DIGIMERGE™
A better way to a secure future

VCD 300 Series
4/8/16 Channel Network DVR

Models: VCD304161, VCD308161, VCD316161

Installation / User Manual

Digimerge Technologies Inc.
V.103105

WARNING

TO REDUCE FIRE OR SHOCK HAZARD, DO NOT EXPOSE THE UNIT TO RAIN OR MOISTURE.

This installation should be made by a qualified service person and should conform to all local codes.

Cautions

Read Before System Operation

Follow these details to prevent material damage or personal injury.

Signs of Caution and Warning

⚠ **Warning: This sign indicates that the user could die or be seriously wounded if not used or installed properly.**

⚠ **Caution: This sign indicates that the user could be wounded or could expect property damage if not used or installed properly.**

⚠ **Warning: Do not expose the product to fog, rain or too much humid to decrease danger from electric shock or fire**.

Important Safeguards

⚠ **Warning**

1. Change the battery after turning the off the power of the product.
2. Check the polarity of the lithium battery while changing.
3. Change the battery with the same one, which is in the product or with the similar type recommended by your vendor.
4. Dispose of the changed battery according to the instructions of the battery manufacturer.

※ There is danger of explosion when instructions are not followed.

General Warning

⚠ **Warning**

1. Use the power cord, which is supplied or recommended by the supplier.
   It may cause fire.
2. Do not dismantle or assemble the product.
   It may cause malfunction or fire.
3. Enquire from your vendor for repair.
   It may cause electric shock or fire if the repair is not done properly.
4. Do not touch the product with wet hands.
   It may cause malfunction or electric shock.
5. Matters must be ensured to a professional for product installation.
   It may cause malfunction, electric shock or fire.
6. Consult the place of purchase if the need for installation arises.
   Delinquent installation may be the reason for malfunction, electric shock or fire.
7. Ground applies to video products equipped with a 3-wire grounding type plug having a third (grounding) pin.
   This plug only fits into a grounding-type power outlet.
   If grounding is not done, it may cause malfunction or electric shock.
8. Ground connection must not touch gas pipe, water pipe or telephone line.
   If grounding is not done properly, it may cause electric shock.
9. Prevent metallic foreign substance from going inside the product.
   It may cause malfunction or electric shock.
10. Do not spray insecticide or flammable spray while driving.
    It may cause fire.
11. Prevent water from entering inside electrical parts.
    Clean with a dry towel or malfunction or electric shock could result.

Caution

1. Use the power cord, which is supplied or recommended by the supplier.
   The internal fan rotates at high speed and may cause an accident.
2. Do not drop, give strong vibration, or shock to the product.
   It may cause malfunction.
3. The air inhaler of the front panel and air outlet of the back panel must not be blocked during installation.
   The internal temperature of the product would be greater than allowable and could cause malfunction or fire.
4. Do not touch the product or the power cord when there is thunder.
   It may cause electric shock.
5. Do not install the product near or on top of heating source.
   The internal temperature of the product would be greater than allowable and could cause malfunction or fire.
6. Do not install the product on inclined or unstable location or where vibration could be committed.
   It may cause malfunction.

Cautions about the Power

Warning

1. Must use the outlet of the grounding to connect the power cord.
   It may cause fire.
2. Do not connect on the middle of power cord or use extension cord.
   It may generate heat or cause fire.
3. Do not touch the power cord with wet hands.
   It may cause electric shock.
4. Keep power cord dry and protect from humidity.
   It may generate heat or cause fire. The power cord is not waterproof.
5. Hold the body of the plug while removing the power plug.
   Do not pull the power cord. Damage to the power cord may generate heat or cause fire.
6. Check the power plug regularly.
   Humidity and moderation in smoking may cause fire.
7. Remove power cord from outlet when product is not used for a long time.
   It may cause short-circuit or electric shock.

Caution

1. Do not turn off the power by removal of the power plug.
   To turn off the power, click the power button from the front panel.
   When the system stops abnormally, the power button might not work. Click power button for 5 full seconds to turn power off.
2. Do not cut off the power artificially, or give shock or vibration to unit while the hard disk is activating.
   It may cause hard disk failure or loss of data.

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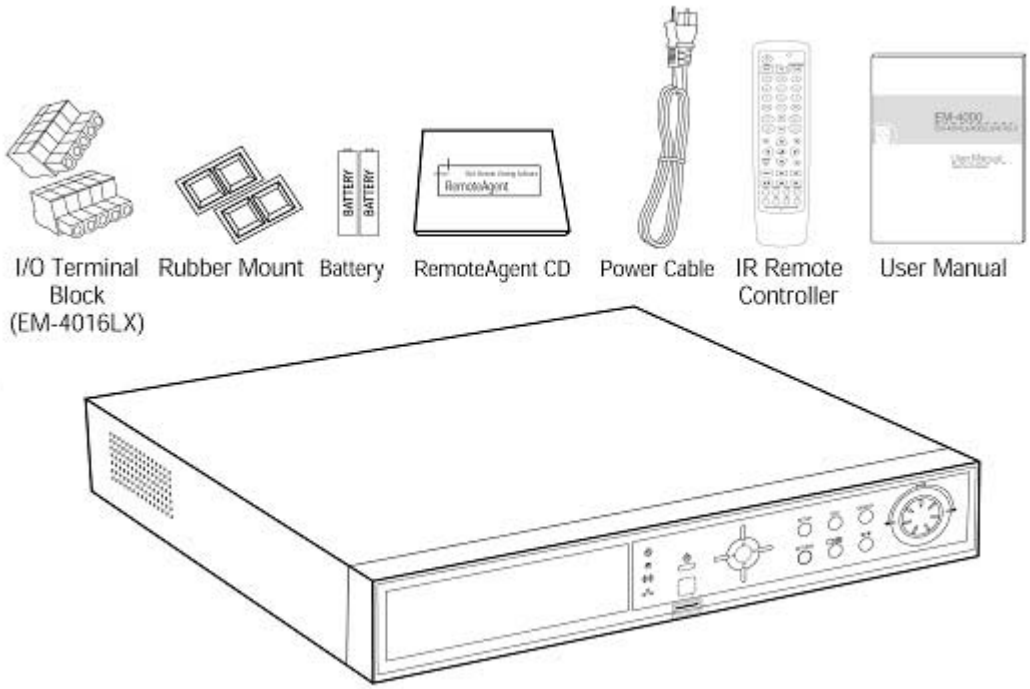
1. System Structure and Installation

The following accessories are supplied with the VCD series digital video recorder. Keep the carton and packaging materials for moving or storage purposes later.

Note	If any of these items are missing or damaged, notify your vendor immediately.

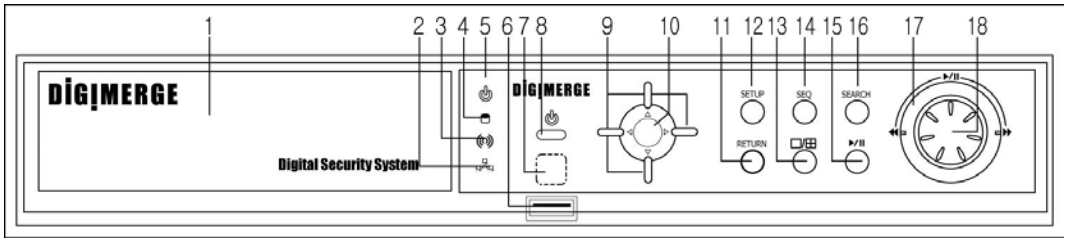


Qty	Accessories
1	User Manual
1	IR Remote Controller
1	Remote Agent CD
1	Power cable
2	Power battery (AAA Size)
1	Rack Mount Set
2	I/O Terminal Block

2. Explanations for each function

2.1 Front Panel

The buttons on both the front panel of the VCD and IR Remote Controller have the same functions. Each button can activate different functions. The main functions of each button are shown below.



No.	Buttons	Functions
1	CD-RW	Backup the recording image by internal CD-RW. (Option)
2	Network LED	LED is lit while the network client(s) (RemoteAgent) is connected to the system.
3	Alarm LED	LED is lit when the sensor signal is inputted to the connected system.
4	HDD LED	Shows if the camera image is being stored into or retrieved from the HDD (Hard Disk Drive).
5	Power LED	Shows Power On/Off status of the system (GREEN: Working, RED: Stand-by).
6	USB Port	USB interface Port to connect to external storage equipment.
7	Remote Control Receiver	Receives input signal of the Remote Controller
8	Power Button	Use to turn the Power On/Off.
9	Select Channel	The channel image will change when the corresponding up, down, left and right button is pressed. This is same as using cursor key (direction key) on the main screen.
10	ENTER Button	Use to enter detail menu, go into the next stage, select or set value.
11	RETURN Button	Use to exit from the setting menu or to cancel setting value.
12	SETUP	Menu to set user environment of the system.
13	Screen Mode Selection	Select the screen mode from 1, 4, 8 and PIP screen.
14	SEQ Button	Automatic time sequencing for monitor images.
15	Playback / Pause	Playback recorded images/pause.
16	SEARCH	Search recorded images
17	Shuttle	Shuttle (outer dial): Speed up the playback speed of the image (2~32X).
18	Jog	Jog (inner dial): playback frame by frame.

2.1.1. CD-RW (Option)

The VCD series system can select the CD-RW as an Option. Use the CD-RW to backup the recorded image. Refer to “Image Backup” for a detailed explanation.

2.1.2. Network LED

LED is blue when the system is connected to any network client (RemoteAgent). Light is automatically out when all clients are disconnected.

2.1.3. Alarm LED

LED is lit if the system’s connected Alarm activates.

2.1.4. HDD LED

LED is blue when the camera image is being stored into or retrieved from the HDD. So, even though the system is continuously recording, the HDD LED is only lit when actual data is recorded in the HDD. Usually, the LED will be flickering, and this is normal.

2.1.5. Power LED

LED to show the power input and status of the system. The LED is red when the system is in stand-by position, but is green when the system is working and power is being supplied.

2.1.6. USB Port

Used to backup recorded images on the VCD series by using a USB storage device. A system software upgrade is possible with a USB storage device.

Note Refer to “Image Backup” for detailed explanation of USB storage devices supported by EM-3000 series.

2.1.7. Remote Controller Receiver

VCD can be operated conveniently, using the remote controller. Receives input signal from the remote controller

2.1.8. Power Button

Connect the power cable of the product before pressing this button to turn the power on and off.

2.1.9. Select Channel

These buttons are used to change the channel images. The Left/Right button is used to change the channel on 1- screen mode or PIP mode, and Up/Down button is used to change PIP channel from PIP mode. These buttons are also used to move the cursor in the “Setting” mode, up, down, left, or right, and also to increase or decrease the setting value.

2.1.10. ENTER Button

The [Enter] button is used to go to the next stage, select value or settings.

2.1.11. RETURN Button

Use to cancel the password just typed at the setting menu or return to previous menu.

2.1.12. SETUP

Set the environment of the VCD system according to the user requirement. Refer to “Setting” for detailed explanation.

2.1.13. Screen Mode Selection

Screen mode can be selected from the monitor screen. Whenever the buttons is pressed, it will change in sequence in 1, 4, 8 and PIP screen.

2.1.14. SEQ Button

Press SEQ Button and the screen will automatically changes. Refer to “Settings” for automatic sequencing interval (does not work on 4 split screen mode).

2.1.15. Playback / Pause

Playback recorded screen. The corresponding channel can be playback in 1 screen mode or PIP screen and all the channels can be playback in 4 or 8 channels at once.

2.1.16. SEARCH

Search the recorded image by date and time. Refer to “Recording Image Playback Mode” for detailed image searching method.

2.1.17. Shuttle

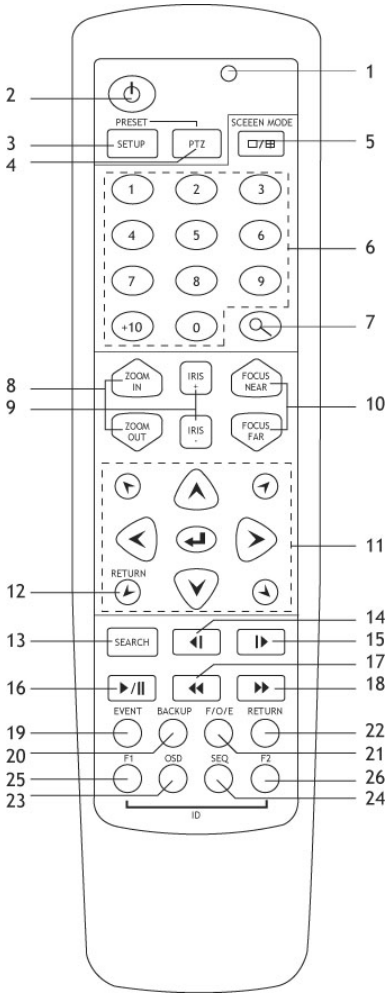
Jog/Shuttle dial is used to playback recording images. The inner dial is called Jog and the outer dial is called Shuttle. The Jog/Shuttle dial has two kinds of functions. The Shuttle is used to speed up the playback speed of images by turning it clockwise or anti-clockwise. Playback speed is indicated as x2, x4, x8, x16, x32 on the lower end of the screen.

2.1.18. Jog

The Jog is used to find the recording image frame by frame. Turn the Jog dial clockwise or anti-clockwise (only I-Frame is playback during anti-clockwise) to see the image frame by frame during the pause state.

2.2 IR Remote Controller

The function buttons on the IR Remote Controller are the same functions on the front panel, as shown below.



No.	Functions
1	Activating LED
2	Power Button
3	SETUP (Use the Preset Button while using the PTZ)
4	PTZ
5	Screen Mode Selection (1/4/8/PIPscreen sequence button)
6	Number Input Button
7	Digital Zoom Button
8	ZOOM IN (enlarge) /ZOOM OUT(decrease)
9	IRIS+ (Open) / IRIS – (Close)
10	FOCUS NEAR / FAR
11	Direction Key
12	RETURN (Use the 4 diagonal direction key button while using the PTZ)
13	SEARCH Button
14	Playback Backwards Frame by Frame
15	Playback Forward Frame by Frame
16	Playback/ Pause Button
17	Fast Playback Forward Button
18	Fast Playback Backwards Button
19	EVENT Button
20	BACKUP Button
21	F/O/E Button
22	RETURN
23	OSD Button
24	SEQ Button
25	F1 (Use to enter ID)
26	F2 (Use to enter ID)

Note **F/O/E Button (use only on remote controller)**
The object in the recorded image might show the feathering effect during frame playback because images at 704x480(PAL:704×576) resolution have higher vertical resolution than 704x240(PAL:704×288) or 352×240 (PAL:352×288). The feathering of the image can be solved when only one of two Fields (Odd, Even Field) is selected. Default is frame playback. When the button is pressed, it will change to Odd Field Playback-> Even Field Playback-> Frame Playback order.

Note To use the IR Remote Controller, set the initial ID the same as the ID in SETUP-> RECORDER-> GENERAL->IR REMOTE CONTROLLER. The user requires setting the ID only once. Refer to the next page for detailed information about ID input.

Note **Number Button**

Change the channel on the 1-screen mode. Press the number buttons for 1~4 channels to see the corresponding channels. Also used to set the setting value on the “Setup” menu.

Direction Key Button

The direction key activates differently for Realtime Image/Playback Mode, Setup Menu Mode, Search Menu Mode and Digital Zoom Mode. The Digital Zoom Mode only activates in Realtime Image Mode, Recording Image Playback Mode and 1-screen mode. Thus, change the screen to 1-screen mode to activate the direction key.

On RealTime Image/Playback Mode	On Digital Zoom Mode
Right Side Direction Key: Increase the channel on screen	Up, Down, Left, Right Button: To Move Direction
Left Side Direction Key: Decrease the channel on screen	Enter (↵) Button: PIP Screen On/Off
Up Side Direction Key Button: Increase PIP channel on PIP Mode.	Zoom In/Out Button: To Decrease or Enlarge Screen
Down Side Direction Button: Decrease PIP channel on PIP Mode	Diagonal Direction Button: Return

Setup Menu, Search Menu Mode	PTZ Mode
Up, Down, Left, Right Button: To Move direction	Up, Down, Left, Right Button: To Move Direction
Diagonal Direction Button: Return	Diagonal Direction Button: To move Direction

2.2.1. Setting IR Remote Controller

As one IR Remote Controller can control several DVR’s, the ID will have to be assigned to use each Remote Controller on each product.

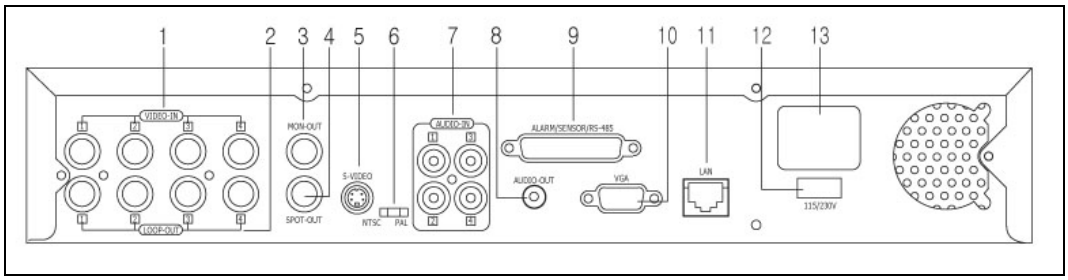
The following method below is to set the ID on the IR Remote Controller. Default ID will be 00.

