
Digital Video Recorder

User's Manual

ULTIMA 20
ULTIMA-X 20

Thank you for using our product.

1. This is user's manual for H.264 20CH DVR (Digital Video Recorder).
2. This manual contains product specification and introduction, installation guide, operating guide and other necessary matters for easy understanding. Users should read this user's manual carefully for proper use.
3. Contents in this manual may be changed according to the specification change and feature improvement without any notification.
4. This user's manual shall never be copied without prior agreement and violating this may be a reason for legal punishment on piracy.
5. If there is any incorrect or insufficient content in this user's manual, notify it to Customer Support Center.

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CH1. Product Introduction

1-1. Product Contents

After removing packing materials of this product, check whether all following contents are included.



Main Body (DVR):
This converts the analog video and audio signal to the digital signal and saves on HDD.



Adapter:
This 12V adapter supplies power to the product.



Power Cable:
This connect the adapter and the power source.



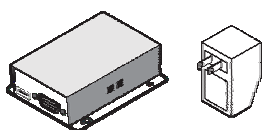
Program CD:
This contains the User's manual and Client Program for DVR.



Remote Controller:
This is an IR remote controller for convenience.



Battery:
These are 2(two) battery for the remote controller.



Receiver and Adapter
This is placed on your desk for remote control and monitoring. The adapter spec is 12V 1.5A. (ULTIMA -X Only)

1-2. Specifications

Image Input/Output : NTSC / PAL

Recording Speed :

NTSC - 1~600fps(20ch/D1)

PAL - 1~500fps(20ch/D1)

Compression Method : H.264 Technology

Power : DC12V, 6.7A (DC adapter)

Power Consumption : 60W

External Terminal : Video Input - BNC 20CH

Loop out - BNC 20CH

Video Output - SPOT 1CH, VGA 1CH, HD output 1CH

Audio Input - RCA 16CH

Audio Output - RCA 1CH

Sensor Input - Terminal Block 16CH (Contact, TTL)

Sensor Output - Terminal Block 16CH (2 Dry Contact)

LAN Communication - RJ45 Port

Serial Communication - Terminal Block(RS485)

DB9(RS232C)

3xUSB 2.0 Type A

Video and control Transmission - RJ45 Port

(ULTIMA-X Only)

Temperature : 5~40°C (30~110 F)

Humidity : 20%~80%(Non-condensing)

Size : 430 (W) × 420 (D) × 88 (H) mm

Weight : 5Kg(Supplements and Packing Materials Excluded)

Supplements : Adapter 1

Power Cable 1

Program CD 1

Remote Controller 1

Battery 2

Receiver 1(ULTIMA-X Only)

Adapter 11(ULTIMA-X Only)

1-3. Product Characteristics

1) New Video Configuration optimized 16:9 widescreen

This is the revolutionary 20CH D1 real time DVR for 16:9 widescreen even use the 4:3 video source. Also it displays real HD(1920X1080) resolution, and therefore it provides the most clear image quality and the best security level.

2) High reliability

With Embedded hardware and software design, this maintains higher product reliability.

3) Simple usage

This allows users to use it conveniently by placing control buttons similar to existing ones on VCR, and users can easily learn the usage.

4) Pentaplex System

Pentaplex System allows live, recording, backup, networking and playback simultaneously.

5) Selectable recording setup

For recording methods, users can select the frame rate, resolution and video quality individually in order to be appropriate for user's environment.

6) Remote monitoring

With using exclusive line or Internet network, you can search or monitor recorded images remotely by installing exclusive client program on PC.

7) Backup

You can backup with USB or ODD.

8) Audio recording

You can record 16 sound inputs simultaneously. Moreover, you can listen to the sound in search and live monitoring and play mode.

9) Various recording methods

This provides convenient use with manual recording, recording by dates and days, hourly schedule recording, sensor and motion detection event recording and others to enable unmanned monitoring.

10) Various total monitoring features

You can use overall and economical security system through various sensor inputs and contact output control.

11) Display information in easy-to-understand information method

This enhanced convenience of user by displaying information (date, time, recording method, recording frame number, HDD capacity and others) in monitoring, recording and playing mode in easy-to-understand way.

12) P/T/Z control

By built in RS485, various P/T/Z cameras can be used.

13) Dual CODEC for video transmission

DVR can send 120 fps (based on CIF) regardless of the local recording and viewing setup regardless with recording setup.

14) Web browser support

You can monitor and playback the video and control the PTZ camera by internet explorer.

15) Built in S.M.A.R.T.

You can automatically check the health of the hard disk drives.

16) Language pack

Basically DVR has multiple language set, furthermore you can choose the language set if you want.

17) Mirroring by internal HDD and e-SATA

If you install more than two HDDs, you can use the second HDD for backup for maximum fault tolerance. Also it supports 2 e-SATA for mirroring.

18) Text inserter

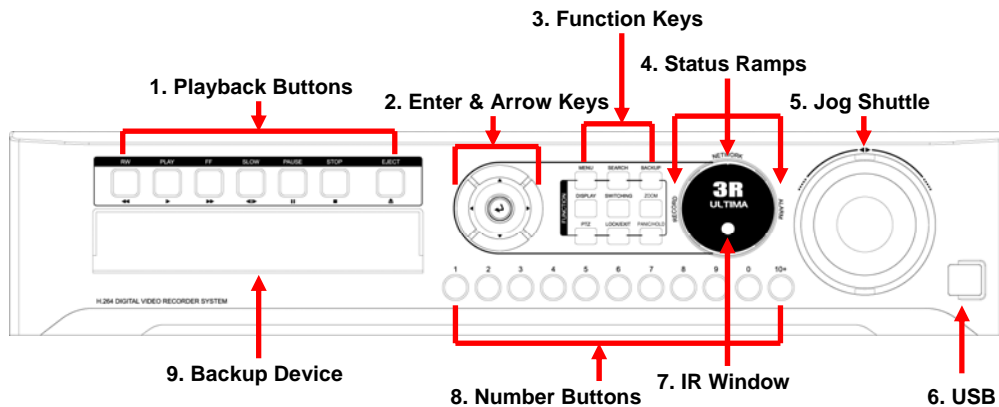
You can operate with the POS and ATM.

19) Spot monitoring

Spot out can be enable to monitor sequentially in other place.

1-4. Name of Each Part

[Front Panel]



1. Playback buttons : It will be used on playback. If you press these buttons in live mode, it will be automatically changed to the Instant Play mode. ‘Stop’ button changes from the play mode to the live mode.

