes SDRAM
Video Output Std.	DVI (Digital Visual Interface)	DVI-D
Video Output Spec.	Dot Clock	64.4MHz
	H-Sync	95KHz
	V-Sync.	60Hz
	Refresh Rate	60Hz
Certification		UL/cUL, FCC, CE
Condition for preservation	Temp. & Humidity	0 – 45°C / 32 – 113F 5 - 100% (None condensing)
	Altitude	Lower than 11,000m / 36,000ft

Note 1) Supported display modes are as follows

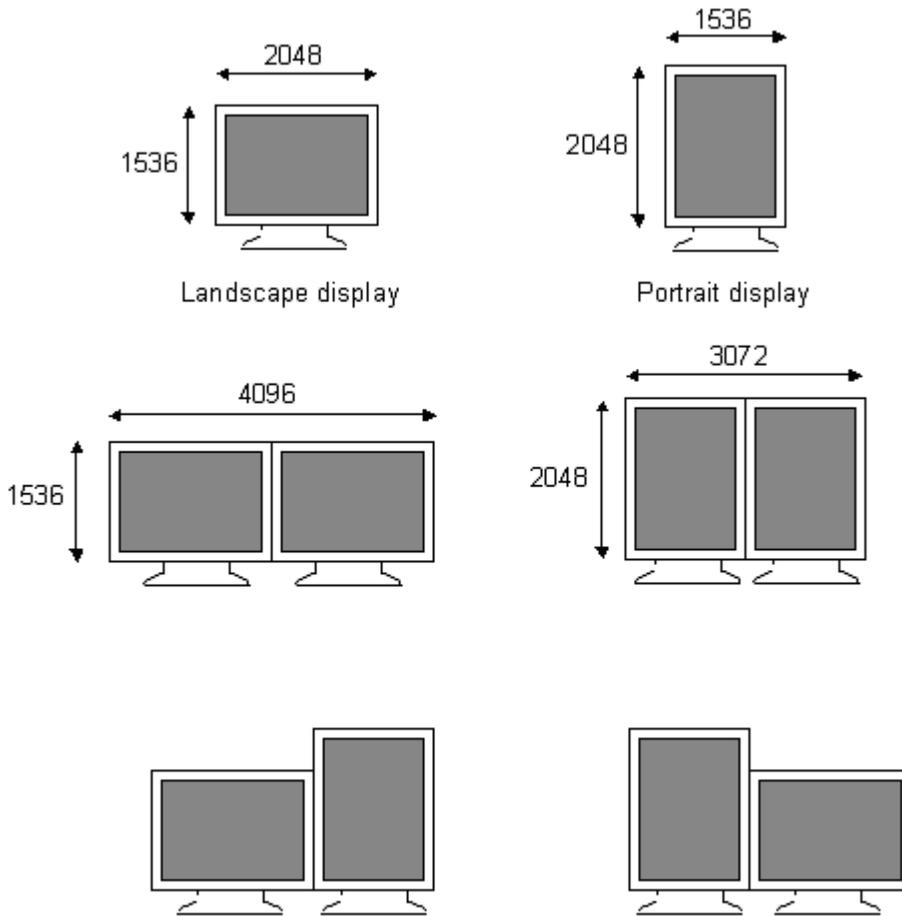


Fig. 7.2 VREngine/MD3W display mode settings

Note 2) With a VGA mode, VGA display of 640X480 dots can be displayed with 2X of in horizontal and vertical sizes.

Note 3) The VREngine/CD3W supports Only Color Monitor

Note 4) In case of connection to Color monitor(s), the number of connection depends on connected monitor capability. Contact your Monitor supplier.