1. Insert the battery into the IR Remote Controller (AAA Size×2).
2. Press both [F1] Button and [F2] Button at once on the IR Remote Controller for more than 2 seconds.
3. Check whether LED of the IR Remote Controller is lit.
4. By using the IR Remote Controller’s number button, set the ID number between 00~99. Set the ID number in 2 digits (ex. 03,55).
5. Set the ID of the system the same as the number set on the IR Remote Controller, by using front panel direction key.
6. Press [OK] Button on the screen to save the set ID.

Note All the systems have the same default value ID when it is out of the factory. Therefore, when the default value is used, one IR Remote Controller can control several systems at once. To prevent this, it is recommended to set each ID for each system, as it is easy to change the ID for IR Remote Controller. Several systems can be controlled separately by changing the ID of the Remote Controller whenever it is used.

2.3 Rear Panel

The rear panel connections are shown below:



No.	Name	Description
1	VIDEO-IN (BNC)	Connect camera. (Supports NTSC/PAL)
2	LOOP-OUT	Camera images of each channel will be outputted as is. It is also used when the corresponding image is required for other products (8 /16 channel has no LOOP-OUT).
3	MON-OUT	Connect to the main monitor for camera image for surveillance/management/playback.
4	SPOT-OUT	Used to output the entire surveillance screen one by one, in an interval.
5	S-VIDEO	Connect to the S-Video input terminal to output the image on the main monitor.
6	Select NTSC / PAL	Select the signal system. (NTSC / PAL)
7	AUDIO IN	Connect Audio Input Device. (with Amp.)
8	AUDIO OUT	Connect Audio Output Device. (with Amp.)
9	ALARM/ SENSOR /RS-485	Use this terminal to connect external input sensors on channels 1~4. (Supports N/O or N/C) Connect the RS-485 signal output, or the relay for P/T/Z camera control.
10	VGA Port	Connect to the PC Monitor.
11	LAN Port	10/100 Ethernet connection terminals for remote connection.
12	Power Input	Power cable connection terminal for connecting to the main power.
13	Power Switch	Switch to change input power. (115/230V)
14	USB Port	USB interface Port to connect to external storage equipment.

2.3.1. VIDEO-IN

Connect the BNC plug of the camera cable to the corresponding channel number's image input BNC plate, which is on the rear panel.

Note	Camera Input voltage level is 1Vp-p±10%.

2.3.2. LOOP OUT

Use to apply the video camera input to other devices. Without using a video distributor, the same image can be connected to the camera input of other products. **(Not applicable)**

2.3.3. MON OUT

Connect the BNC cable of the monitor to MON OUT BNC cable of the rear panel.

2.3.4. SPOT OUT

The spot monitor can only be used to display input images in automatic interval (switcher) mode. Refer to "Settings" for automatic interval time setting on the spot monitor.

2.3.5. S-Video Output

One additional main monitor can be installed by using the S-Video output. Use the S-Video cable to connect the VCD with the monitor, which has S-Video Input.

2.3.6. Select NTSC / PAL

Turn off the power on the VCD series and select the NTSC/PAL switch correctly. Then turn on the power again.

2.3.7. Audio In

Connect an Audio Input Device.

Note	Input voltage of audio input device is line level. Use of an audio output device with an amplifier is recommended.

2.3.8. Audio Out

Connect an Audio Output Device

Note	Use of an audio output device with an amplifier is recommended

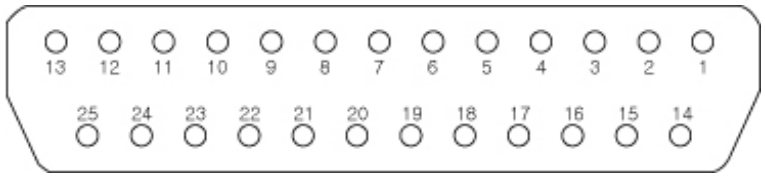
2.3.9. ALARM/SENSOR/RS-485

Connect sensor (dry contact type). Separate the terminal block and wire all devices to desired pins before connecting the terminal block again. Connect each ground (GND) line to "G" pins.

Note	Supports both N/O (Normal Open) and N/C (Normal Close). If connected sensor is not functioning, ensure wiring is correct.

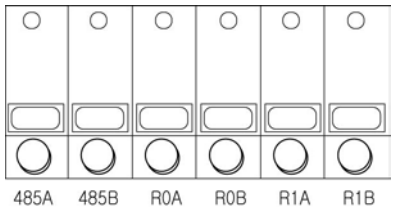
Connect various alarm devices controlled by relay output. The VCD series supports RS-485 for P/T/Z control.

Note The connection method differs according to the type of P/T/Z controller used. Inquire from your vendor if you are using anything other than the RS-485.
Refer to the picture below for printer port connection of the VCD 304/308 rear panel.

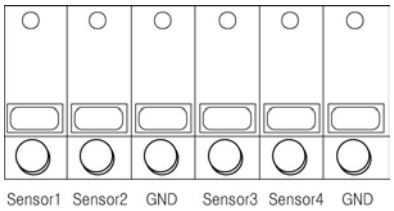


NO.	SENSOR	NO.	RELAY	NO.	Serial Communication	NO.	NO Connect
1	SENSOR1	5	RELAY1(+)	8	rs485-RX	9	NO Connect
2	SENSOR2	6	RELAY2(+)	20	rs485-TX	10	NO Connect
3	SENSOR3	7	GND	22	rs232-TX	11	NO Connect
4	SENSOR4	13	GND	24	rs232-RX	12	NO Connect
14	SENSOR1-GND	18	RELAY1(-)			23	NO Connect
15	SENSOR2-GND	19	RELAY2(-)			25	NO Connect
16	SENSOR3-GND	21	GND				
17	SENSOR4-GND						

Refer to the picture below for connecting I [I/O Terminal Block] to the Alarm/Sensor/RS485 port, which is at the back panel of the VCD 316 system. First, connect RS485~R1B to the upper part and Sensor1~GND to the lower part.



[Upper part of I/O Terminal Block]

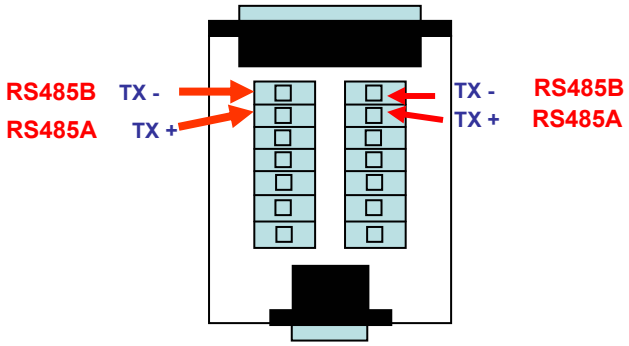


[Lower part of I/O Terminal Block]

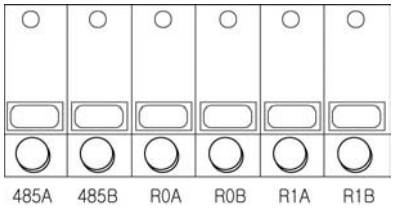
2.4 PTZ CONNECTIONS

Physical connections.
The RS485 connection supports up to 1000 feet. That will depend on your cable gauge and distance. You can use twisted pair cable .If you have multiple PTZ cameras connect the data cable in parallel mode and make sure to assign different a address ID to each one.

VCD304, VCD308. Alarm Block configuration



VCD316. Upper port of I/O Terminal Block



TX+ TX-
RS485A RS485B

2.4.1. VGA Port
Use to connect a normal PC Monitor for local setup/surveillance.

2.4.2. LAN Port
Connect the RJ-45 jack of the LAN cable to the LAN port. The Network has to be TCP/IP base 10/100 Ethernet LAN (Local Area Network), Internet or exclusive line, and the IP address should be fixed. Consult your network administrator for proper network configuration.

2.4.3. Power Input
Connect to main power cord of the system.

Caution	Before plugging-in the power cord to the system, check if the power is in accordance with the system specification (Single Phase AC 115~230V)

2.4.4. Input Power Switch
Input power can be used in accordance with the user environment. Check input power before inputting power.

2.4.5. USB Port
Connect a USB storage device for image archiving or Firmware updating.

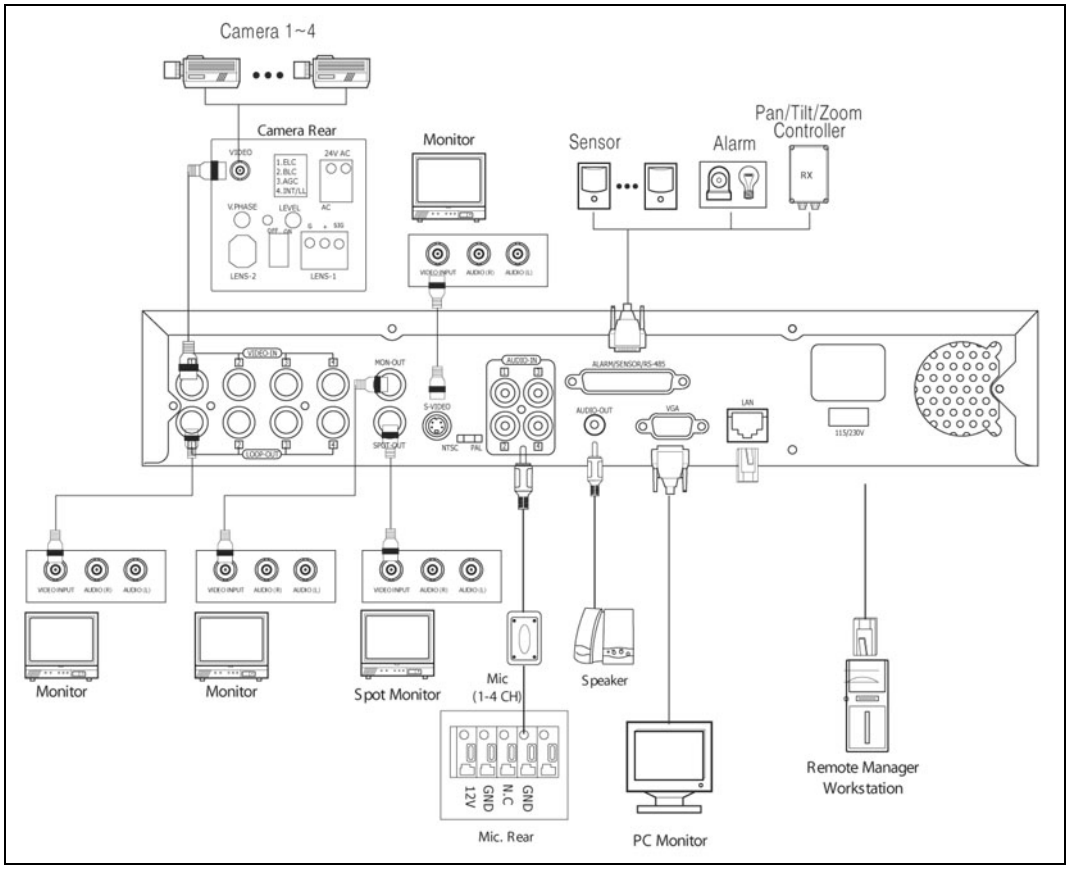
3. Installation

3.1 Connecting Peripheral Devices

This section describes how to efficiently hook up peripheral devices using with the VCD series. Below is a picture showing the connection for the VCD series with the peripheral devices.

Install the VCD series on a flat surface. If required, attach a rubber mount for installation. If a 19-inch rack is used, it is recommended to install the system on shelve and use 2.5~3U(1U=1.75 inch or 4.45 cm) space for proper ventilation.

Note Install the system in location with good ventilation to prevent overheating.



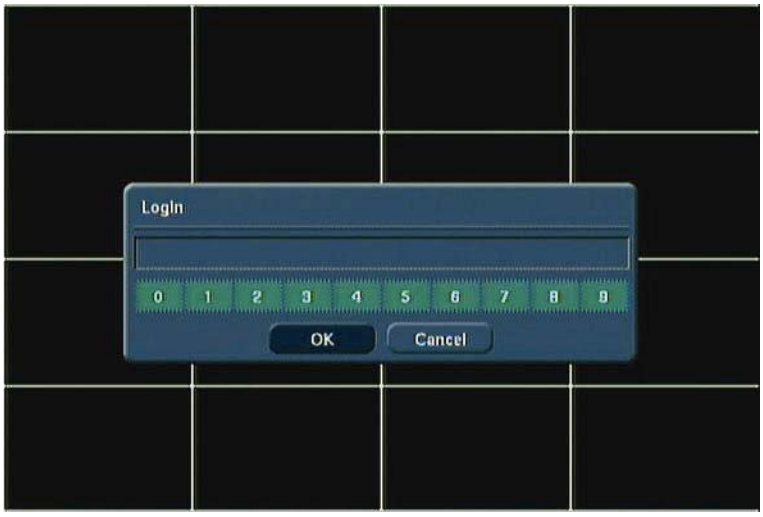
Caution Depending on the grounding, if the coaxial cable connecting to the camera has any risk or danger of electric shock,. shutdown the power on the system completely (unplug the power cable) before connecting video cable to BNC port.

3.2 System Startup and Shutdown

3.2.1. System Startup

After connecting all peripheral devices, connect the power cord to VCD series for system startup. The power will turn on automatically if there was abnormal shutdown, such as a power failure.

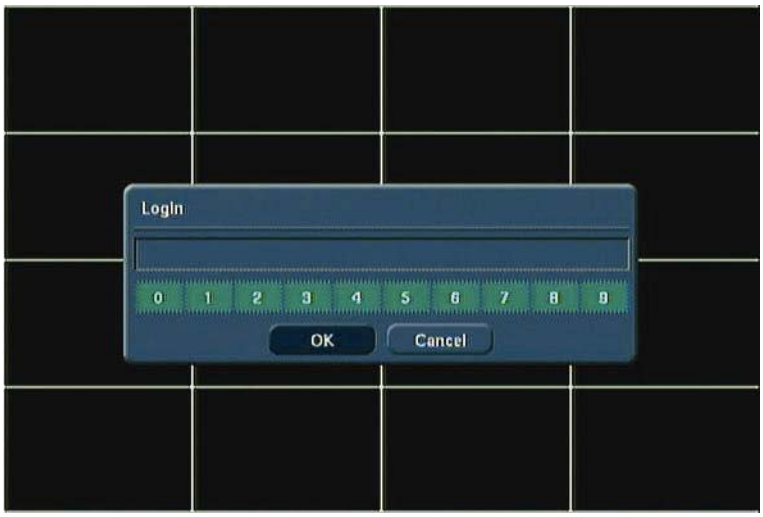
Register an admin. password after inputting the power and turning “ON” the system. This prevents others from modifying the settings. If a password is not required, press [OK], without entering the password.



Enter the Password and press the [OK] button. Re-enter once more to confirm.

Caution Please write down your password and keep in a safe spot in the event that it is forgotten.

A screen asking for an admin. password will appear when the system power is turned on for the first time. The Log In screen will appear. Several users can use one system, using different passwords. Refer to the “Recorder->Password” for the user setting method.



3.2.2. System Shutdown

To turn the power off, press the power button for proper shutdown of the system. Do not shutdown the power by pulling the power plug.

The message below will appear when the [Power] button is pressed to shutdown the system.

Press the [Yes] button and the confirmation admin password will appear. Enter the proper password and press the [OK] button to shutdown the system safely.

3.2.3. Countermeasures after abnormal shutdown

VCD series has been designed to operate for long periods without a problem.

The operation of the system can be locked up, when major parts, (such as a hard disk) function abnormally due to external electric shock, physical damage, or other various reasons.
The system stops operating during abnormal situations, and the internal watchdog circuit is activated in order to reset the system for rebooting within 2 minutes. The system will then recover normally. It will also automatically reboot even when there is a power failure. However, if major parts (such as a hard disk) are physically damaged, it is impossible to recover normally. This will cause continuous rebooting by watchdog or deadlock without reset.

Countermeasures for abnormal discontinuation are as follows.

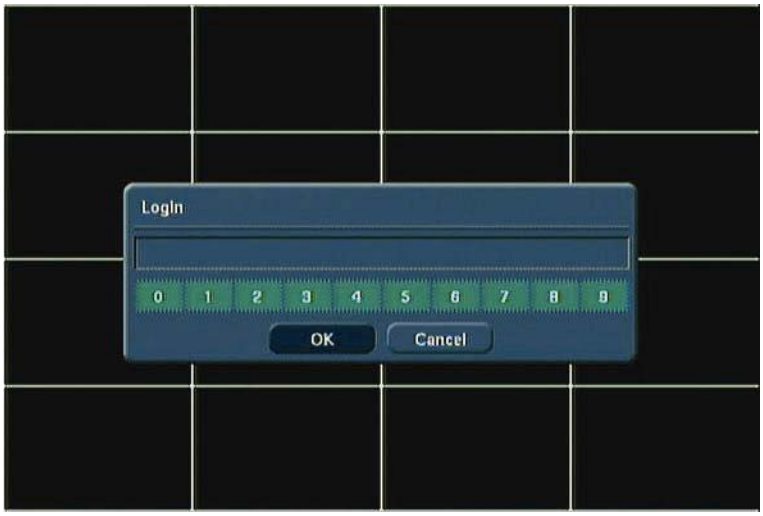
1. If the power cannot be turned off, turn off by pulling the power cord.
2. Wait for about 10 seconds and then reconnect the power. Ensure the system is functioning properly.
3. Consult your dealer if the system is not functioning properly after reconnecting power.