2. ARROW, ENTER : This button is used to change settings for the product in MENU Mode or used in Search Mode.

3. Function keys

- 1) MENU : It will move to the setup screen from the live mode.
- 2) SEARCH : It will change to the playback mode from the live mode.
- 3) BACKUP : It will move to the backup screen from the live or play mode.
- 4) DISPLAY : It will change the screen splitting sequentially from 1 to 20. It can be adapted both live and play mode.
- 5) SWITCHING : It will change to switching mode except 20 splitting.
- 6) ZOOM : It will go to the digital zoom directly.
- 7) PTZ : It will change to the pan, tilt and zoom control mode from the live mode.
- 8) LOCK/EXIT : If you want move to the upper menu or exit without saving, press this button. On playback, it will disappear the search list for the better viewing. On live viewing, it performs the system lock.
- 9) PANIC : This button is used in emergency status. If you push this button, the DVR starts to record with maximum speed regardless of setting value.

4. Status lamps

- POWER : Blue color back light. Power indicator.
- RECORD : Red. Indicate the recording.
- NETWORK : Green. Lit on connecting the network
- ALARM : Red. It will be lit on when the events happen

5. Jog Shuttle : You can use this wheel for fast retrieving and playback back and pro. If you hold the shuttle, push the 10+ button while grabbing the shuttle.

6. USB ports : These USB ports are for mouse and USB devices.

7. IR Window : the window for remote controller

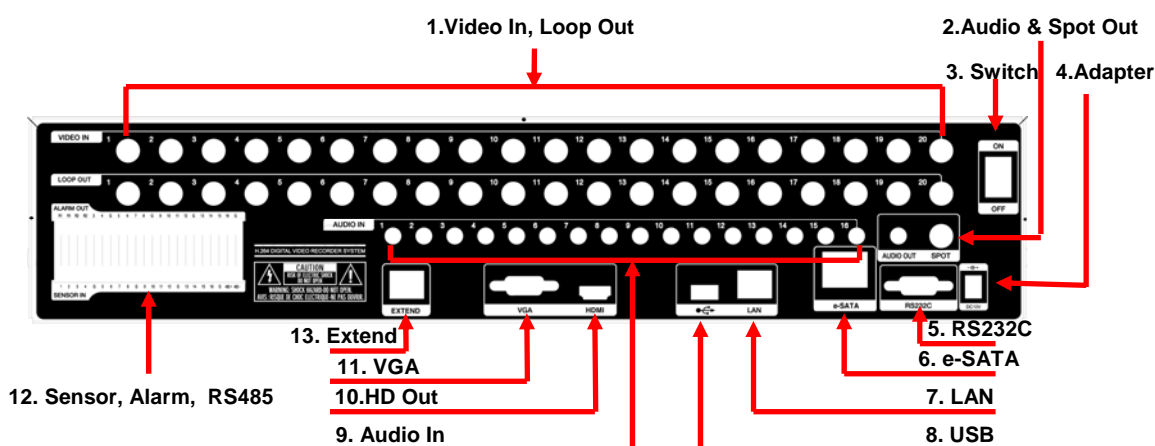
8. Number buttons : If you press this button, it will be changed to full screen in live viewing or playback. If you want to go to 20ch, push the 10+ button twice. Also 10+ button is used for 'Hold' while Jog Shuttle action.

(※ In menu and password setting, it is automatically converted to number buttons)

9. Backup device : You can use the versatile backup devices such as CD-RW and DVD-RW.

※ For more details, refer to [CH 3. How to Use]

[Rear Panel]



1. Video In : This receives images from cameras and sends them to monitors.

Loop Out : This sends the images from the cameras to the other devices.

2. Audio & Spot Out : For CRT monitor. RCA audio out terminal.

3. Power Switch

4. Adapter : Connect DC12V only.

5. RS232C : This is Serial communication(RS232C) cable connection terminal.

6. e-SATA

7. LAN Port: This is LAN cable connection terminal.

8. USB ports : This USB port is for mouse and USB devices.

9. Audio In: RCA audio in terminals. You can record 16 channels at the same time.

10. HD Out : Real HD(1920X1080) output for high resolution monitor

11. VGA port: video output for VGA display

12. Sensor, Alarm, RS485 : For external sensor and external electric devices to these terminal block. There are 16 inputs, 2 relay output and 14 TTL output. For control the pan and tilt cameras. Make sure that the polarity.


13. Extend (ULTIMA-X Only) : Connect EXTEND FTP cable to Receiver. Please refer to Appendix A.

※ For more details, refer to [CH 2. Installation Method and Cautions].

CH2. Installation Method and Cautions

2-1. Cautions

WARNING
Risk of electric shock.
Do not open the cover of the product.
Servicing of this product by unauthorized personnel is prohibited and will result in a void of warranty.



In order to ensure the most stable conditions for power, the use of a UPS (Uninterrupted Power Supply) is recommended.

- Avoid installing the product where there are direct rays or it is hot by locating near from heat generator. (May cause fire)
- Do not put vase, flowerpot, cup, cosmetics, drug, and anything the contain water on product. (May cause fire or electric shock, and it may injure people by falling)
- Do not insert or drop any metal object (coin, hair pin) or flammable object (match, paper) into air hole. (May cause fire or electric shock)
- Do not put any heavy object on it. (May injure people by being fell or destroyed.)
- Put power plug surely not to be moved. (If not, this may cause fire.)
- Unplug power plug and antenna when there are thunders and lightening. (May cause fire.)
- For cleaning the product, wipe surface with dry towel. Using chemical agent or cleaner may change the color and unpeel paint. Do not put several plugs at same time. (May cause electric shock.) If there is smoke or strange smell, stop operation. In this case, turn the power off and unplug it, and then contact our service center. (If you keep using it, this may cause fire or electric shock.)
- Do not unplug by pulling cord. (If cord is damaged, it may cause fire or electric shock.)
- Do not plug or unplug with wet hands. (May cause electric shock.)

- Keep the power cord untwisted. (May cause fire or electric shock.)
- Use proper adapter. (Using too much electric power may cause fire or electric shock.)
- Do not install it at where exposed to rain and wind and water drop. (May cause fire, electric shock and transformation.)
- Keep away from fire. (May cause fire.)
- Do not disassemble or remodel on your own. (May cause malfunction or electric shock.)
- Do not put next to flammable materials like flammable spray. (May cause fire.)
- Do not install it at a place with too much dirt. (May cause fire.)
- Do not install it on unstable places like shaking table and inclined place or shaking place. (May injure users by falling down or being upside down.)
- Do not put an heavy object on power cord or avoid it from being pressed by the device. (May cause fire or electric shock.)
- In case of using extension cord, do not use several devices at same time. (May cause fire with abnormal heating of extension.)
- When there are dirt on power plug pin or power outlet, clean it nicely. (May cause fire.)
- Do not damage on power cord or plug, and bend or twist or pull too much, and put it between other objects or heat. If power outlet insertion part is not tight, do not use it. (May cause fire or electric shock.)
- Do not drop or give a shock to the product. (May injure people or cause malfunction.)
- Do not touch power adaptor or signal controller. (May cause electric shock.)
- Do not put any object too close to block cooling fan. (May cause fire.)
- In case of exchanging batteries with improper type, there might be danger of explosion.
- For used batteries, throw away separately from other garbage.
- When you take out batteries, avoid children from eating them by mistake. Keep them away from children. (If a child ate them, contact a doctor right away.)