7.3. Technical Information (VREngine/MD5W) MD5W

Operating Conditions	Host system	DOS/V compatibles
	Operating systems	Windows NT 4.0 Workstation (ServicePack 6 or greater) Windows 2000 Professional Windows XP
	Host processor	intel IA32, AMD, etc.
	Operating frequency	>500MHz
	Host bus spec.	PCI 32-bit / 5V, 3.3V (PCI Version2.2 compliant)
	Host bus frequency	33MHz
	Size of main memory	>256Mbytes
	Operating voltage	5V ±0.25V
	Power consumption	15W (max)
Mechanical Spec.	Board size (Outline)	174.5 (W) x 106.7 (H) mm or 7.1 (W) x 4.2 (H) inch
	Weight	158g / 0.34lbs
	# of occupied slot	PCI bus slot x1
	# of board	PCI board x1
Display Resolution	Single-monitor case	2560 x 2048 pixel (Landscape) 2048 x 2560 pixel (Portrait)
	Multi-monitor case	5120 x 2048 pixel (Landscape) 4096 x 2560 pixel (Portrait)
Connectable Monitor		5M-digital LCD monitor
# of connectable monitors		Max 2 monitors
Display Mode ^{Note 1)}	Single-monitor case	Landscape Portrait
	Multi-monitor caser	Landscape + Landscape Portrait + Portrait
VGA display function ^{Note 2)}	Available	VGA standard compliant
Rotate-direction of Screen	Counter clockwise	At Landscape – Portrait switching
# of display bits		8-bit/pixel grayscale 10-bit/pixel grayscale (Integrated Gamma table can select 256 scales from 1024 scales)
Display memory size		64Mbytes SDRAM
Video Output Std.	DVI (Digital Visual Interface)	DVI-D
Video Output Spec.	Dot Clock	73.6MHz
	H-Sync	103KHz
	V-Sync.	50Hz or 60Hz
	Refresh Rate	50Hz or 60Hz
Certification		UL/cUL, FCC, CE
Condition for preservation	Temp. & Humidity	-40 – 75°C / -40 – 167F 5 - 100% (None condensing)
	Altitude	Lower than 11,000m / 36,000ft

Note 1) Supported display modes are as follows

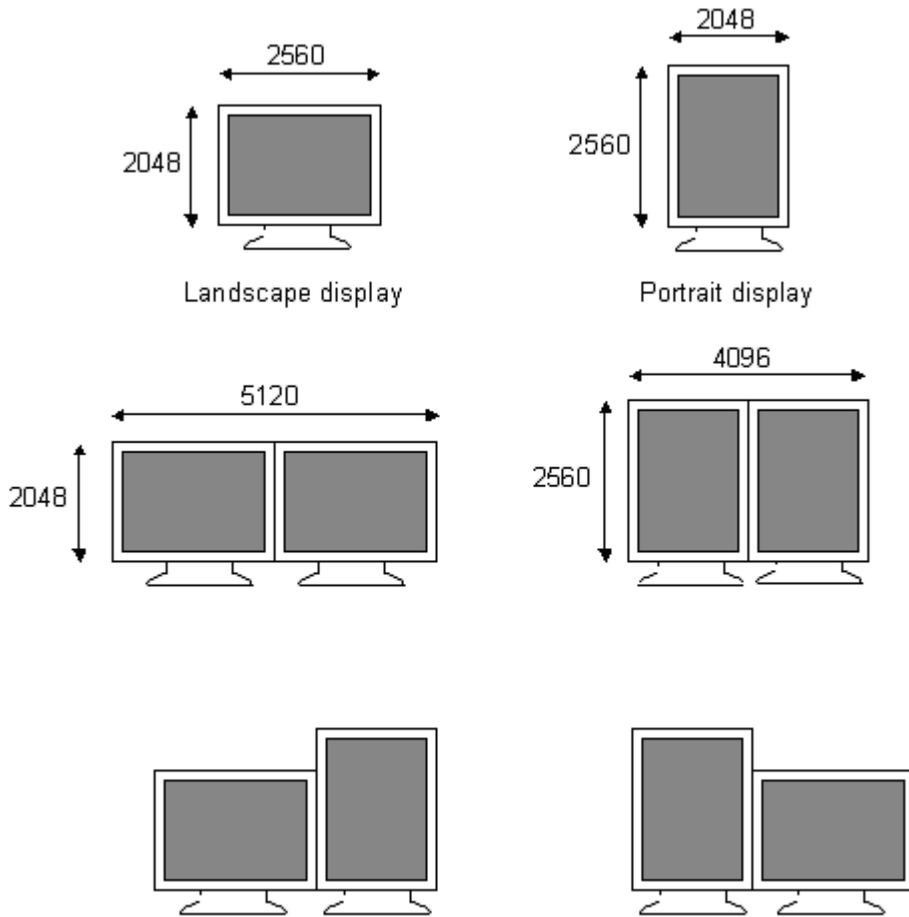


Fig. 7.3 VREngine/MD5W Display mode settings

Note 2) With a VGA mode, VGA display of 640X480 dots can be displayed with 2X of in horizontal and vertical sizes.