4. Operation

4.1 Log In

The VCD series has various on screen menu settings. The administrator can set the system password and <User> to prevent unauthorized changes to setting values and alteration to recorded files.

You must log in with your password to access the menu setup.



4.2 Real time Live Mode

Real time live image can be seen by a simple button operation after inputting the power.

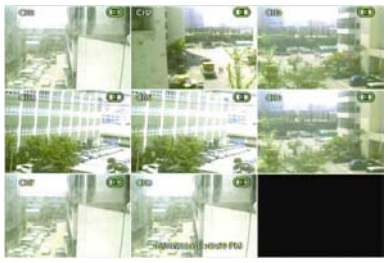
The images can be seen in real time by 1, 4, 9, 10, 16 and PIP screen. Whenever the button on the front panel or IR remote controller [□/⊞] is pressed, the screen will change in 1 -> PIP -> 4 -> 9 -> 10-> 16 channels in sequence. To change the channel from 1 screen mode, press the left/right arrow buttons on the front panel or IR remote controller.

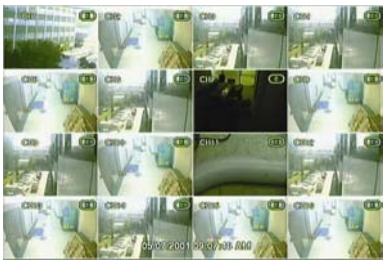
4.2.1. Screen Configuration

[1 Screen Mode]

[PIP Screen]

[4 Screen Mode]





Above is typical screen with displayed items. Press the [OSD] button on the front panel or IR Remote Controller to control the display of OSD. Whenever the button is pressed, the OSD display will toggle between appearance and disappearance.

The following is the explanation of each item displayed on the screen.

1. Channel Name: Shows camera title of the location. Refer to “Setting->Camera-Common” to input camera location.
2. Recording Status: Indicates present recording, recording mode, camera information, such as PTZ and icons for activating motion and alarm according to the schedules.
3. Date and Time: Indicates present date and time of the system. When the recorded data is played back, it indicates the date and time of the recorded time displayed.
4. PIP: PIP screen will be indicated as one of the multiple screens, and will appear when the digital zoom is used in full screen mode. Digital zoom is used to enlarge or decrease the screen image size when the digital zoom button of the remote controller is used.

4.2.2. See Operating Status

In real time live mode, icons or messages will be indicated on the screen to notify the system mode or status.

Below are the icon categories, which are indicated on the monitor.

◀◀	Fast Backward Playback (Indicates Times: X2, X4, X8, X16, X32)	((•))	Alarm
◀|	Playback Backward Frame by Frame	PRE	Smart Alarm. Pre-Alarm for HDD error
||	Stop / Pause	ALM	Alarm Activating Channel
▶	Playback	MOT	Motion Detecting Channel
|▶	Playback Forward Frame by Frame	AUD	Audio Activating
▶▶	Fast Forward Playback (Indicates : X2, X4, X8, X16, X32)	PTZ	P/T/Z Control Activating
SEQ	Automatic Screen Sequence	C	Continuous Recording (c)
🔍	Using Zoom Function	M	Motion Detection Recording (m)
PTZ	Using PTZ Function	A	Audio Activating Recording (a)
		C+A	Continuous + Alarm Activating Recording (c+a)
		M+A	Motion Detection + Alarm Activating Recording (m+a)
		C+M	Continuous + Motion Detection Recording

While Alarm Activates

While Using Digital Zoom Functions

Note When an alarm occurs in the connected channel, the [Alarm] icon will appear on the right bottom side of the screen. To find out which camera had an alarm activation, go back to " Live" and see the alarm icon indicated on the right bottom side of each channel.

4.3 Recording Image Playback Mode

To search recorded images of the VCD series, the user will require selecting the date and time to search data easily.

4.3.1. Playback Recording Images

To playback recorded images, press the Playback button from the Front Panel or IR Remote Controller. The latest recorded image will begin playback.

It is easy to use the Front Panel's Jog/Shuttle to playback recording files. Turn the Jog ring and the recorded files can be seen backwards or forwards frame by frame. Turn the Shuttle ring and the playback speed can be controlled 2, 4, 8, 16, 32 times while playing backwards or forwards.

The below picture is when the playback speed is 2 times.

4.4 Search Recording Image

4.4.1. Calendar Search

The user can select date and time to search for a certain file within the recorded image. Press the [Search] button of the IR Remote Controller and the Search Menu will be indicated on the screen below.

Below is the sequence to search date and time.

1. Select the date with recorded image by clicking the calendar with the arrow button. The date with the recorded image will be indicated in gray.
2. Move the arrow button to the date desired before pressing the [Enter] button of the Front Panel or IR Remote Controller.
3. Move the cursor to the time graph below for the desired hour range.
4. From the minute unit graph, select the minute.
5. Move the cursor and press the [OK] button, the recorded image for the corresponding time will be recalled by the pause state. Press the [Play] button to see the playback of the recorded image.

4.4.2. Search Date/ Time

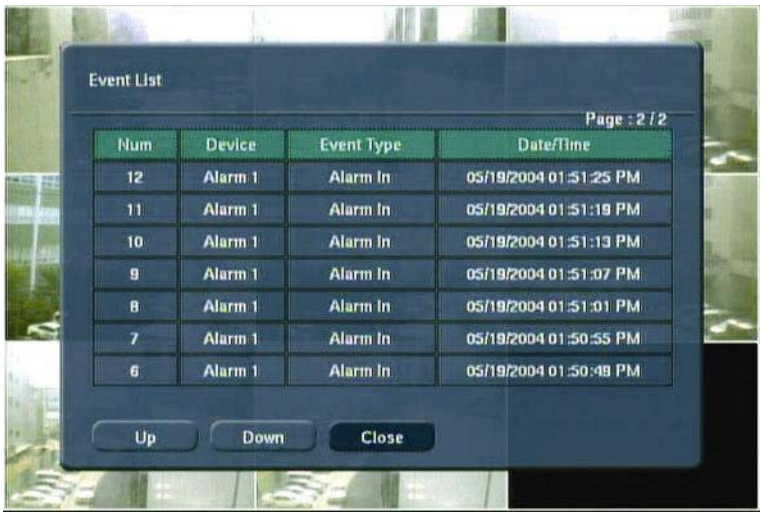
Enter the desired date and time for the user to playback the recorded image.
Select [Search->Date/Time Search] category and the screen will appear as shown below.

Use the arrow button to move to each day/month/year and time (hour:min:secs AM/PM) category for entering date and time.

Enter the date and time before pressing the [OK] button and the picture will appear as shown below to show the image of the searched date/time. If the image does not appear and there is no recorded image, press the [▸] button to playback the recorded images.

4.4.3. Event Search

The Event Search function is used to find a particular event, quickly and easily.



To see a particular event of activated time, move the arrow button on the Front Panel or Remote Controller to the desired time range.

The following categories may be indicated on the Event Viewer.

1. Alarm by Sensor
2. Alarm by Motion
3. Alarm by Video Loss

Select the time and press the [Enter] or [▸] button of the Front Panel or IR Remote Controller, to playback the image of the time with activating event.

4.4.4. Go to the First

Go to the first screen of the recorded image. This is the oldest image recorded.

4.4.5. Go to the Last

Go to the last screen of the recorded image. This is the latest image recorded.

5. Setting

To operate the VCD series system, appropriate setting values in the setting menu are necessary. Users can either input or change the settings values listed in the table below.

Main Classification	Sub Classification	Setting Category	Default
Recorder	General	Resolution	352x240
		Sequence Dwell	3
		Spot Dwell	3
		IR Remote Controller	00
		Language	English
	Date & Time	Date and Time	
		Date Format	MM/DD/YYYY
		Time Format	AM/PM
		Daylight Saving	US
	Backup	Device	
		From	
		To	
		Size	
	Disk Format	HDD Disk	
		Size	
	Passwords	Admin	
		User1~5 / Default	
	Log Off		
Camera	Common	Title	CHn
		Security Mode	Off
		Show Title	Security
		Auto Deleting	None
	Recording	IPS	30
		Quality	Standard
		Sensitive	80
		Area	전체 선택, (Tracking : Off)
		Audio	None
		Record	ON
	Schedule	Select Camera	
	Color	Bright	0
		Contrast	0
		Color	0
		Tint	0
		Sharp	0
		AGC	On
	PTZ	Protocol	None
		Address	0
	Audio	Audio On/Off	Off
		Two Way Audio	Off
Alarm	Alarm In/Out	On/Off	Off
		Camera	None
		Out	None
		IPS	30
		Mode	Set
		Dwell	5 sec
		Pre-Alarm	0 sec
		Type	N/O

Main Classification	Sub Classification	Setting Category	Default
Alarm	Motion Alarm	On/Off	Off
		Out	None
		IPS	30
		Dwell	5 sec
		Pre-Alarm	0 sec
	Video Loss	On/Off	Off
		Alarm Out	None
		Dwell	5 sec
		Pre-Alarm	0 sec
	Smart Alarm	Smart Alarm	On
		Alarm Out	1
		Dwell Time	
Network	IP Setting	Type	LAN
		IP Address	192.168.000.XXX (MAC Address 최하위 값)
		Subnet	255.255.255.000
		Gateway	192.168.000.001
		Mac Address	
		Band Width Limit	
	Dynamic IP Server	Dynamic IP Server	220.73.179.38
		TCP Port	43300
		UDP Port	11000
	Event Notification	Notification Server	
		Email Notify	
		Email List	
		Host Name	
		SMTP Server	
		SMTP ID	
		SMTP Password	
System	System Information	Signal System	NTSC
		Software Version	
		Firmware Version	
		Disk Usage	
		IP Address	
		MAC Address	
	System Log	Log Number	
		Log Type	
		Date/Time	
	System Upgrade	Upgrade From	CD-RW or USB
		Device	
		Host Address	
		Current Version	
		New Version	
	Import Setup	Device	
		Current Version	
		New Version	
	Export Setup	Device	
		Current Version	
	Factory Default		

5.1 Recorder – General

Set general user environment for the system.

Use the button of the Front Panel or Remote Controller to select the category, and press the [Enter] button. A detailed menu of each category will appear.

5.1.1. Resolution

Select there solution for the recording image. The resolution is the required horizontal and vertical pixel number of a pages. The resolution is indicated as (horizontal) X (vertical) pixel number. Select one setting from 352×240, 704×240, 704×480. Default is 352×240. As the resolution number increases, the picture quality is higher. In fact, 352×240 is the VHS level. When a higher quality camera is used, 704×480 shows the DVD level picture quality. When the picture quality gets higher, the storage capacity is bigger and the recording period will be shorter. Therefore, selecting the appropriate resolution according to the situation is important.

Note The storage capacity for the same image will differ. That is, images per byte is a ratio of the image dimensions (horizontal x vertical), thus 704×240 is twice the size of 352×240 and 704×480 takes about 4 times the storage capacity.
Therefore, when high resolution is selected for the same period, the storage capacity taken up will be larger, and the storage period will be shorter on the same Hard disk capacity.

Note For the same resolution, the frame per byte size will vary according to the recorded picture quality setting, movement, and complexity of the image and noise. Therefore, the total recording period will differ hugely according to the image particularity.

- 352×240 : Standard Quality Standard 3~5KB
- 704×240 : Standard Quality Standard 5~10KB
- 704×480 : Standard Quality Standard 10~20KB

5.1.2. Sequence Dwell

When real time image mode is in automatic sequencing mode, set the time interval between each screen sequence. Sequence Dwell function is for the user to select certain time intervals between each page.
For example, when a sequence function is activated on the 1-screen mode, the next screen will be shown in sequence according to the set time interval. By pressing the [SEQ] button on the Front Panel or Remote Controller activation will occur. Possible setting limits are 1~60secs, and the default is 3 seconds.

Press the [Select Camera] button and the following screen will appear.
The user can select automatic channel sequencing. Select [All], and all the channels will be selected. The user can select the channels to see the screen sequencing by choosing the channel numbers from the Menu.

5.1.3. Spot-out Dwell

Set the screen sequencing of the connected monitor, which has been connected to the product by external output.
Select setting are 1~60secs. The external output cannot use other functions except when seeing the image on the screen.

Press the [Select Camera] button and the following screen will appear.
The user can select the cameras to see as an external output. Select [All], and all the channels will be selected. The user can select the channels to see the screen sequencing, by choosing the channel numbers from the Menu.

5.1.4. IR Remote Controller

An IR Remote Controller ID can control several units at once using one remote controller. Thus, an ID will be required to set the control for each unit with one Remote Controller.
Below is the method to set the ID of the IR Remote Controller. Default ID is 00.

1. Insert battery into IR Remote Controller. (AAA Size×2)
2. Press the [F1] and [F2] buttons of the IR Remote Controller together for more than 2 seconds.
3. Check if the LED lights up on the IR Remote Controller.
4. Press the ID Number between 00~99 by using the number button of the IR Remote Controller (ex: 03, 55).
5. By using the direction key on the Front Panel, designate the ID number the same as what's set on the IR Remote Controller
6. Save the ID setting by pressing the [OK] button on the screen.

Note	All the systems have the same ID as the default when it is out from the factory. Therefore, if the same default value is used, one IR Remote Controller will control several systems at once. To prevent this, it is advisable to set your own ID for each system. It is easy to change the ID of the IR Remote Controller. The user can change the Remote Controller ID to control several systems separately.

5.1.5. Language

The VCD series support multi-languages. According to the environment, the user can select several languages (presently supports Chinese, English and Japanese). Select the language and the entire menu will change to the selected language. The screens below shows that Korean and Japanese have been selected.

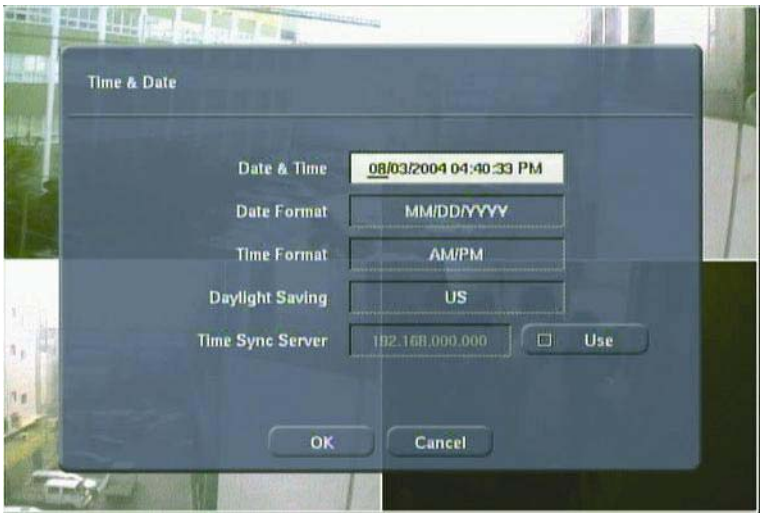
[Korean Menu Screen]

[Japanese Menu Screen]

5.2 Recorder-Time & Date

Set the date and time of the system. Below is the setting method to set the date and time.

1. Use the up and down button on the Front Panel or IR Remote Controller to move to the desired category.
2. Press the [Enter] button on the Front Panel or IR Remote Controller to start editing.
3. Allocate the cursor by using the left and right buttons on the Front Panel or IR Remote Controller for editing, and use the up and down button to change the value.
4. Press the [Enter] button on the Front Panel or IR Remote Controller to confirm the editing .



5.2.1. Date and Time

Insert the exact date and time. Press the [Enter] button and the state will change to the input date. Input the time and date of the system accurately, as it plays an important role in solving any problem with recorded image or event log.

The current time and date is stored in each recorded image with precision, as they are displayed during playback.
Be cautious that, if the time and date stored in recorded images are wrong, they cannot be altered afterwards, due to encryption.

Note Users can change the time and date in the future without any problem. However, difficulty arises when changing it to a previous date and time (the same files might exist in the hard disk). Therefore, under complex record settings, unexpected problems might arise in the system.

Note When a long time has elapsed after setting the date/time, it can be distorted. To maintain the exact time, the date/time setting should be set once a month.

5.2.2. Date Format

Set the date display format. Use the arrow button to select the desired format in the date display format.

5.2.3. Time Format

Set the time display format. Time format can be selected either by a 24-hour or 12-hour base (AM or PM).

5.2.4. Daylight Saving

Select the daylight saving time for each country. Daylight saving time setting is automatically processed when the country is selected. Supported countries are displayed in the table below.