Note :

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. Changes or modifications to this equipment may cause harmful interference unless the modifications are expressly approved in the instruction manual. The user could lose the authority to operate this equipment if an unauthorized change or modification is made.

This device complies with the part 15 of the FCC Rules. Operation is subject to the following two conditions : (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operations.

FCC Warning :

This equipment may generate or use radio frequency energy. Changes or modifications to this equipment may cause harmful interference unless the modifications are expressly approved in the instruction manual. The user could lose the authority to operate this equipment if an unauthorized change or modification is made.

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

This product has obtained EMI registration.



2-2 Product Installation

This product may be composed of camera and monitor in default, and additionally the sensor, microphone, speaker and PC for network can be connected if necessary.

2-2-1. Power Connection

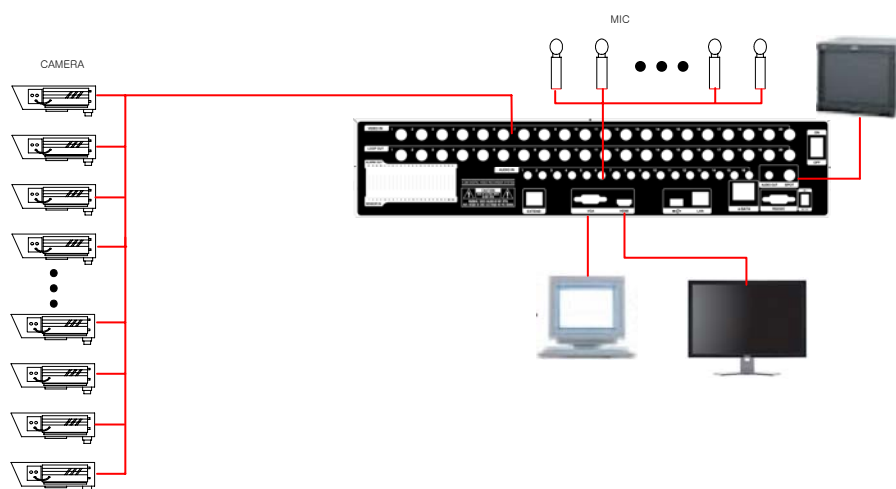
- 1) Connect adapter cable to power connection terminal at rear side.
- 2) Input AC power to the adapter. (free voltage from 100V to 240V, 50/60Hz)

※ You must operate it at the rated voltage instructed on the user's manual. In case power higher than the rated voltage is supplied, it may cause damages on product.

2-2-2. Connecting External Device

- ※ Connect it when power of the product is off.
- ※ Read through user's manual for the device you are connecting carefully.

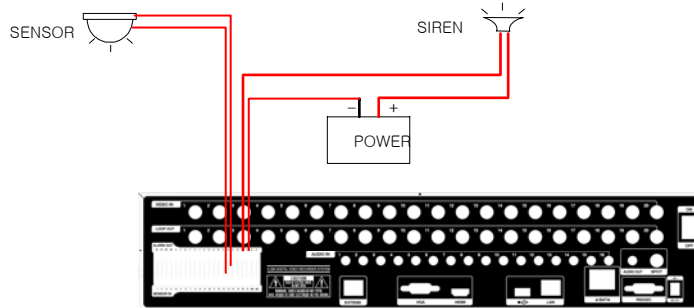
1) How to Connect External Video/Audio Device



- Connect cameras to VIDEO IN by channels.
- Connect microphone (AMP) to AUDIO IN by channels.
- Connect VIDEO OUT to VIDEO IN of monitor.
- Connect HD output to HD Monitor.
- Connect AUDIO OUT to AUDIO IN of monitor (or speaker).
- Connect Spot output to Composite Monitor.

2) How to connect external sensor

Sensor terminal is composed of 1 input channel and 1 output channel. Sensor out terminal is relay output with 1A, 24V or 0.5A,125V.



Sensor In : Connect the sensors. The sensor are composed of both signal and ground terminals, with a voltage difference of 5V. In the case that the sensor used for input is of the N/O (Normal Open) type, when the voltage difference between the signal and ground falls to 0V (short), the DVR can use this as a trigger to start alarm/sensor based recording.

Sensor Out : Connecting external electrical devices

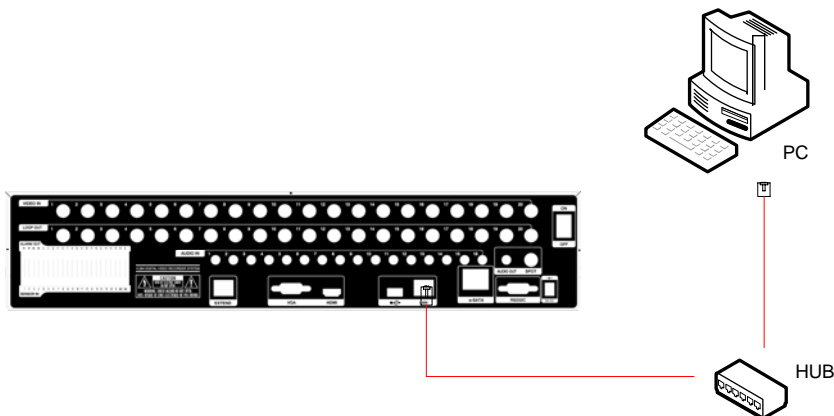
The relay output terminal does not provide power, and functions only on an ON/OFF basis via a relay. Normally, the signal and ground should be on an OPEN basis, and the DVR will complete the relay connection.

3) Connecting with PC using LAN cable

If you want to connect DVR to PC directly, use LAN cable, and if you want to use HUB, connect cable via hub.

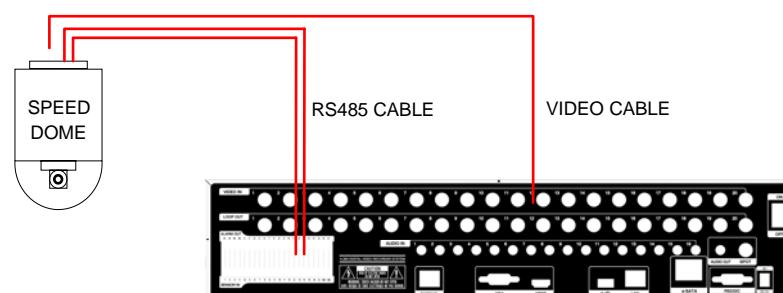
*Hub : This is a device connecting one office to devices located near with using cable when you organize LAN

*Cable : This is standard UTP cable used for communication among devices through Hub and others when you organize LAN



4) Connection Using PTZ camera

In case of using pan and tilt cameras, connect PAN/TILT DRIVE to product as shown at following figure.