7.4. Monitor Interface

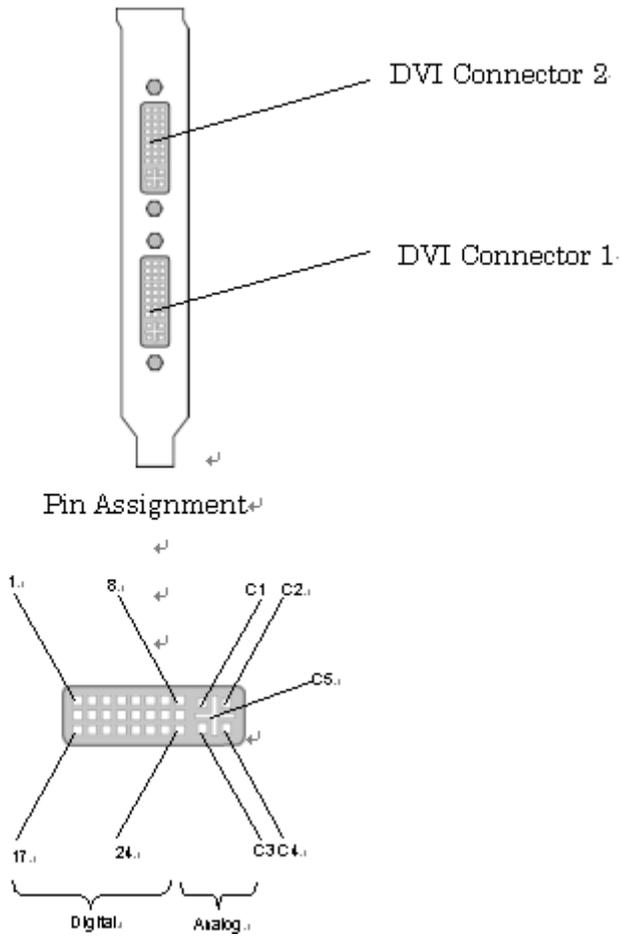


Fig. 7.4 Monitor Interface

PIN	Signal	PIN	Signal	PIN	Signal
1	T.M.D.S. Data 2-	9	T.M.D.S. Data 1-	17	T.M.D.S. Data 0-
2	T.M.D.S. Data 2+	10	T.M.D.S. Data 1+	18	T.M.D.S. Data 0+
3	T.M.D.S. Data 2/4 Shield	11	T.M.D.S. Data 1/3 Shield	19	T.M.D.S. Data 0/5 Shield
4	T.M.D.S. Data 4-	12	T.M.D.S. Data 3-	20	T.M.D.S. Data 5-
5	T.M.D.S. Data 4+	13	T.M.D.S. Data 3+	21	T.M.D.S. Data 5+
6	DDC Clock	14	+5V Power	22	T.M.D.S. Clock Shield
7	DDC Data	15	Ground (return for +5V, HSync and Vsync)	23	T.M.D.S. Clock+
8	N.C.	16	Monitor Sense	24	T.M.D.S. Clock-
C1	N.C.	C2	N.C.	C3	N.C.
C4	N.C.	C5	N.C.		

RealVision Inc.

3-1-4, Shin-Yokohama, Kouhoku-ku, Yokohama, Kanagawa 222-0033 Japan
phone : +81-45-473-7331 fax : +81-45-473-7330
URL <http://www.realvision.co.jp/>

RVU, INC.

3080 Olcott Street, Suite 203-B Santa Clara, CA 95054, USA
phone : +1-408-845-9410 fax : +1-408-845-9457
URL <http://www.rvu-inc.com/>

株式会社リアルビジョン

〒222-0033 神奈川県横浜市港北区新横浜 3-1-4
電話 : 045-473-7331 ファックス : 045-473-7330