No.	Country	Representative Region	No.	Country	Representative Region
1	None	GMT	14	Italy	Europe/Rome
2	Australia	Australia/Melbourne	15	Mexico	Mexico/General
3	Austria	Europe/Vienna	16	Holland	Europe/Amsterdam
4	Belgium	Europe/Brussels	17	Norway	Europe/Oslo
5	Brazil	Brazil/East	18	Poland	Europe/Warsaw
6	Canada	Canada/Eastern	19	Portugal	Portugal
7	Denmark	Europe/Copenhagen	20	Russia	Moscow
8	Egypt	Egypt	21	Slovakia	Slovakia
9	Finland	Europe/Helsinki	22	Spain	Europe/Madrid
10	France	Europe/Paris	23	Sweden	Europe/Stockholm
11	Germany	Europe/Berlin	24	Switzerland	Europe/Zurich
12	Greece	Europe/Athens	25	UK	Europe/London
13	Israel	Israel	26	US	US/Eastern

5.2.5. Time Sync Server

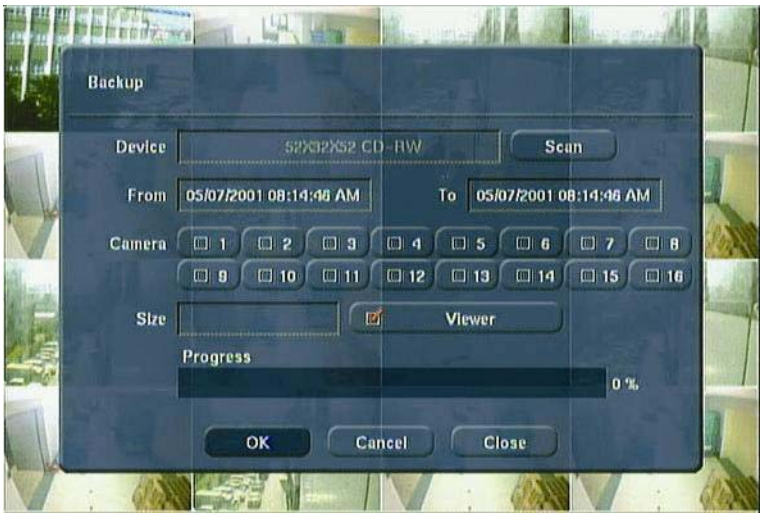
This is a function that synchronizes the time of the DVR to be exactly the same as the server, without setting the time for each DVR. Tick the [USE] category and enter the server IP address of the connected server.
The time will be synchronized every hour.

5.3 Recorder-Backup

There are two ways to backup a recorded date in the VCD series. The first method is using the CD-RW Drive (selected specs) to backup by CD. The second method is using the USB external storage device for backup.

Use the CD-RW Drive or USB Device attached to the VCD series to backup the recorded images.
Press the [Backup] button on the IR Remote Controller and the following screen will appear.

Note	The specifications on the CD-RW Drive will be shown differently, according to the model. Refer to the CD-RW Drive manual for detailed information.



An error message will appear when the CD-RW is not installed or not properly connected.

Note	Consult with your vendor if detailed information on the CD-RW is required.

Note	The following is a list of media supported in the internal CD-RW of the VCD series. **CD-R :** Acer, AMT, CMC, Kodak, LeadData, Maxell, Mitsubishi Chemical, Mitsui, Nan Ya, Philips, Princo, Prodisc, Ricoh, Ritek, Sony, Taiyo Yuden, TDK, Verbatim, Yamaha **CD-RW :** Acer, AMT, CMC, Digimaster, Maxell, MaxMax, Melody, Mitsubishi Chemical, Philips, Plextor, Prodisc, Ricoh, Ritek, Sony, TDK, Traxdata, Verbatim, Yamaha

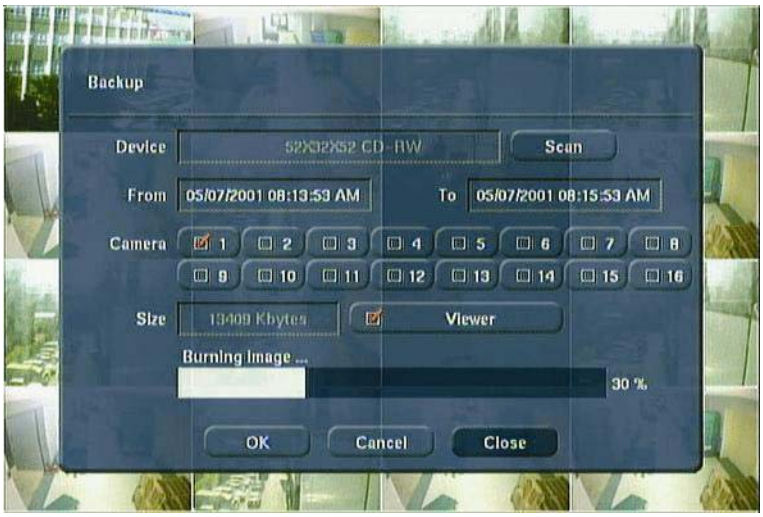
Enter each item on the screen below to backup recorded images.

1. Select the record start time for backup.
2. Select the record end time for backup.
3. Select the channels to backup. The user can select several channels together, but if the backup data capacity is more than the storage capacity, backup will not proceed. Select the channel by using the cursor and pressing the [Enter] button.
4. Select Viewer to write the Viewer program to the CD. Files created in the backup program can be viewed in either the Viewer or in Remote Agent.
5. After selecting all the items, press the [OK] button to proceed to the next screen.

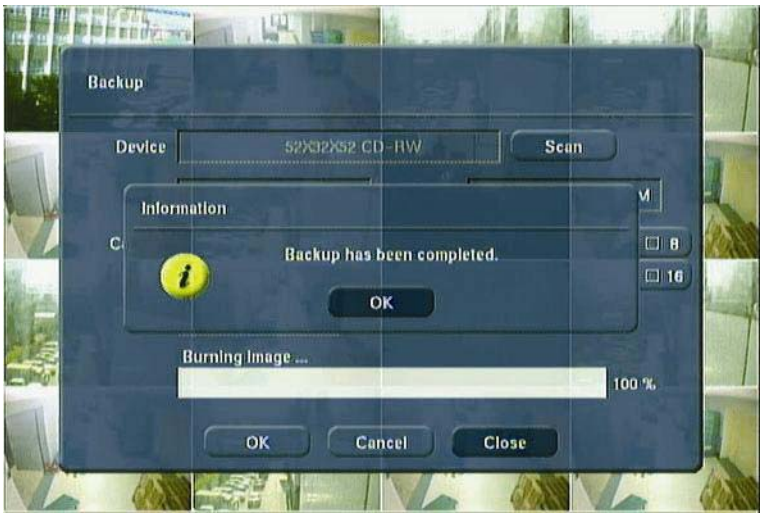
The backup program will:

- Extract the file for backup.

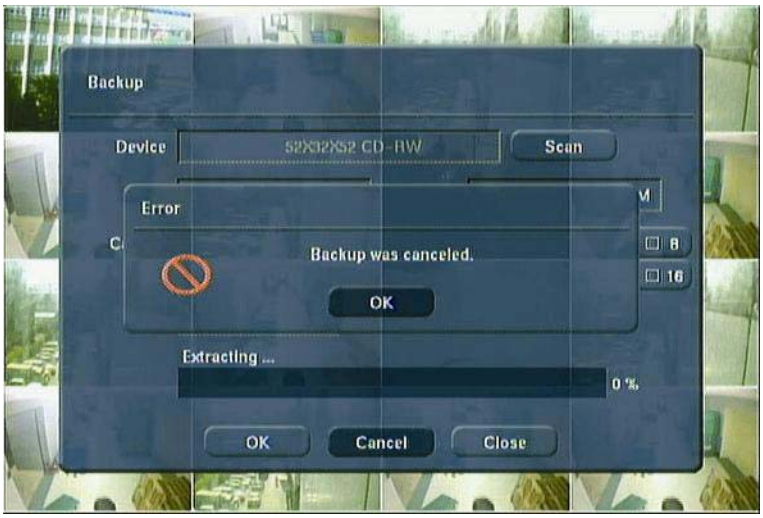
- Copy the file to a backup device.



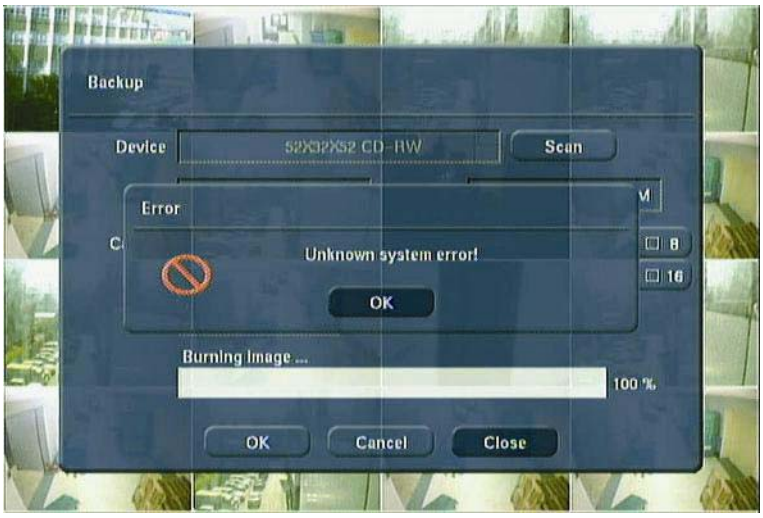
When the backup has been done properly, the message will appear below.



If the operation was canceled during backup, the error message will appear. below



If the CD-R Media (Blank CD) for backup has not been inserted on the drive, the following error message will appear below.



If the space of the CD-R is too small, or the storage capacity is too huge, the following error message will appear. You can prepare a larger capacity CD-R or decrease the time of the backup image.

5.4 Recorder-Disk Format

Supports the attached HDD format of the system.

Note The HDD format is not supported by the HDD that's in use, as surveillance will be vulnerable.

Select the Disk Format category and the following screen will appear.
Select the HDD to format and check the capacity. Press the [OK] button and the formatting will proceed.

The HDD cannot be formatted when there is only one. It can be formatted when the HDD is installed for the first time.
An error message will appear below, preceding the format. Thus, check the user and installation status.

5.5 Deleting hard drive data and setup configuration

Note: This feature is available from firmware version 1.14 or above.

Procedure

1. On the front panel press the left arrow  and the Screen Mode Selection button □/⊞ simultaneously.
   For more information see page 2..

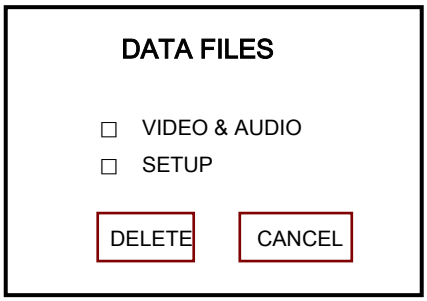
2. A menu will appear on the screen asking to enter your admin password.

Enter your admin password and press OK

3. Select **YES** to continue or **NO** to stop the procedure.

QUESTION
DO YOUR WANT TO DELETE ALL THE SAVED DATA?
YES **NO**

4. The last screen will show the following information:



OPTIONS

a. VIDEO & AUDIO. **Check on** the **Video & audio** option to delete data from the hard drive (s)
If this option is selected, the unit will take some time to delete all the files. The time will depend on the hard drive size and the amount of data

b. SETUP . **Check on** the **SETUP** option to delete the DVR configuration.

If only the setup is selected, it will take about a minute to complete the process and the unit will restart when finished. Once the unit has restarted, the DVR will ask you to enter a new password and click OK.

5.6 Recorder-Passwords

Set the system passwords for <Admin> and <User>. <Admin> can do the setting for the password only. Each user has to input a designated password to log-on the system. Set the password after selecting the [Admin] and [User] by pressing the arrow button.

5.6.1. User

Select the user to set the password. The administrator can select the <User> password and the entire category. The maximum number of <User> is five (5), and the settings can be done differently for all.

5.6.2. Password

Select the password to change the maximum number of characters to four (4). The following screen will appear below when the [Enter] button on [New] category is pressed. Enter the desired password and press the [OK] button to save.

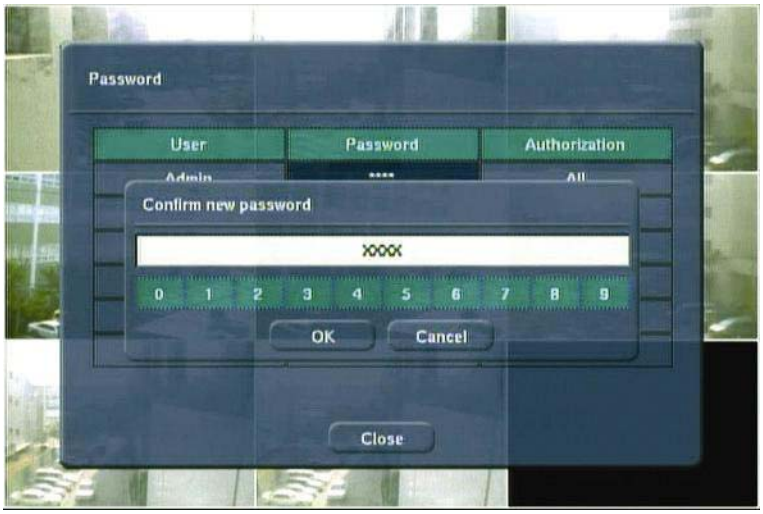
Note To go inside the editing state, use the [Enter] button on the Front Panel or IR Remote Controller and insert the number by using the number button on the remote controller. After the editing is finished, to enter the password, use the [Enter] button on the Front Panel or IR Remote Controller again.

Press the [Enter] button and the color of the password input box will change. Use the number button to move the cursor, and press the [Enter] button before inserting the number.

To insert the password by using the remote controller's number button, press the [Enter] button on the input column. The column will change to white, and a password can be set by using the number button.

Enter a new password.

After entering the password, re-enter the same password again.



When the entered password is complete, a message will appear informing you that the password had been entered successfully.

An error message will appear when the password is inputted incorrectly. After setting the password, do not forget to inform other users.

5.6.3. Authorization

This is the category to set the authorization of the <User>. The admin. can use the entire category, but the settings can be set differently, depending on the <User>. Press the [Permission] button and the following screen will be displayed. Select categories used by each user and press the [Enter] button to check the categories.

The authorization of each category is as following.

1) Power Off : The power of the system can be on and off.
2) Playback : Recorded image can be played back.
3) Setup : Each category can be set at the system setup.
4) Camera : Only selected camera images can be seen, depending on the <User>.

5.6.4. Default screen is all cameras are un-checked

The image of the camera can be shown on the screen once the user login is selected. Press the [Authorization] button and following screen will appear. The user can check on the desired camera number. It will be applied after the login and the chosen images of the cameras can be seen. Select [All], and all the cameras will be selected.

5.7 Recorder-Log Off

Log-off <User>, who has been Log-on presently. Log-on by entering <User> or <Admin> authorized password, to activate system or to go inside the setting menu again. You must Log-off after changing the setting values so that no unauthorized activation can be done.

Log-off prevents admin. and user from using.
Press the [Power] button on the Front Panel or IR Remote Controller to shut down the system.

5.8 Camera-Common

5.8.1. Title

Input the camera title of the selected camera. The inputted camera title is displayed on the OSD (On-Screen Display) and is also displayed on the recorded files. When the file is played back on the system or remote site, the camera title will be indicated on the image file during playback.
The default camera title is “CH*n*” where *n* is the channel number. A maximum of 15 characters can be inserted, including capital/small letters, numbers or spaces.

To move to the next group of channels, press the [1-8] or [9-16] buttons.

The following screen shows a virtual keyboard to input letters.

The VCD series supports Multilanguage and special letters to input the camera name. There are language and special letters to input on each page.

The following method is used to input each language and special letters.

1) Check the channel to input camera name.
2) When the [UP] button is pressed, the page no. will go up. On the [Up] row, press [1] button and it will go up by one page, press the [10] button and it will go up by 10 pages, press the [100] button and it will go up by 100 pages.
3) Press the [Last] button and it will move to the last page.
4) Press the [Space] button to have space between letters.
5) The page number will go down whenever the buttons on the [Down] row is pressed. It is same as using the buttons on the [Up] line.
6) The [<-] button is pressed to erase the inputted letters.

Note Refer to " Appendix" for Multilanguage and special letter on each page.

5.8.2. Security Mode

Set the security mode of the image screen. When this mode is set up, the image cannot be shown on the monitor. If the recording is set; recording will be in progress, but will not be shown on the monitor.

5.8.3. Show Title

<Security Mode> or <Channel Name> can be selected, to be indicated on the monitor screen.

The picture below shows the set screen.

1) : [Security Mode : On], [Show Title : Security]
2) : [Security Mode : On], [Show Title : Hide]
3) : [Security Mode : On], [Show Title : Show]
4) : [Security Mode : Off], [Show Title : Show]

5.8.4. Auto Deleting

Set recording periods for each channel. Recording periods can be set from a minimum of 1 day to a maximum of 30 days. If the recording period is set as 30 days, the data after 30days will be deleted automatically. When 1 day is selected, it will be applied to the next day. To save the data for a long period, you must backup the data before automatic backup occurs.

Note The recorded data will not be deleted until the disk space is full, when it is set as None.

5.9 Camera-Recording

Set the desired environment related to the camera's usage. The screen below shows the settings related to the recordings.

5.9.1. IPS

Set a frame per second for recording an image connected to each camera. This cannot exceed NTSC: 30fps, PAL: 25fps. The remaining frame number is indicated at the bottom left of the screen whenever the frame number of each camera is modified.

5.9.2. Quality

Set the recording quality for the corresponding channel according to resolution set. The picture quality can be selected from 4 options: Highest, High, Standard, Low.
The setting value directly influences the byte size per image. For example, the byte size decreases as quality goes lower. In this case, blocking (mosaic) phenomena tends to appear, which the artifact is caused by high compression. In contrast, blocking phenomena disappears as quality goes higher. The required storage space per image increases, which leads to the shortening of the total recorded period. Therefore, consideration should be given to the recording period, importance of each camera image, and the quality of analog signals when setting the recording quality. If extending the recording period in high quality, refer to the next explanation on Sensitivity. The byte size decreases when the sensitivity setting decreases.