5) Installing Hard disk drive

In case of installing the hard disk drive, open the upper case and install the hard disk drive on the hard bracket. There are 4 SATA slots in the DVR. So you can allocate these 4 slots for HDD, ODD and e-SATA. For example, 4 internal HDD/ 3 internal HDD and ODD / 2 internal HDD and 2 e-SATA is available configuration.

Remember that the main power should be off to install the hard disk drive. If you have any trouble, please contact the technical support.

CH3. How to Use

3-1. General Usage Information

The ULTIMA series DVR can be operated with a mouse or remote controller under the four main modes listed below:

Live Mode – This is the “main or default” mode. From this mode you can view in real time all currently operating cameras, information regarding camera status, and have access to Pan/Tilt camera controls. In addition, system status information will be shown during live mode, and other modes can be entered from Live mode.

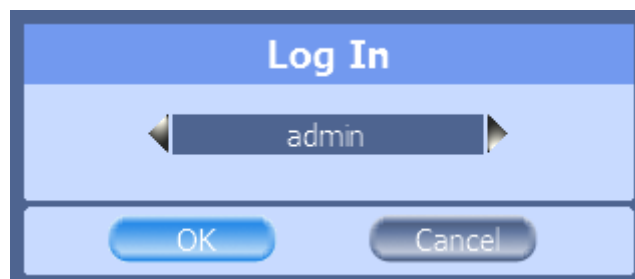
Setup Mode – The user will be able to customize settings for Live viewing, Recording, Backup, and Camera related devices under the Setup Mode.

Search Mode – In Search Mode, the user will be able to review all recorded footage in the case that an event must be reviewed using a calendar or event based search.

Backup Mode – In Backup Mode, the user will be able to archive the desired data to the preferred supported media of their choice (ex. CD, DVD, USB Backup, Remote Client Software, etc.)

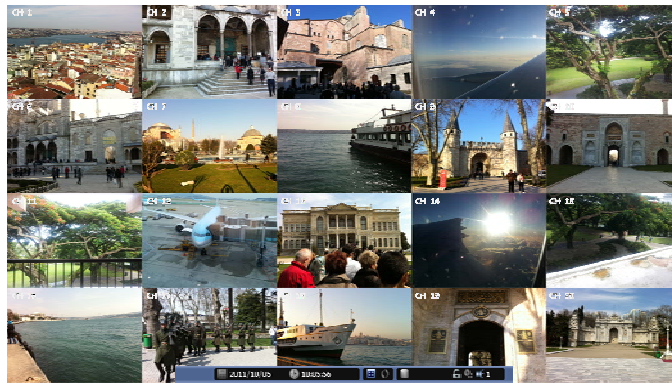
Password Protection – The DVR system will utilize a user ID and password system to prevent unauthorized usage of this product. Control of the system will only be possible after entering a proper ID and password as illustrated below. (Factory Default settings are blank for these fields).

IDs and passwords should be managed by a system administrator, as different users may be given different levels of access to the DVR.



3-2. LIVE Mode





In this section you will know how to split the video mode into 1, 4, 6, 8, 9, 12, 16, as well as auto sequencing, PTZ Control, Mouse control, Setup configurations, Backup



3-2-1. LIVE Mode Control

1) Live View Status










You may use the Live Menu Bar located at the bottom for quick shortcuts and view status of certain items.

	Recording indicator
	Event recording indicator
	Motion detection indicator
	Sensor activation indicator

2) Live Menu Bar

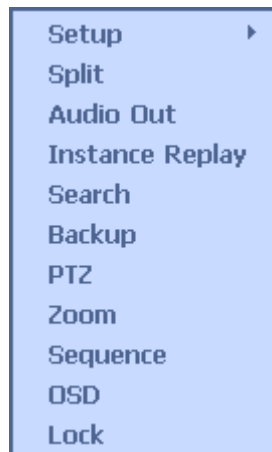
You may use the Live Menu Bar located at the bottom for quick shortcuts and view status of certain items.



	Date
	Time
	Screen Split mode change
	Sequence activation
	Hard drive usage
	Lock/ Unlock indicator
	Scheduler activation indicator
	Audio out channel indicator
	Mute indicator

3) Live Popup Menu

By Right-Clicking anywhere on Live Screen, you may view the Live Popup Menu. By using the Live Popup Menu, you can quickly jump to the necessary configuration and settings.



3-2-2. LIVE Mode Feature

1) Split

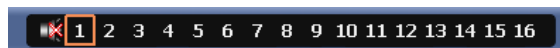
Change video split mode for Live View.

20ch : 1/6/12/20 Split Mode



2) Audio Out

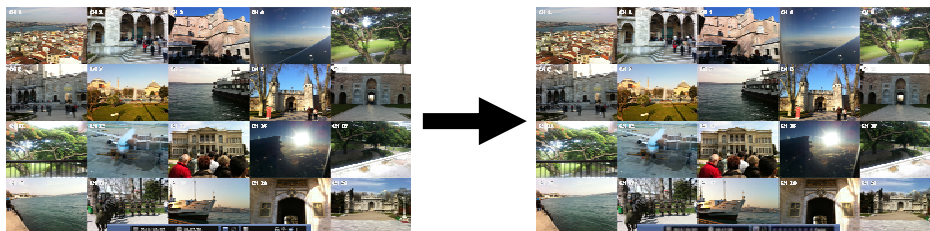
You can choose the audio out from this menu.



3) Instant Replay

This is very convenient function to catch the abrupt accident. During live viewing, you can go directly to the playback screen.

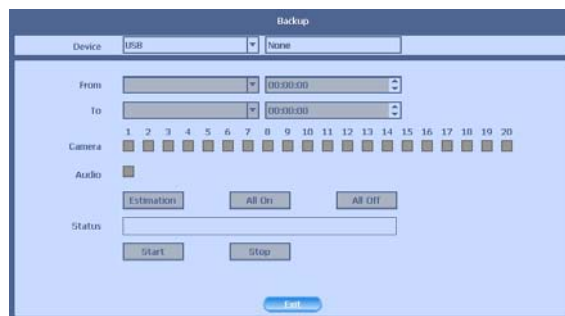
If you choose the 'Instant Replay', the DVR goes to the 'PLAY' with the present time screen. And you can use the functions related playback.



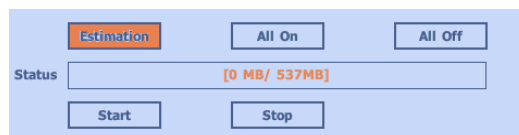
4) Backup

There are two ways to enter the backup. The first one is that right click on the live screen, and the second one is that enter directly from 'Search' upon playback. If you choose the 'backup' from the live menu, below backup screen appears.