5.9.3. Sensitivity

Set the motion sensitivity value based on motion detection between 10~100. As the value gets higher, the movement will be saved without skipping. As the value gets lower, the value skips small movements to extend the recording period.
The default is 80, and it is recommended not to change, with the exception of special cases.

5.9.4. Area

Set the motion detection area. The default value is selected as an entire area when the motion detection area is selected. The movement will be detected according to the area selected. Motion detection will not be done if the area is not set.

.

Set the area by using the direction key on the Front Panel or the IR Remote Controller. The method to set the area is shown below.

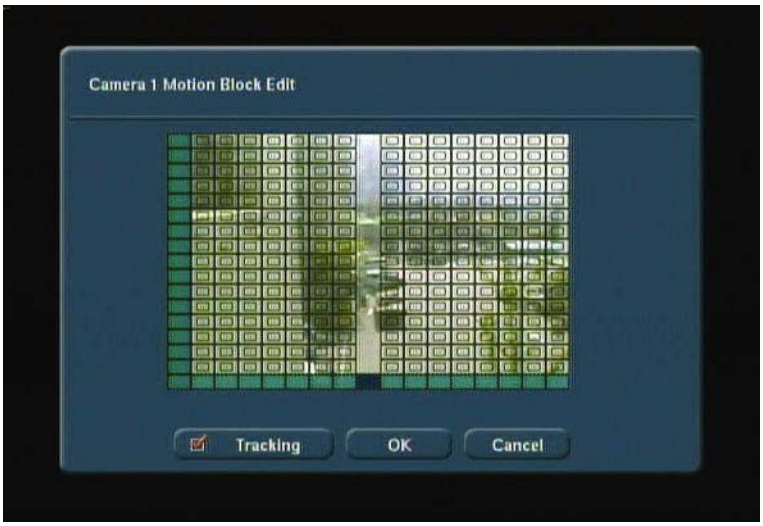
1) Use the cursor to move to the area for setting on the screen.

2) Press the [Enter] button and the color of the cursor will change. Use the direction key to increase the setting area.

3) Once the setting area is completed, press the [Enter] button for confirmation.

4) Press the [OK] button to save the contents of the settings.
5) Once the area is set, the box will be checked as the picture above.

6) To set the row and line press the green box on the screen corner.



7) To set the entire area, press the left bottom corner of the screen.

5.9.5. Tracking

Traces and indicates the movement detected on the area set. A yellow box will be indicated on the screen, whenever there is movement on the live display screen. Recording will not be influenced even though the [Tracking] function is not used.

5.9.6. Audio

Select the audio channel to use among the 4 audio input channels.

Note Use an amp-equipped device while connecting to the audio input/output device. Although audio is mapped from this menu, audio recording cannot be done if the audio is not " ON" from Camera-> Audio.

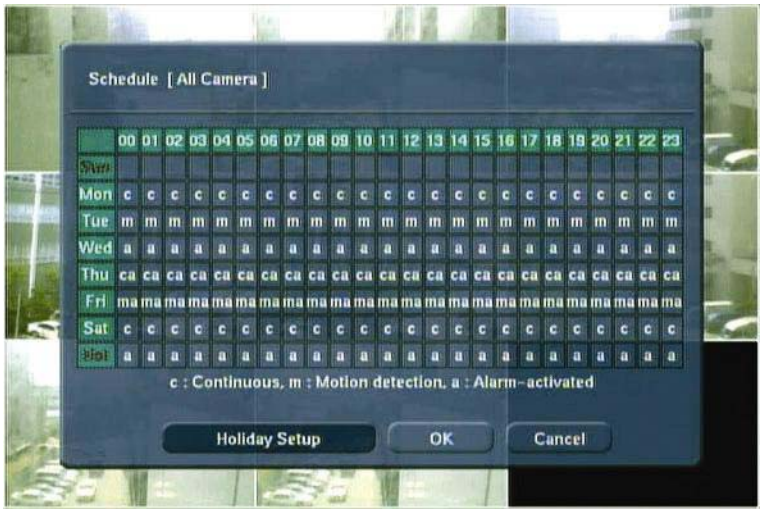
5.9.7. Record

Controls whether to record the channel connected or not. If recording is not required on the selected channel, even when the camera signal is inputted, you should set the recording of the corresponding channel [OFF]. Recording of the channel stops without pulling the camera BNC cable out. [ON] or [OFF] can be selected. The default is [ON].

5.10 Camera-Schedule

Set the recording schedule for each camera. Select the camera to set the schedule.

The following picture shows the status of schedule setup for all cameras. The number indicates the time. Recording schedule can be set per hour. The “initial” indicates the status of recording. The status of recording will be displayed on the upper right of each channel when the live channel is seen.



The contents for each initial is as following.

1) c: Continuous : Continuous recording
2) m: Motion detection : Motion detection recording
3) a: Alarm-activated : Alarm-activated recording
4) ca : Continuous + Alarm-activated recording
5) ma : Motion detection + Alarm-activated recording
6) cm: Continuous + Motion detection recording

Note

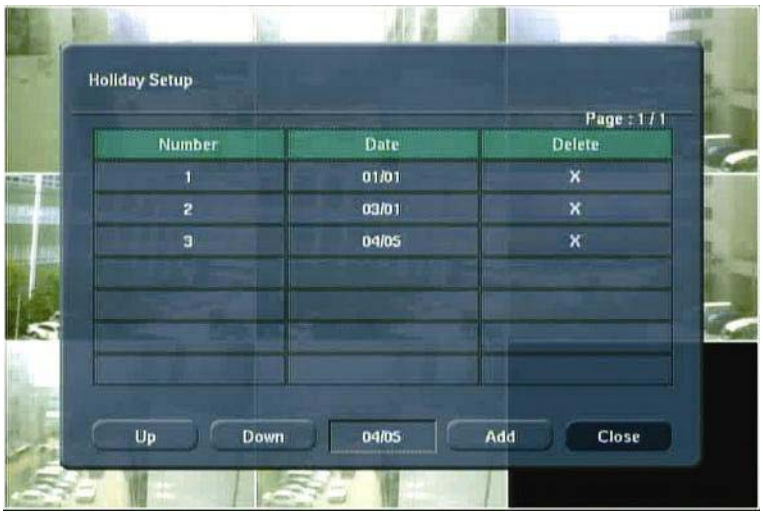
1. If the recording is done with ca or ma, the recording will be recorded in continuous or in motion detection. When the alarm activates, concentrated recording will be done according to the set IPS on the alarm.
2. If cm recording is done, the motion alarm must be turned On in order to record at the IPS set in the motion alarm menu (Setup→Alarm→Motion Alarm). See Appendix II 8.5 for details.

After pressing the [Holiday Setup] button, the screen below will be displayed.

Use this function when assigning other holidays, other than Saturday and Sunday. The method to assign a holiday is as followings.

1. Move cursor to 01/01 (month/day) on the center of bottom.
2. Put the cursor in the number section and input the month/date by pressing the [Up] and [Down] button on the Front Panel or IR Remote Controller.
3. After inputting the desired holiday date, press the [Add] button on the right side.
4. Check whether the assigned date has been inputted on the screen.
5. To move the screen, use the [Up] and [Down] buttons.
6. Close the screen by pressing the [Close] button and enter the schedule setup screen.

It will be included under Sat in Hol category when it is holiday. Set recording schedule from the category.



5.11 Camera-Color

Set the brightness, contrast, color and tint of the connected camera. Each setting value can be set – or + value from the present value.

5.11.1. Bright

Adjust the brightness (shades) of the channel. If the entire image is dark or bright to a great extent, adjust to the value.

5.11.2. Contrast

Adjust the contrast, which is a ratio of brightness to darkness for the image. Greater the value; bright side becomes brighter, and dark side becomes darker. If the value is increased to the extent where too much saturation is not observed in the image, higher contrast can be helpful to display the image vividly.

5.11.3. Color

Adjust the color density. In most cases, except for the deterioration of cameras or very low quality cameras, the adjustment of this value is not required.

5.11.4. Tint

Set the color hue of connected cameras. In most cases, except for the deterioration of cameras or very low quality cameras, the adjustment of this value is not required.

5.11.5. Sharp

Increase the clarity by increasing the sharpness of the image. It is efficient when objects blur, but it is not recommendable to use the setting value too high, as the picture quality will become lower.

5.11.6. AGC

This function increases the signal automatically in dark places, to brighten the picture. When it is OFF, the image will be shown as it is, and when it is ON, it will make a great change on the picture.

5.12 Camera- PTZ

Set the camera audio and P/T/Z environment.

5.12.1. Protocol

Set the protocol to control the P/T/Z controller connected to P/T/Z port on the back panel. P/T/Z controller is also called receiver or RX if it becomes separated from the camera. Default is NONE, which indicates that the P/T/Z controller protocol is not set. The protocol currently supported is shown below.

1	Ernitec	2400 baud rate	no parity	8bit	1 stop bit
2	Kalatel	9600 baud rate	no parity	8bit	1 stop bit
3	Panasonic	19200 baud rate	no parity	8bit	1 stop bit
4	Pelco D	2400 baud rate	no parity	8bit	1 stop bit
5	Pelco P	4800 baud rate	no parity	8bit	1 stop bit
6	Scc-641	9600 baud rate	no parity	8bit	1 stop bit
7	Sensormatic	2400 baud rate	no parity	8bit	1 stop bit
8	Smart Scan	9600 baud rate	even parity	8bit	1 stop bit
9	VC_C4	9600 baud rate	no parity	8bit	1 stop bit
10	Vicon	4800 baud rate	no parity	8bit	1 stop bit

New protocols added from firmware version 1.14 and above .

11	DXR-500	9600 baud rate	no parity	8bit	0 stop bit
12	MRX-1000	9600 baud rate	even parity	8bit	0 stop bit
13	Phillips GS	9600 baud rate	even parity	8bit	0 stop bit
14	AN200 RS-232C	9600 baud rate	no parity	8bit	1 stop bit
15	AN300 RS-232C	9600 baud rate	no parity	8bit	1 stop bit
16	Speed Dome Communications	9600 baud rate	no parity	8bit	1 stop bit
17	SCC-931T	9600 baud rate	even parity	8bit	0 stop bit
18	SRX-100A	9600 baud rate	even parity	8bit	0 stop bit
19	SRX-100B	9600 baud rate	even parity	8bit	0 stop bit
20	WDS-2308/2508	9600 baud rate	no parity	8bit	0 stop bit

Set the controller address correctly for each channel after setting the protocol.

5.12.2. Address

Set the P/T/Z driver address of the connected camera.

Check the below items for proper P/T/Z operation.

1. Check if the protocol of all P/T/Z controllers connected to the system are in accordance.
2. Check if the communication setting, including baud rate of all P/T/Z controllers are in accordance with the assigned value for that P/T/Z protocol.
3. Check if the address of all controllers are in accordance with the controller address assigned in the setting menu for that channel.
4. Check if the power of the P/T/Z controller is turned on.
5. Check if the wiring to P/T/Z controllers are correct.

5.13 Camera- Audio

Select whether or not to use audio recording. Select On/Off in the audio section for each camera.
To use the audio function, connect the audio system (speaker and microphone) when setting the system.

5.13.1. Two - Way Audio

The Two - Way Audio function is to hear voice and talk from both sides of the system and RemoteAgent. The Two - Way Audio function can be used only on one channel from the entire channels available. When the Two Way Audio function is used, the audio will not be recorded, even though the channel's Audio category has been set to record.

Note Speaker and microphone should be set up in the connecting system, and the PC connected to the RemoteAgent.

5.14 Alarm In/Out

This is the setting menu screen for the alarm-activated recording and camera, connected with the VCD series system.

5.14.1. On/Off

Select whether or not to activate the alarm. Press the [Enter] button and select On/Off.

5.14.2. Camera

Select camera channel number to connect with the alarm.

When the sensor activates, the image of the corresponding camera image will be recorded according to the frame set. Recording time of the sensor changes according to the sensor type and alarm schedule. It will change back to the previous status when recording is done.

5.14.3. Out
Select the connected number (1,2 or None) to use for activating the alarm.

5.14.4. IPS
Set the desired number of frames for the recording of the connected camera. Set the number of frames according to each camera. When a, ca, ma has been set on the schedule, the recording will be done according to the frames set on the IPS.

5.14.5. Mode
Select either Set or Duration depending on the desired alarm action.

Set:
Once the sensor is detected in this mode, the camera will be recorded according to the frames set during the setting time in the Dwell tab. That is, recording will be done during the Dwell period from the sensor input activation, even if the sensor is cut off.

Duration:
In this mode, the alarmed camera will be recorded while the sensor is activated.

Whenever the sensor is detected, the channel starts recording while other channels in the group stop recording. When the relay (output) for the sensor has been set, it will activate together with the sensor.

5.14.6. Dwell
Set the recording period from the start of the sensor input activation. During this period, the corresponding camera image will record according to the frame and alarm (relay) output set. The recording stops and the alarm output is turned off when the setting period has elapsed. Set the alarm-operating period (1~99 seconds).

5.14.7. Pre-Alarm
Set the recording time before perceiving the sensor input. Pre-Alarm time is the opposite of Dwell time. It intensively records the time before the alarm activates.
For example, If the Pre-Alarm is set for 20 seconds. If the alarms activates at 14:30:00 on 14th of February, the recording starts from 14:29:40 on 14th of Feb.

5.14.8. Type
Select the sensor type between N/O(Normal Open) and N/C(Normal Close), connecting to the alarm input plate. The circuit of the N/O type is usually open, and the activation of the sensor occurs at the time it is closed. The N/C type works the reverse way.

5.15 Alarm-Motion Alarm

Set the alarm activation, recording frame and time for motion detected on the camera image. This can be set while using the Motion Alarm.

5.15.1. On/Off
Select whether or not to activate the motion detection alarm for each channel.

5.15.2. Out
Select the connected number (1,2 or none) of outputs (relay) to use when the alarm activates.

5.15.3. IPS
Set the number of frames for the camera image connected while the alarm is activated. Each camera can be set for a different number of frames.

5.15.4. Dwell
Set the period of recording when motion ends after motion activates. This is different from the Dwell time in [Alarm In/Out] category. The Dwell time in [Motion Alarm] category is a period of recording from the point when the motion disappears after motion activation.

5.15.5. Pre-Alarm
Sets recording time just before perceiving alarm input. The Pre-Alarm time is the opposite of Dwell time, and records the time before motion activation.
For example, Pre-Alarm is set as 20 seconds. If the alarms activates at 14:30:00 on 14th of February, the recording starts from 14:29:40 on 14th of Feb.

5.16 Alarm-Video Loss

Set to display the alarm when the connected camera (BNC cable) is disconnected or has been pulled off accidentally.

5.16.1. On/Off

Select whether or not to use the Video Loss connected with each channel.

5.16.2. Alarm Out

Select the connected number (1,2 or number) to use when activating the alarm.

5.16.3. Dwell

Set the period for the alarm output while the Video Loss is activating.

5.16.4. Pre-Alarm

Set the recording time before perceiving the Video Loss. The Pre-Alarm time is the opposite of Dwell time, and records the time before the Video Loss activates.
For example, Pre-Alarm is set as 20 seconds. If the alarms activates at 14:30:00 on 14th of February, the recording starts from 14:29:40 on 14th of Feb.

5.17 Alarm-Smart Alarm

The user can set the Smart Alarm indication and alarm dwell time relating to the hard disk pre-hand before the error or problem occurs on the hard disk installed.

5.17.1. Smart Alarm

Select whether or not to use the Smart Alarm.

5.17.2. Alarm Out

Select the connection number (1, 2 or None) of outputs (relay) used while activating the alarm.

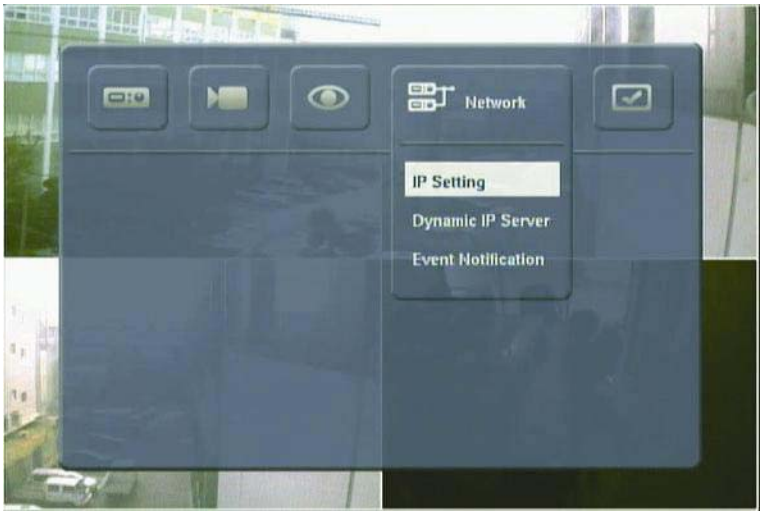
5.17.3. Dwell Time

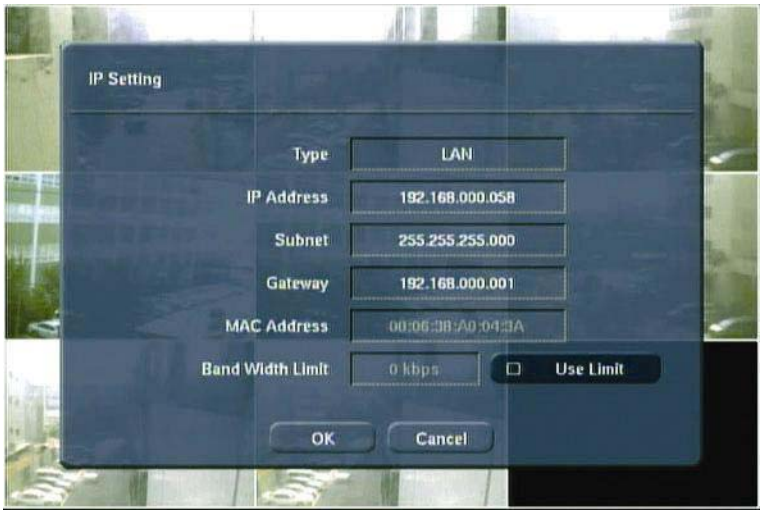
Set the alarm activating time shown on the screen when an error has occurred on the hard disk.

5.18 Network-IP Setting

Set the network environment of the system.
Input the numbers, using the direction keys or the numbered buttons on the remote control.

Note Consult your vendor if user wants to use a modem.





5.18.1. Type

Select the network connect type. Select either a LAN or DHCP.

5.18.2. IP Address

Input the IP address assigned to the VCD series system.

Note Use a fixed IP for the system IP.
For the system IP, use the IP that is not used by other PC's or DVR's.

5.18.3. Subnet

The Subnet Mask address recognizes the subnet to which the system belongs. The Default is 255.255.255.0. Consult a network administrator for more accurate information.

5.18.4. Gateway

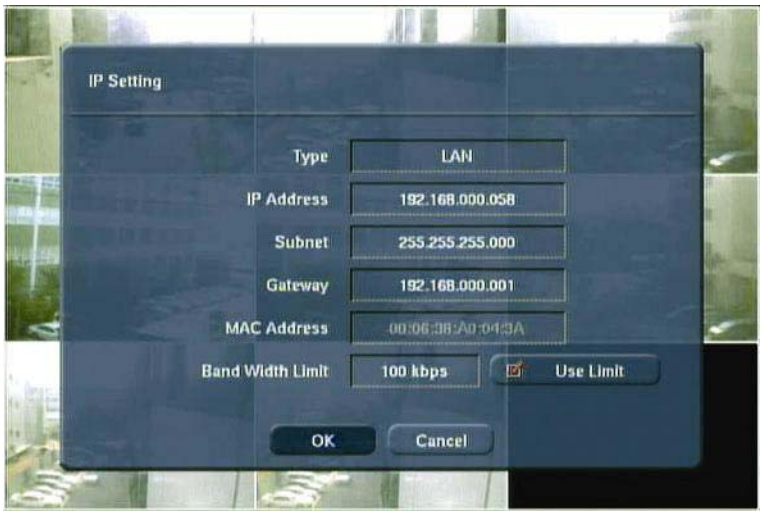
This is the IP address of the network router or gateway. It is required when the user wants to connect through the external router from the remote. The Default is 192.168.0.1.

5.18.5. MAC Address

The MAC address assigned to the VCD series system is displayed. The MAC Address cannot be modified.

5.18.6. Band Width Limit

Set the bandwidth when limiting network transmit speed. Check the [Use Limit] category and set the bandwidth. Below is the screen for setting the bandwidth.

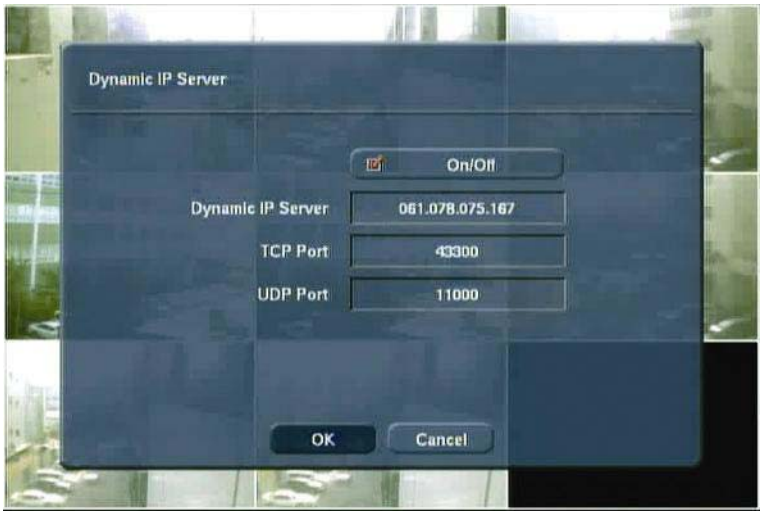


5.18.7. Web Port. Set the web port to be used to view the cameras on the web browser interface.

Default port is 2000. This feature is available only with firmware **version 1.21** and above.

5.19 Network-Dynamic IP Server

Set network environment of system.
The number buttons on the IR Remote Controller can be used as direction keys. Check the [On/Off] category.



5.19.1. Dynamic IP Server

Input IP address of the Dynamic IP Server .
Note. (Current IP address server – Since October 2005: IP address -> 069.090.141.017)

5.19.2. TCP Port

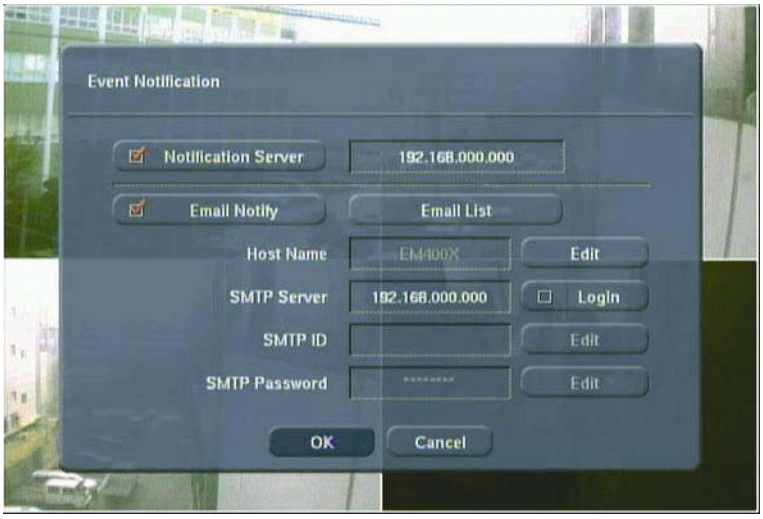
Input port number to communicate with the Dynamic IP Server. (Default: 43300)

5.19.3. UDP Port

Input UDP port number to communicate with the Dynamic IP Server. (Default: 11000)

5.20 Network-Event notification

Sends event notification content to the user's e-mail when an event activates.

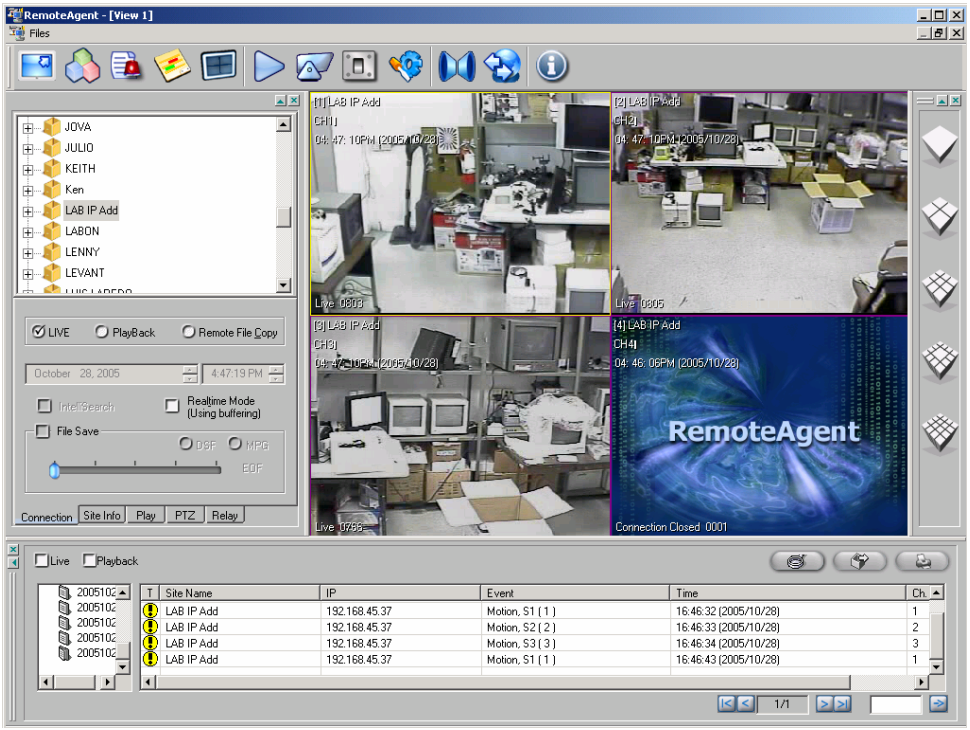


5.20.1. Notification Server

The user can be notified of an event activated, by getting the event through the PC with a RemoteAgent.
To use this function, tick the [Notification Sever] category.

Enter the IP address of the PC to get the image transmitted when there is an event.
To get the event, the PC with the RemoteAgent should be running.

When there is an event, the event will be sent to the RemoteAgent with log file shown below.



5.20.2. Email Notify

Tick the [Email Notify] category for the user to get the event by e-mail.
Press the [Email List] button and the menu to enter the e-mail address will appear.
Move the cursor to the [Email] input column, and press [Enter]. A virtual keyboard will appear, enabling the user to input the e-mail address. To add more e-mail addresses, enter the [Add] button.

5.20.3. Host Name

Enter the host name for the DVR when an event occurs. If several DVR' s are used, different names should be used to differentiate the DVR, when event happens. Press the [Edit] button and a virtual keyboard will appear to enter DVR' s name.

5.20.4. SMTP Server

Enter the servers IP to receive e-mail after an event activates on the image. Tick the [Login] before using the server ID and Password. Enter the SMTP ID and SMTP Password.

5.20.5. SMTP ID

Input the ID of the e-mail for the event-activating image. Press the [Edit] button and a virtual keyboard will appear to enter the ID. If User ID is not entered there should be no problem with image transmission.

5.20.6. SMTP Password

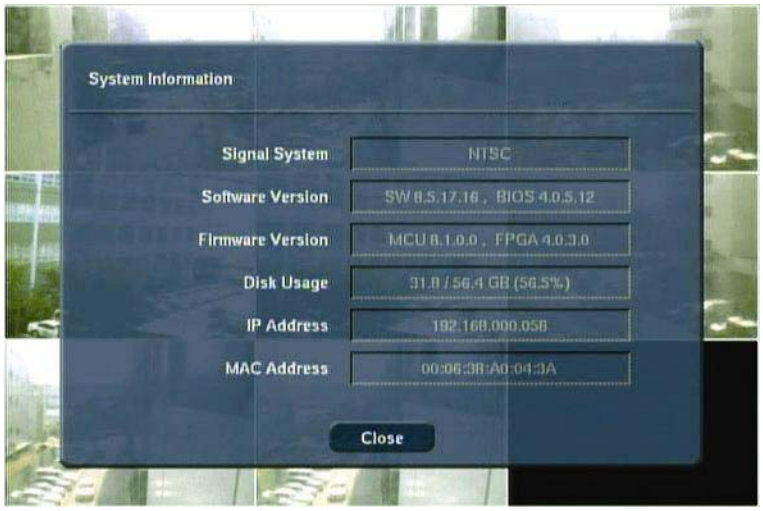
Input the ID of the SMTP server. Press the [Edit] button and a virtual keyboard will appear

Note	If there are many users, the SMTP server can be used without an ID and Password. Tick off [Login] before entering the SMTP IP .

5.21 System-System Information

This is the VCD series system information screen.

Note	The details in the information screen can be different, based on the model number and the system environment.



5.21.1. Signal System

The type of video signal is displayed: NTSC or PAL.

5.21.2. Software Version

Software version installed in the system is displayed.

5.21.3. Firmware Version

Firmware version of the system is displayed.

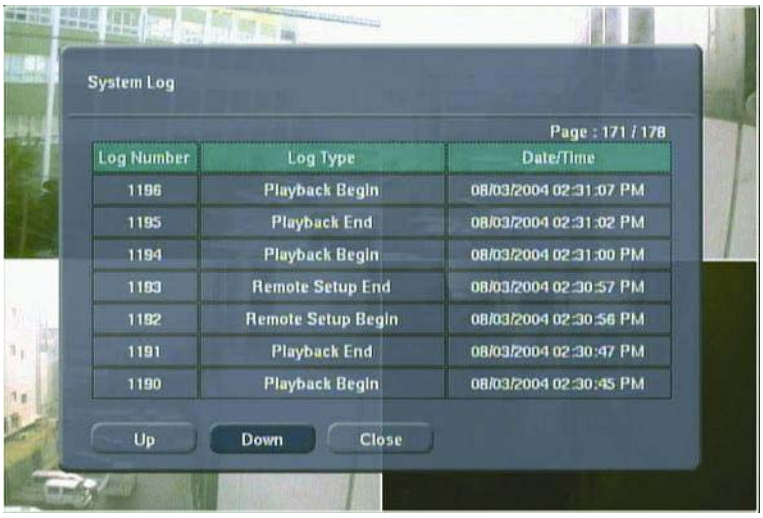
5.21.4. Disk Usage
Hard disk usage is displayed. (Used/Total HDD space (Remaining space%))

5.21.5. IP Address
IP address of the system is displayed.

5.21.6. MAC Address
MAC address of the system is displayed.

5.22 System-System Log

You can see the information being used in the VCD series system.
To see more information, move the cursor to the [Up/Down] button and press the [Enter] button. You can display previous information or move to the next page.



5.22.1. Log Type
These are the operations that happen in the system. The operations that happen in the system are briefly notified. Displayed Log Type are displayed.

1. Power On
2. Power Off
3. Record On
4. Record Off
5. Setup Begin
6. Setup End
7. Playback Begin
8. Playback End
9. Disk Full
10. System Time Change
11. Smart Alarm HDD1
12. Log On
13. Log Off

5.22.2. Date/Time
Display Date and time of operations that happens in the system.

5.23 System-System Upgrade

This screen appears during system upgrade. Upgrade can be done through LAN, CD or USB.

5.23.1. Upgrade From

Select media to upgrade when upgrading system. Media is displayed when the [Scan] button is pressed.

5.23.2. Device

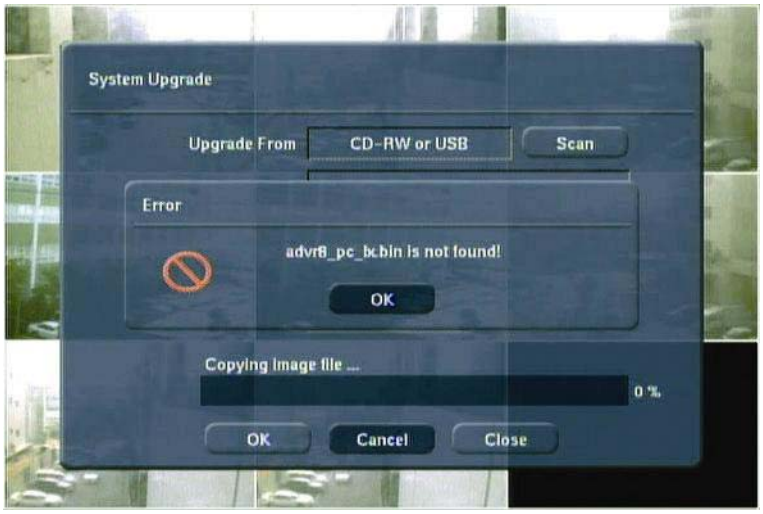
Displays the type of selected upgrade media.

To upgrade the media using the internal CD-RW follow these steps:

1. Prepare upgrade image CD.
2. Put the prepared CD inside the CD-RW of the system.
3. Select CD-ROM from the Select category on the upgrade menu. Select the [Start] button. Copy the upgrade file from the CD.

4. Upgrade copied file from the system.

5. When the upgrade is completed, without any error, no error message will be displayed, and the system will automatically reboot after the upgrade.



5.23.3. Host Address
Input the host server address when upgrading through the TFTP server

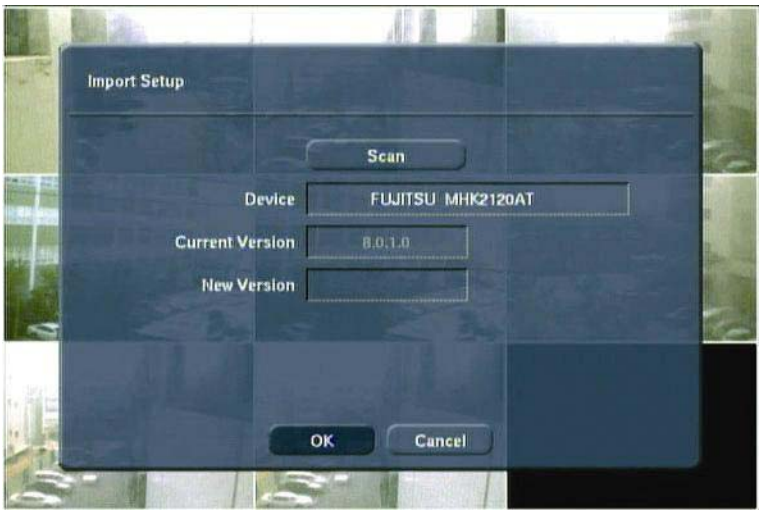
5.23.4. Current Version
Displays the version of the software that is being used in the system.