- You can set the backup device, time and channel from the backup screen.



- After that, if you push the 'Estimation' button, it will show the estimated backup file size.



- Then click the 'Start' button.



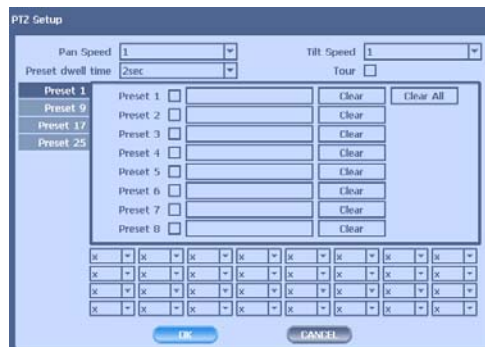
5) PTZ (Pan, Tilt and Zoom)

It is possible to control the pan and tilt camera by itself. Press the 'PTZ' button to enter the PTZ mode. For Menu setting, you can set it by pressing button as displayed at bottom of window.

- You can set the direction of camera by using the arrow buttons.



- Setup : If you press Setup using mouse (or Menu button on the remote controller) in PTZ Menu, PTZ setup window will appear. You can set the pan and tilt speed, 32 preset name and tour sequence as well as dwelling time,



- Zoom In/Out : You can zoom in/out with mouse or play /backward buttons on the remote controller.
- Focus In/Out : You can adjust the focus with mouse or slow buttons on the remote controller.
- Iris In/Out : You can adjust the iris with mouse or ff/rew buttons on the remote controller.

- Preset : You can enter the preset number using the keypad appearing the preset button or 'Enter' button on the remote controller.



6) Zoom

Digital zoom of live screen for selected channel. It can be 2x zoom and also control the position by mouse dragging.



7) Sequence

Sequence Mode On /Off: Switches screens as set on Dwell time under Screen Setup

8) OSD

This feature shows current settings of product through GUI (Graphic User Interface) and INFO button at front side is used for this feature. When you turn on power, this will show current date and time, System Lock Setting, HDD usage, Video Loss Check, Sensor ON/OFF, Motion Detection Check, Recording Status and Schedule Feature Usage. As you press INFO button once more, GUI disappear->OSD disappear->GUI appear->OSD appear will happen sequentially.

- ※ GUI (Graphic User Interface): displaying current status on monitor as images
- ※ OSD (On Screen Display): displaying current status on monitor as character

9) Lock/Log In

Logs off current user and locks DVR from any further configuration and screen setup until next Administrator logs in.

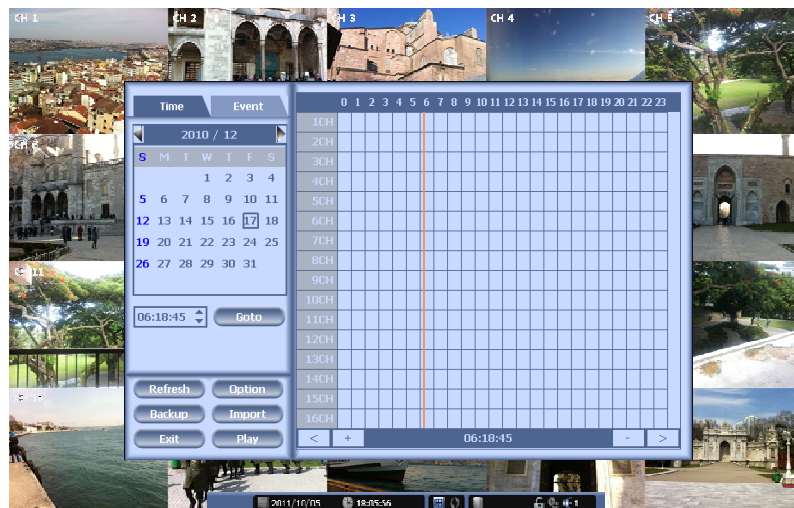
3-3. Search Mode

Search mode consists of two different modes of searching. The video data can be selected by Time or Event.

Time	Search Month / Day / Time selection.
Event	Select from Event Log

3-3-1. Search Selection Type

1) Time Based search selection









- Select the Date you wish to view by selecting a Date from Calendar
- Select time you wish to view by selecting a time from Time Line
- Preview pane above the time bar will show preview of the currently selected video
- You may click on Refresh, Option, Backup, Import, To Live, To Play for additional features and options

2) Event Based Search Selection



- Select search date from calendar
- Event log will be displayed according to the chosen date
- Preview pane above the Event Log will show preview of currently selected video
- You may click on Refresh, Option, Backup, Import, To Live, To Play for additional features and options

3) Miscellaneous Search Options

	Reload all data list.
	Search option.
	Backup recorded data to external USB device.
	Playback recorded data from external USB device
	Move to Live video mode.
	Load playback data to full screen mode.

3-3-2. Play Mode

If you choose 'to play', the full screen appear. You can control the play speed in here.



► Play Screen GUI

1. Split Screen
2. Sequence
3. FB (Fast Backward): $FB \times 2, 4, 8, 16, 32, 64$ times faster
4. Playback : Backward normal speed
5. SB (Slow Backward): $SB \times 1/2, SB \times 1/4$
6. STILL (Pause) / Frame advance
7. SF (Slow Forward): $SF \times 1/2, SF \times 1/4$
8. Play : Forward normal speed
9. FF (Fast Forward): $FF \times 2, 4, 8, 16, 32, 64$ times faster
10. STOP : Stops playing and returns to LIVE Screen.
11. Status information

3-4. SETUP Mode

Access Setup menu from Right Clicking mouse button to Popup Menu.
Configure Display, Record, Device, Network, System which is navigated by clicking on corresponding tab menu at the top of the screen

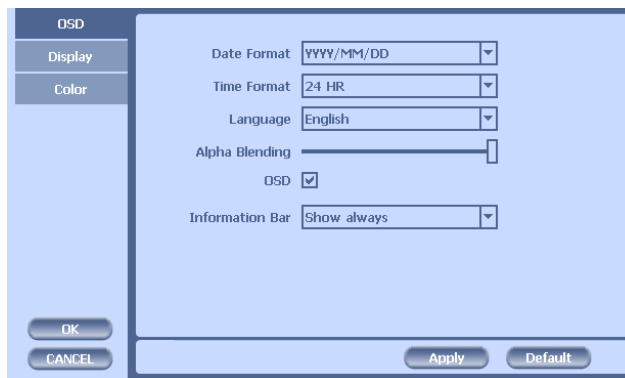


3-4-1. Display

Configure OSD, Main Display, Color Control setting.

1) OSD

You may configure and/or view Date Format / Time Format / Language / Alpha Blending / OSD / Information Bar options



Date Display Format: Select from YYYY/MM/DD, MM/DD/YYYY, DD/MM/YYYY

Time Display Format: 24H – 24hour military time

12H (AM/PM) – 24 Hour separated by AM/PM

Language : Select system language

Alpha Blending: Adjust transparency of System Menus

OSD : OSD On/Off

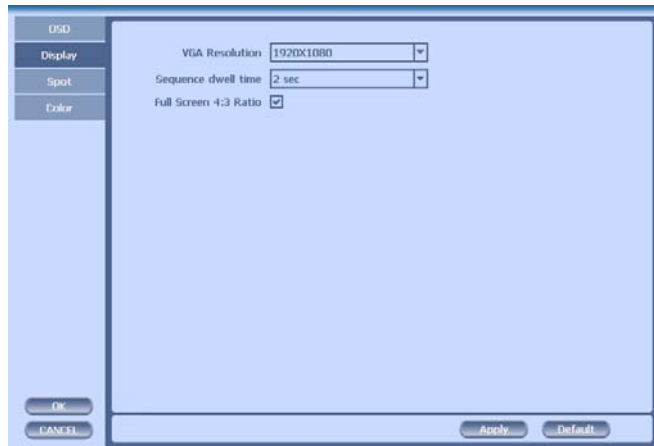
Information Bar: Information Menu Bar Hide/Auto hide/ Show always

Default : Factory default all configuration values

Apply : Save current page configuration

2) Display

Configure and view Monitor, Sequence Dwell Time settings.

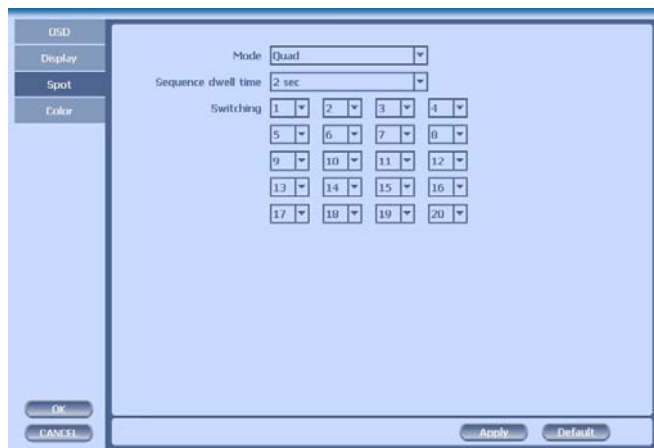


Monitor : You can choose the monitor between VGA and composite. The screen size will be optimized with the selected monitor.

Full Screen 4:3 ratio: Set the full screen ratio from 16:9 to 4:3 for getting original picture.

3) SPOT Control

Set the SPOT output .



You can set the SPOT output.

- Mode : Choose 'Full' or 'Quad'.
- Sequence dwell time: Adjust the switching time.
- Switching : You can program the sequence time. If you want to just see ch1, you set all box to '1'. You can make any useful sequence by this map.

3) Color Control

Adjust color control for Video.



You can adjust images of camera by channels.

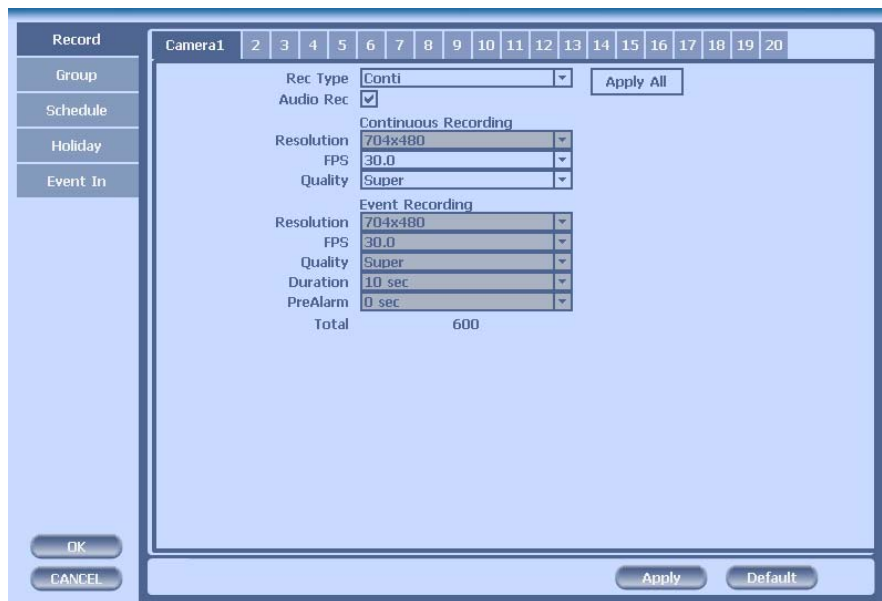
- Contrast: Adjust contrast of camera.
- Brightness: Adjust brightness of camera.
- Saturation: Adjust saturation of camera.
- Hue: Adjust color of camera.

3-4-2. Record

Configure and view Event In, Record, Group, Holiday settings

1) Record

With this menu, you can set the recording variables of DVR and the Scheduler.



- 1) Rec type: to set conti, event, C/E(conti and event) and none(not recording).
- 2) Audio Rec: to select audio recording or not.
- 3) Conti Recording: continuous recording mode setting.
 - ① Resolution: This is the D1 real time machine. Therefore the resolution fixed to D1(704X480 in NTSC OR 704X576 in PAL).
 - ② FPS: Set recording frame rate. 1,2,3,5,6,7.5,10,15,30 are possible You can check the total number of frames in 'Total' .

- ③ Quality: Set picture quality. As quality gets higher, screen quality gets better but saving period gets shorter because file size gets bigger. There are 4 steps quality such as Super, High, Medium and Low

To save the setting, choose 'Apply' after setting.

4) Event Recording

This is a window setting Event Record Mode. Setting method is same as Conti Recording method. Conti Recording and Event Recording can be operated simultaneously.

So during no event input, DVR records by Conti recording settings. However if there is an event, it starts recording by Event Recording settings during Time(sec). This function is very useful when you want to operate with the mixture mode.

- Duration(sec): to set post event recording time. You can choose between 1~59 seconds.

- Pre alarm(sec): to set pre event recording time. You can choose 1~4 seconds.

* Event recording has priority in recording. In C/E recording, the recording will follow conti recording setup in normal condition while it would follow event recording setup in event generation.