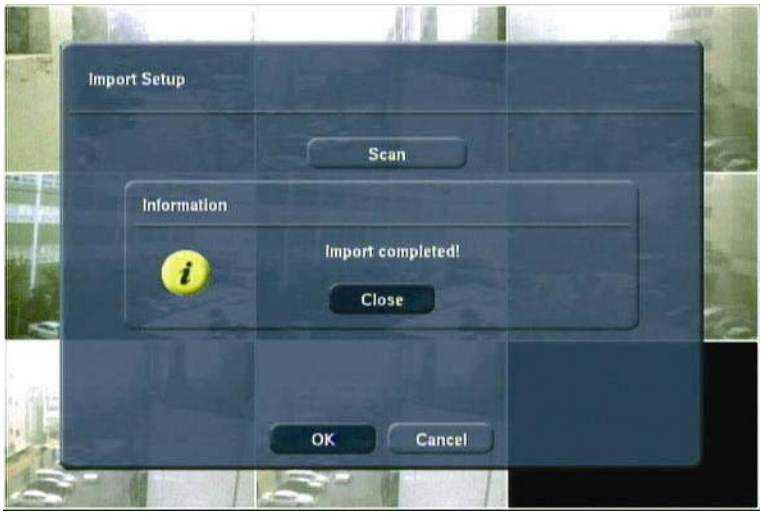
5.23.5. New Version
Displays the version of the software that you want to set in the system.

5.23.6. Progress
Displays the progress while upgrading.
.

5.24 System-Import Setup

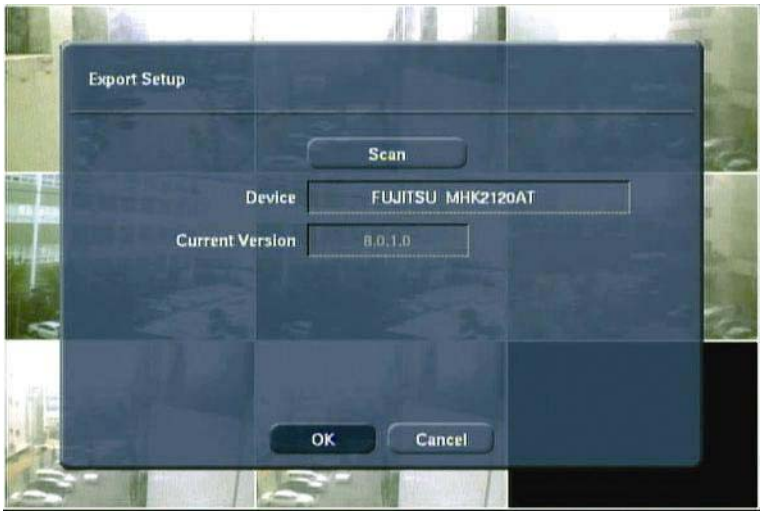
Import the setting value from the recorded setting file. When the [Scan] button is pressed it will display the device list of connected USB and CD-RW. Since the setting size file is very small on the Import/Export Setup, only the USB disk is supported. Therefore, this function is not available on the CD-RW. When the [OK] button is pressed after selecting the USB disk, the display version information and set system is shown.

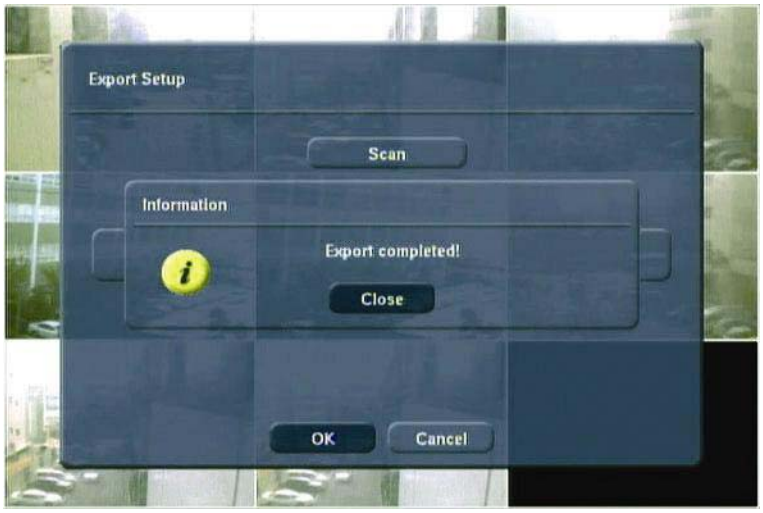




5.25 System-Export Setup

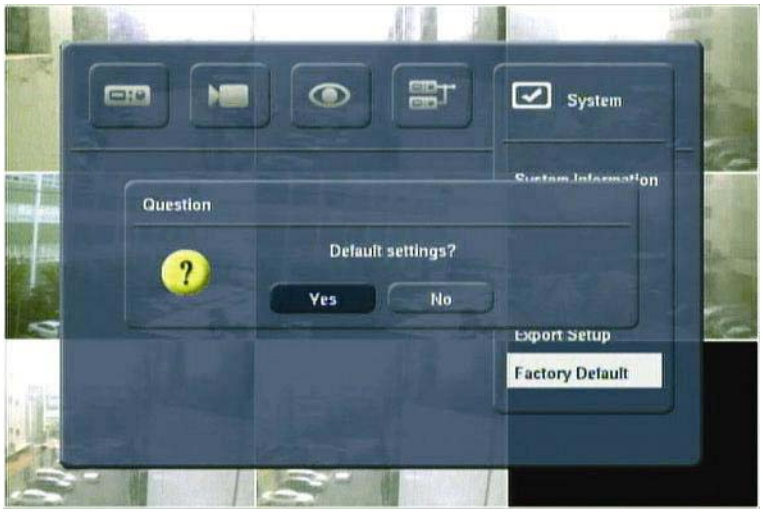
Export setting value of the system to the USB disk. Use Import to set the value on other DVR's.





5.26 System-Factory Default

This screen allows the users to return to the factory default setting. If the current setting values are ignored, then all the settings will return to the factory default except the network setting and password.
All the setting values, except for the network setting and passwords, will return to the default value when the [Yes] button is pressed.



Note In the System Default setting, the entire values will be returned to the default setting, thus desired setting values should be kept separately for future use.

Shown below is the screen when all the setting values are applied, when the [Return] button is pressed on the “Setup” menu.

6. Remote Setting

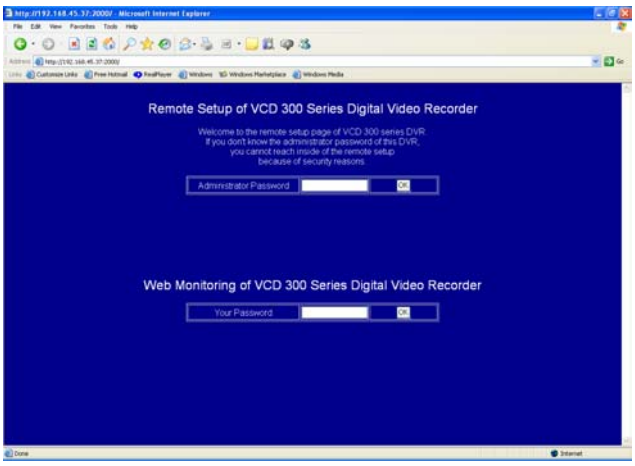
6.1 Remote System Setting.

If the VCD series is connected to a network, some of the system settings can be changed from remote sites, using the Internet Explorer web browser. Enter the IP address of the VCD series DVR followed by " :2000" in the address bar of Internet Explorer. Port 2000 is the default port.

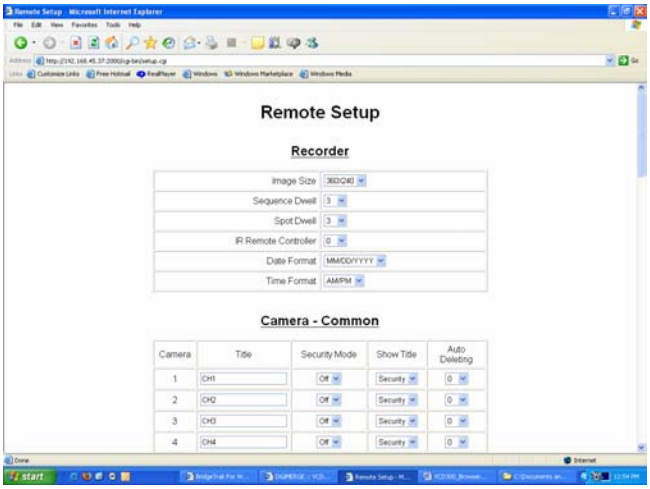
Note: If you are using firmware version 1.21 and above you can assign any web port to your network settings.

Examples:
LAN IP address of DVR: 192.168.45.37
Type on the Internet Explorer address bar: http://192.168.45.37:2000

Public/WAN IP address of DVR/site: 205.207.126.241
Type in the Internet Explorer address bar: http://205.207.126.241:2000



The picture below is first screen that appears for the system's remote settings.
The screen will be slightly different, according to the user window environment.

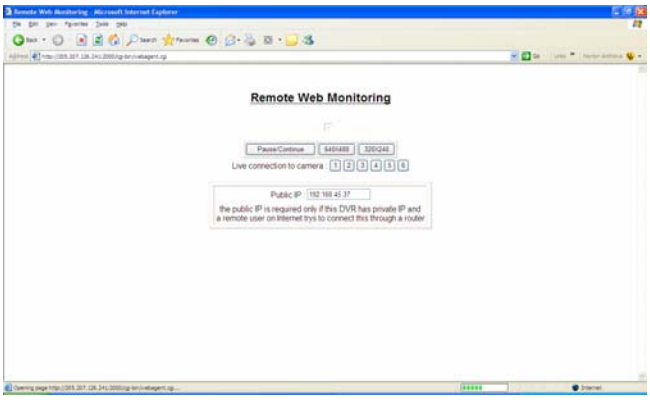


Note	The remote setting function will not activate when the local system is showing the [Setting] menu or while it is upgrading. Note, there can be a problem if the local system is operated while remote setting.

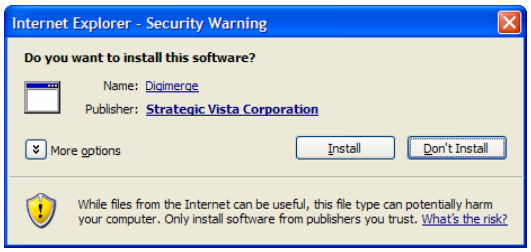
6.2 Remote Monitoring

The VCD series can be monitored using the Remote Agent software or the Internet Explorer web browser. To view in Internet Explorer, enter the IP address of the VCD series DVR followed by ":2000" in the address bar of Internet Explorer. (See 6.1 above for examples). **This function is only for monitoring.**

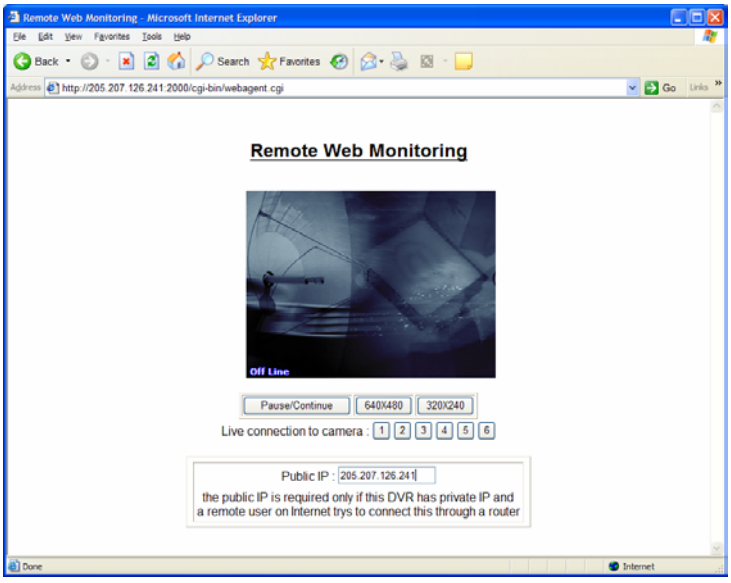
The user can choose the image size among 640x480 / 320x240, according to the PC environment.



When connecting for the first time, a small window with a "**security warning**" will appear on your screen. Press **YES** and **wait** until the process finishes.

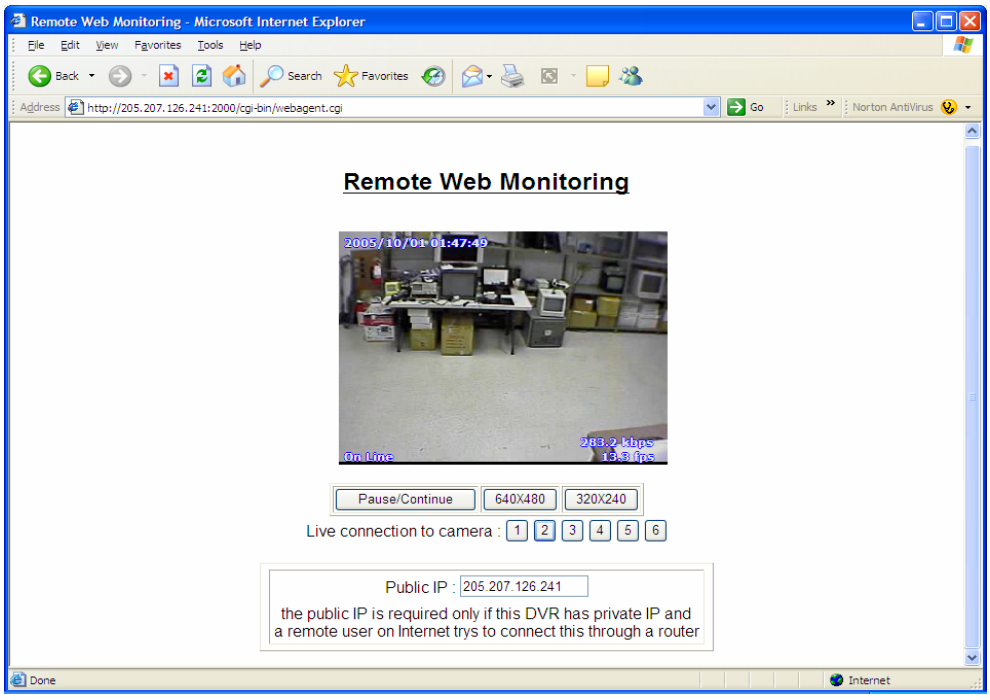


4. Once the process is finished a **WEBAgent** picture will appear on the screen.



To view a camera, click on the number corresponding to the camera channel.
(If the DVR is connected to a router, the private/LAN IP address will appear in the Public IP address box.

Change the private/LAN address to the public/WAN IP address, and then click on the camera channel)



7. Appendix

7.1 List of Multilanguage and special letters for Camera Input Title

	Language	Page		Language	Page
	Basic Latin	1		Number Forms	85
	Latin-1 Supplement	2		Arrows	86
	Latin Extended-A	3		Mathematical Operators	87
	Latin Extended-B	4		Miscellaneous Technical	90
	IPA Extensions	6		Control Pictures	92
	Spacing Modifier Letters	7		Optical Character Recognition	93
	Combining Diacritical Marks	8		Enclosed Alphanumeric	93
	Greek	9		Box Drawing	95
	Cyrillic	10		Block Elements	96
	Cyrillic Supplement	13		Geometric Shapes	97
	Armenian	13		Miscellaneous Symbols	97
	Hebrew	14		Dingbats	100
	Arabic	16		Supplemental Arrows-A	102
	Devanagari	23		CJK Symbols and Punctuation	123
	Bengali	25		Hiragana	124
	Gurmukhi	26		Katakana	125
	Gujarati	27		Bopomofo	126
	Oriya	28		Hangul Compatibility Jamo	126
	Tamil	30		Kanbun	127
	Telugu	31		Enclosed CJK Letters and Months	128
	Kannada	32		CJK Compatibility	131
	Malayalam	33		CJK Unified Ideographs	200
	Thai	36		Hangul Syllables	441
	Lao	37		Private Use Area	574
	Tibetan	39		CJK Compatibility Ideographs	638
	Georgian	43		Alphabetic Presentation Forms	643
	Hangul Jamo	44		Arabic Presentation Forms-A	644
	Latin Extended Additional	77		Combining Half Marks	651
	Greek Extended	80		CJK Compatibility Forms	651
	General Punctuation	82		Small Form Variants	651
	Superscripts and Subscripts	83		Arabic Presentation Forms-B	652
	Currency Symbols	84		Halfwidth and Fullwidth Forms	653
	Combining Marks for Symbols	84		Specials	655
	Letterlike Symbols	85			

7.2 Specifications.

		VCD304	VCD308	VCD316
H/W	CPU	X86 CPU		
	RAM	128MB		
	HDD	Max. 3HDD (2HDD + CD-RW)		
OS		Embedded Linux		
Video Input		4ch	8ch	16ch
Loop-OUT		4ch	None	None
Video Mode		NTSC / PAL Selectable		
Display Speed (NTSC/ PAL)		120/100fps		
Screen Modes for Live Display		4/1/PIP	8/4/1/PIP	16/10/9/4/1/PIP
Recording speed (NTSC/ PAL)	352x240 /288	120/100fps (with Playback : 60/50fps)		
	704x240/288	60/50fps (with Playback : 30/25fps)		
	704x480/288	30/25fps (with Playback : 15/12.5fps)		
Monitor output		Main monitor output (Composite & S-Video, VGA) / Spot output (Composite)		
Recording Resolution		NTSC: 352x240, 704x240, 704x480 PAL : 352x288, 704x288, 704x576		
Byte Size per Image (Standard Quality)		3~5Kbyte @352x240 (PAL: 352x288) 5~10Kbyte @704x240 (PAL: 704x288) 10~20Kbyte @704x480 (PAL: 704x576)		
Recording Modes		Supports the Setting of Motion Sensitivity & Area per Camera		
Recording schedule		Setting Recording Schedule per camera		
Motion Detection		Support the Setting of Motion Sensitivity per Camera		
Sensor/ Camera/ Alarm I/O		M : N Mapping		
Audio Input/ Output		4 input / 1 output (ADPCM)		
Sensor/ Alarm		4 Dry Contact Input / 2 Relay Output		
P/T/Z control and port		PAN/TILT/ZOOM/FOCUS/IRIS, RS-485 port		
LAN		10/100 Ethernet		
Transmission Speed and No. of Connection		Same as Recording Speed for each Channel Max 8 ch Connection		
Remote Transmission		Multi-to-Multi connection, Multi-channel transmission Live Viewing, Remote Playback and File Backup at the same time (Triplex-on-Remote)		
Remote Control		Remote PAN Tilt ZOOM/FOCUS /IRIS control		
Remote management		Remote Software Upgrade & Remote Software Upgrade		
CD-RW		Internal CD-RW (Option)		
External Backup Device		Support (Front USB Ports)		
System Recovery after Power Failure		Auto-Rebooting and Journaling File System Auto-Scan and Recovery for Data		
System Operation		Button on Front panel / IR Remote Controller / Jog / Shuttle		
Advanced Functions		Auto Page Sequencing, Event Log Viewer, Access control by Password Led indicator for Various status Pre-Alarm, Multi Channel Playback, Digital Zoom		
Storage Temperature and Humidity		-20~60□ / 20~95%RH		
Operating Temperature and Humidity		5~40□ / 20~80%RH		
Power		Single Phase AC115~230V, 50/60Hz (Select Switch)		
Dimension and Weight		380(W) x 66(H) x 370(D) mm, 6Kg		
Remote S/W		NetAgent S/W (24ch), RemoteAgent S/W (16ch)		
Standard Authentication		FCC, $_{C}UL_{US}$, CE (EMC/LVD) – CLASS A		

* The system specification can be modified without notification.

8. APPENDIX II

8.1 Installing a Second Hard drive on the VCD 300 series DVR

Procedure:

1. Take the cover off removing all the screws.
2. Locate the hard drive bracket.
3. Disconnect the power and data cables of the Master HDD Drive.
4. Remove the hard drive bracket screws.
5. Disconnect the HDD fan connector from the main board.
6. Remove the Secure screws from the HDD bracket.
7. Detach the HDD.

HDD installation

1. Set the Hard drive jumpers as a Slave.
2. Secure the HDD to the bracket using secure screws
3. Attach the HDD bracket to the VCD chassis.
4. Connect the data and power cables to the Master and Slave drives.
5. Connect the Fan connector.
6. Put the cover back.

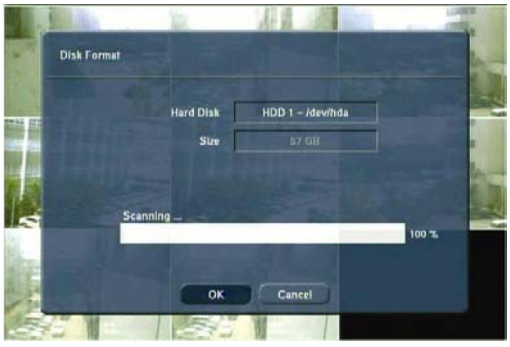
Note: The maximum IDE drive supported is 300GB and most brands are supported.

SETUP

Once the new hard drive is installed we have to prepare and format it.

A. Recorder- Disk Format

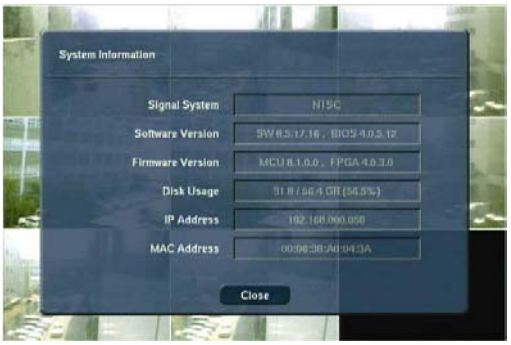
1. Press the setup button
2. Move to the left to the Recorder Menu
3. Click on the disk Format option
4. Select the HDD drive to format (slave) and check the capacity.
5. Press the [OK] button and the formatting will proceed.



The procedure will take about 10-20 min depending of the hard drive size.

B. Confirm the hard drive has properly formatted.

1. Press the Setup button
2. Move to the System Menu
3. Click on System information menu
4. Verify to total space of both hard drives base on the information provided.
5. Click OK
6. Press Return to finish.



8.2 List of the Ports to be opened on the Router for internet remote connection.

If the VCD 300 series DVR is connected to a LAN environment and it is behind a router please check the list of ports required for a remote connection on the WAN (internet).

List of the ports to be open .

- **TCP Ports**
- Log on: 7000
- Live transmission: 8000,8001
- VOD (remote playback) transmission: 9000,9001
- Automatic connection when alarm activated: 8003
- Checking server alive : 8002
- Time synchronization: 3000, 8900
- Two-way Audio: 7010, 7011, 7021
- Remote configuration (Web Server): 80, 2000
- DYIP Check: 10101, 43300,

- **UDP Ports**
- 11000

Note: It is recommended to use and assign a local static IP address (LAN) on your DVR. Once you finish opening the ports, you have use your **DVR IP address** and enable **port forwarding on your router**. When finish save the changes on your Router configuration To view you cameras remotely on the WAN (Internet) you have to get your WAN IP address from your Router or you can find it at www.whatismyip.com on the internet explorer .

If you need more information refer to the " Routers Configuration Manual" on the Digimerge Website,

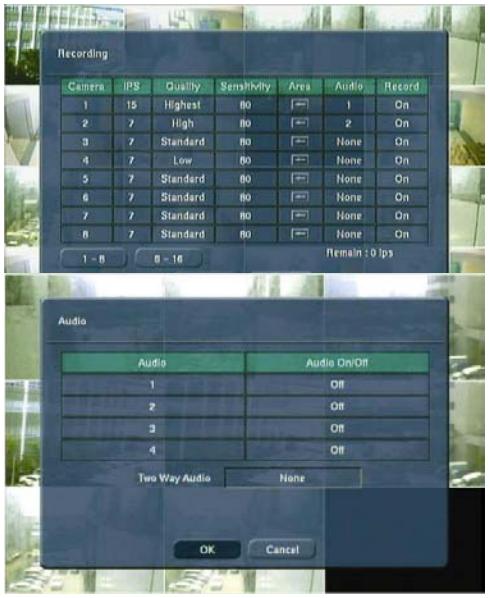
8.3 How to configure, record, playback and listen to the audio on the DVR through the Network

The VCD300 series DVR is capable of recording up to 4 audio channels individually. Each audio channel can be assigned to a specific video channel. In playback mode you can playback using either the DVR or the Remote Agent software to listen to the audio live, or playback. Make sure you are using a good microphone with a pre-amp audio system.

DVR CONFIGURATION.

If you are working with one or multiple audio inputs we have to configure the system to work properly.

1. Press the SETUP button.
2. Move to the Camera menu and select The Recording Menu
3. Select the camera and select the desired the Audio channel input.
4. Click OK



Enable the audio for recording

1. Press the SETUP button.
2. Move to the Camera menu and select the Audio Menu
3. Select the audio input and change from off to on
4. Click OK
5. Press Return to finish.

How to playback and listen to the audio on the DVR

1. Select the Search button to find the event to play or press the playback button.

2. On playback mode press the **Screen mode** button several times until you see the desired camera on full screen.

3. Once you see the camera on full screen you will start to listen to the audio. Make sure the Audio output in the DVR is connected to an audio amplifier.

8.4 How to view and listen to the audio using the Remote Agent software 7.0 on the Network.

To view and listen to the audio make sure you have an existing working connection to the DVR using the Remote Agent Software 7.0

To connect to view or Playback and listen to the audio it is recommended that you connect only to one camera with audio at one time. The Streaming audio and video takes more bandwidth.

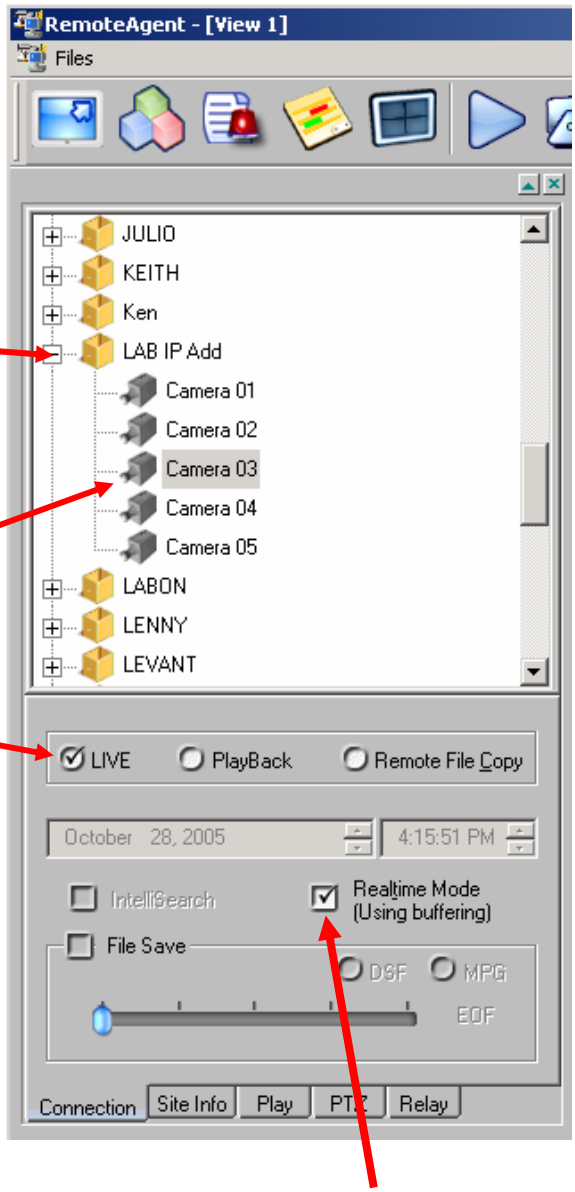
To connect to one camera with audio select the desire site at the list on your left and select the desire camera

Highlight the camera, drag it and drop it to the right to open the connection.

Check on LIVE or PLAYBACK

If the connection is successful the camera will appear on the screen.

Move the mouse and click on the camera to listen to the audio.



Note** : Make sure the **Realtime Mode** (Using buffering) is **check on

8.5 How to setup continuous + motion alarm recording.

With firmware v1.16, the VCD 300 series can be set to record on continuous + motion recording at the same time. The advantage of this is to provide a continuous live feed for remote viewing (at a low IPS), while at the same time enabling motion alarm recording (at a higher IPS).

DVR Configuration:

1. Schedule CM Recording:

   a) Press the SETUP button.
   b) Move to the Camera menu and select Schedule. Press Enter
   c) Check the cameras to schedule and press OK.

   d) On the schedule for the selected cameras change the contents of the boxes to CM. To change the entire schedule to CM, move the cursor to the empty box on the top left corner of the schedule and keep pressing Enter until all the squares say CM. Press OK

2. Set Continuous Recording Settings:

   a) Move to the Camera menu and select Recording. Press Enter.

   b) For each camera set the Recording IPS, at a low IPS (1 IPS is recommended) and press OK.

3. Set Motion Alarm Settings:

   a) Move to the Alarm menu and select Motion Alarm. Press Enter.

   b) For each camera turn **On** the Motion Alarm (in the second column of the screen) and set the motion alarm IPS, Dwell Time and Pre-Alarm. Press OK.

   c) Press SETUP to exit the menu.

IMPORTANT:

If the Motion Alarm feature is not turned on, motion will be recorded at the settings in the Camera→ Recording menu, not the Alarm→Motion Alarm menu.

Example:

Motion Alarm turned **On:**

DVR settings:
All cameras are scheduled for CM recording (SETUP→Camera→Schedule)
The Recording IPS is set to 2 for all cameras. (SETUP→Camera→Recording)
The Motion Alarm is turned **On** and the Motion Alarm IPS is set to 15 for all cameras (SETUP→Alarm→Motion Alarm)

Each camera will record as follows:
Continuous recording will at 2 IPS
Motion Alarm recording will at 15 IPS

Motion Alarm turned **Off:**

DVR settings:
All cameras are scheduled for CM recording (SETUP→Camera→Schedule)
The Recording IPS is set to 2 for all cameras. (SETUP→Camera→Recording)
The Motion Alarm is turned **Off** and the Motion Alarm IPS is set for 15 for all cameras (SETUP→Alarm→Motion Alarm)

Each camera will record as follows:
Continuous recording will at 2 IPS
Motion recording will at 2 IPS

When the Motion Alarm is turned on, the following occurs:

- Each motion is logged as a separate event, and is listed under:
    - Search → Event Search
- When motion is detected:

  The following messages will appear on the corresponding camera channel (in addition to the 

notation in the top right corner of each channel):

    - 

→ for motion recording
    - 

→ for alarm recording

  The following will appear on the bottom right corner of the monitor:

    -  → for alarm detected
- Event Notification can be used on the DVR to send notification (by email or via Remote Agent) whenever motion is detected. Remote Agent can be configured to sound an alarm and to open the camera in full screen whenever motion is detected.

9. Warranty

Warranty : Subject to the exclusions and limitations below, Digimerge warrants to the initial end-user purchaser that the product will be free from defects in material and workmanship for a period of one year from the date of purchase.
For valid warranty claims made during the warranty period, upon proof of purchase, defective products will, at the election of Digimerge, be repaired or replaced without charge. Any products repaired or replaced within the warranty period, shall be warranted by Digimerge to the initial end-user purchaser for 90 days from the return shipment date, or the remainder of the warranty term, whichever is longer, and if outside of the warranty period then for 90 days from the return shipment date. Products and parts may be replaced with refurbished items, and the products and parts replaced become the property of Digimerge. You are responsible for all shipping costs associated with the return of the defective products for warranty service.

Exclusions and Limitations: Any of the following will void this warranty:

(i) installation or use of the product other than strictly in accordance with the instructions contained in the product's instruction manual;

(ii) if the product is subjected to operating conditions (including atmospheric, moisture and humidity conditions) outside of the of the acceptable conditions specified in the product's instruction manual;

(iii) if the product is subjected to misuse or abuse;

(iv) if the product is subjected to electrical short circuits or transients, accident, fire, flood or Acts of God;

(v) adjustment, maintenance or repair of the product other than in accordance with Digimerge approved procedures; and

(vi) use of replacement parts other than those specified by Digimerge.

DIGIMERGE MAKES NO CLAIMS OR WARRANTIES OF ANY KIND WHATSOEVER REGARDING THE PRODUCT'S ABILITY OR EFFECTIVENESS IN PREVENTING OR REDUCING THE RISK OF, OR DAMAGES RESULTING FROM, LOSS OR THEFT OF PROPERTY OR PERSONAL INJURY.

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No claims or statements regarding the product, whether written or verbal, by salespeople, retailers, dealers or distributors, that are not contained in this limited warranty or in the owner's manual are authorized by Digimerge and do not modify or expand this warranty.

Some countries, states, or provinces do not allow the exclusion or limitation of implied warranties or the limitation of incidental or consequential damages for certain products supplied to consumers or the limitation of liability for personal injury. To the extent that such restrictions on limitations apply to the products, the above limitations and exclusions may be limited in their application. In that case, when the implied warranties are not allowed to be excluded in their entirety, they will be limited to the duration of the applicable written warranty, and if damages may not be limited then the above limitations on damages apply, but only to the greatest extent permitted by local law.

Warranty and Non-Warranty Service: Contact the dealer that sold you this product, during the warranty period if applicable, to obtain service. Non-warranty service is subject to Digimerge's then current service terms and prices. If the dealer fails to respond, cannot be reached or fails to provide you with the required service, you may obtain service directly from Digimerge by calling our service department at (866) 344-4674. You must provide Digimerge with the defective product's model number, serial number, date of purchase, sales or invoice number, proof that you were the original end-user purchaser for warranty work, and a brief description of the problem. You must obtain a return authorization number from the service department and must mark the number clearly on the shipping box. You must ship the item prepaid in appropriate packaging to the following address:

Digimerge Technologies Inc.,
Attention: Repair Department,
300 Alden Rd,
Markham, Ontario, Canada,
L3R 4C1