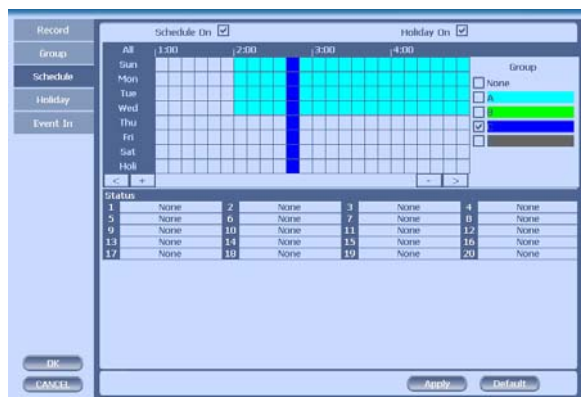
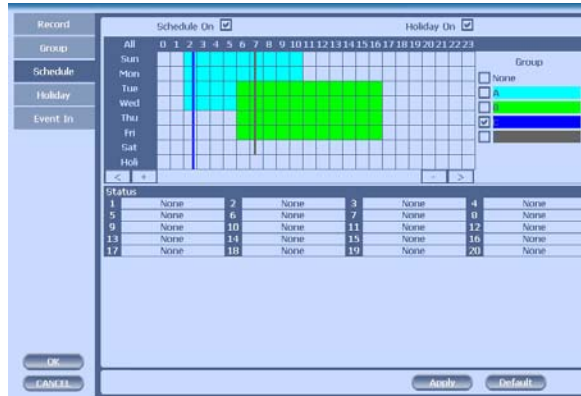
* For convenience, you can use the 'Apply All' menu to change with the same preference. You don't have to setup each channel if you using the 'Apply All' function.

[When Scheduler On]

If you select Schedule, following [Schedule Recording] setting window appears. If you choose Schedule On, the weekly scheduler is activated. Since you can set recording weekly, you can reduce recording of unnecessary time period. In Scheduler window, days and channels are displayed, and recording information for each channel is displayed at bottom of window.

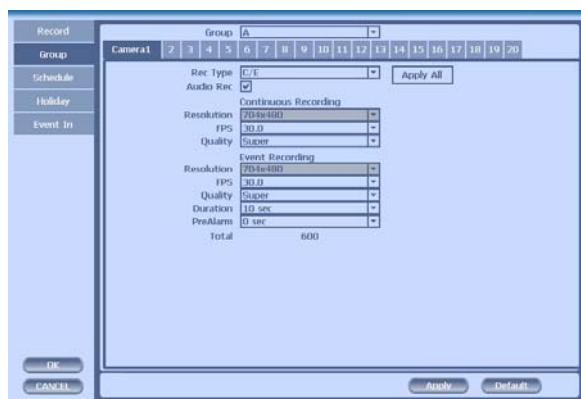
<How to set the weekly scheduler>

1. Choose 'Scheduler' to 'On'.
2. Choose group and drag to wanted time.
3. Press the time bar if you want to set the detailed time.
4. Press 'Enter' button to change the group of the selected area.
5. If you activate 'Holiday' scheduler, choose 'holiday'.



2) Group

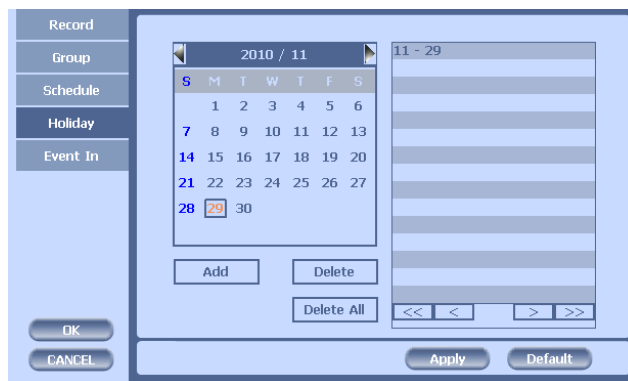
With this menu, you can set the group using the scheduler. If you choose 'Group' tab, you can see the similar screen with 'Record'. The setting is similar.



*In recording, Schedule recording setting is most preferred. So if you activate the weekly scheduler, you cannot record manually.

3) Holiday

With this menu, you can add the holidays. Use the 'Add' button for adding the holiday and use the 'Delete' or 'Delete All' buttons for removing the existing holidays.



4) Event In

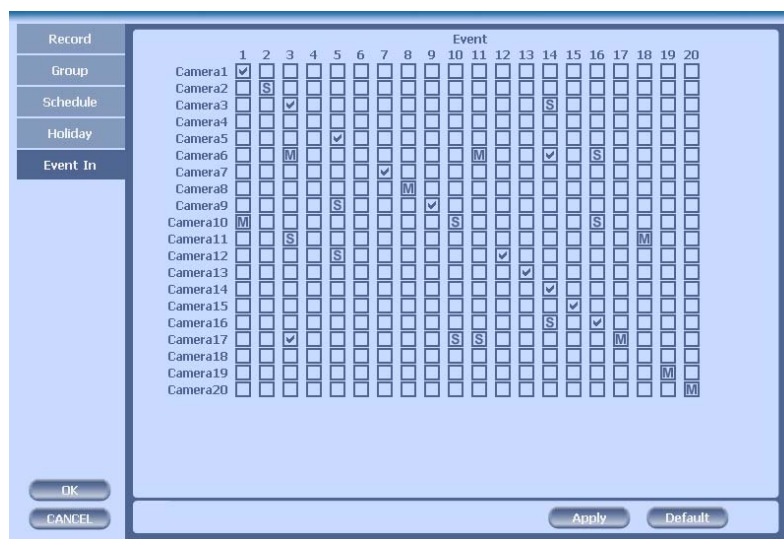
With this menu, you can set sensor input, motion detection setup. You can also set each channel individually. Each channel may be configured to M (Motion) / S (Sensor) / V (Both)

* Summary regarding as Event Recording

	Event Input	Motion Detection	Sensor Setting
MD recording	MD	ON	OFF
Sensor detection and recording	Sensor	OFF	ON
MD,Sensor detection and Recording	MD/Sensor	ON	ON
MD,Sensor Detection and non-recording	None	ON	ON

*In REC Menu, MD recording, Sensor detection recording, MD, Sensor detection recording and no recording are determined according to Event Input.

*Although you set Motion Detection and Sensor Setting to On in Event menu, if Event Input in Rec Menu is set to None, it only detects and does not record.

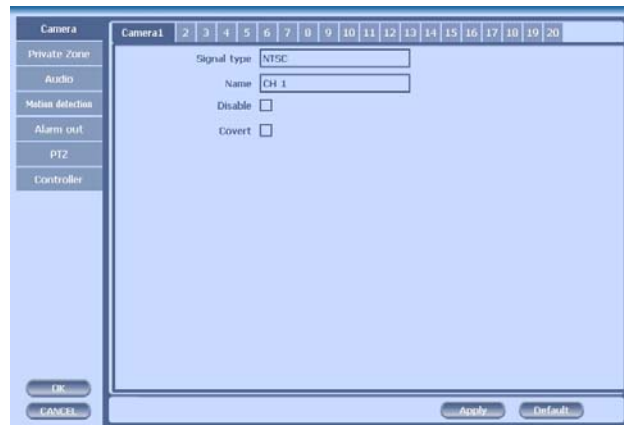


3-4-3. Device

Configure and view Camera, Private Zone, Audio, Motion Detection, Alarm Out, PTZ settings and Controller.

1) Camera

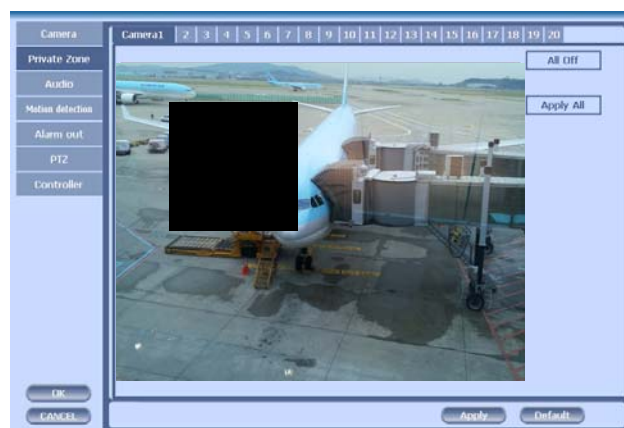
You may configure and/or view camera video type and general camera configuration.



- Channel Name: You can set the camera name.
- Disable : Disable current camera. It is useful when the signal is bad.
- Covert : Hide current camera from Live view but Record for future searching option

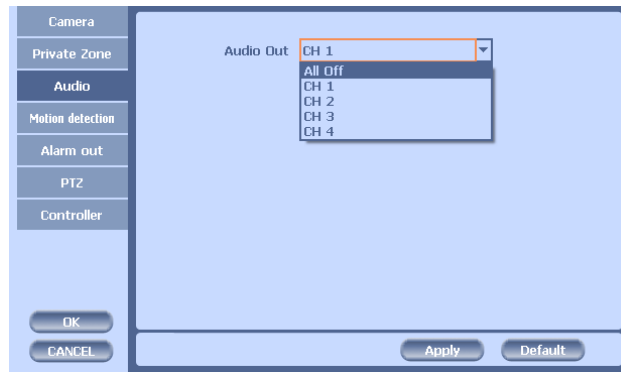
2) Private Zone

If you want to hide some part of the picture for privacy, you can choose the area by dragging the mouse. The selected area will be changed to mosaic screen.



- ① All On : All area will be mosaic.
- ② All Off : .No mosaic
- ③ Apply all : apply the setting to whole channel

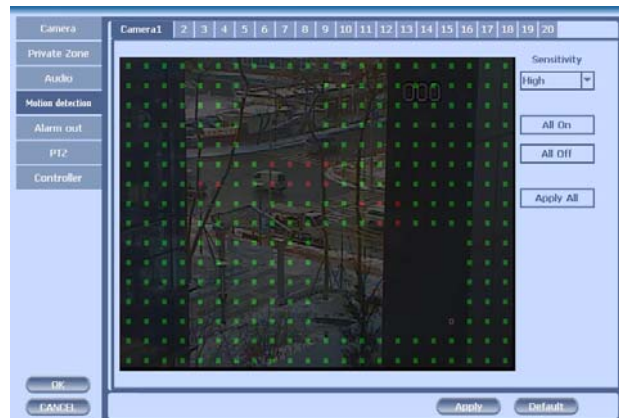
3) Audio



- Audio Out: Select which channel will be heard during Live View.

4) Motion Detection

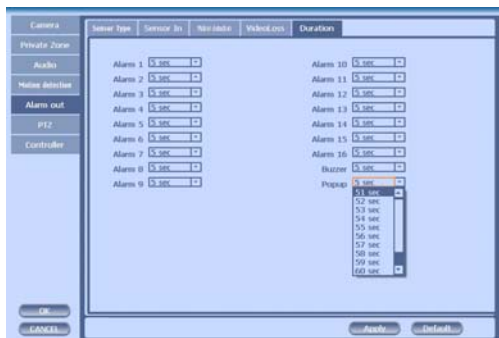
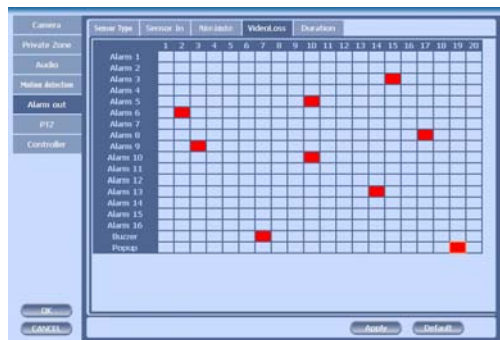
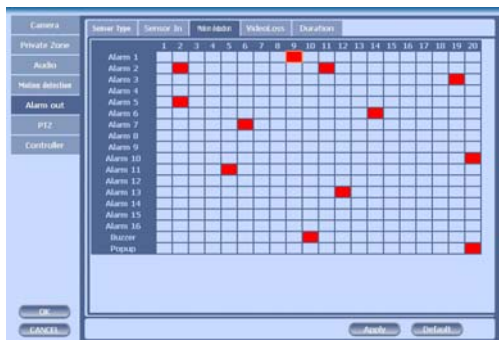
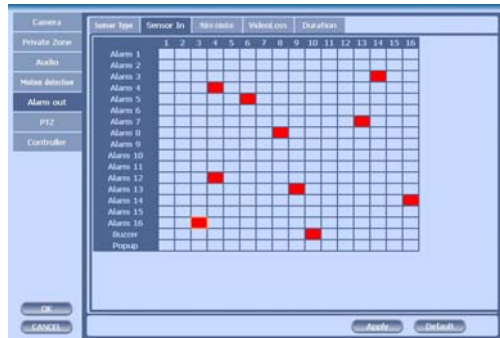
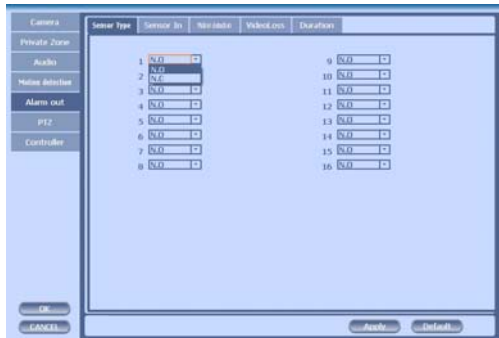
Change settings for Motion Grid selection and Sensitivity Level. You can set multiple area.



- ① Sensitivity.: 3 steps
- ② All On/Off : This will activate or deactivate the motion detection of the all area.
- ③ Apply all : apply the setting to whole channel

5) Alarm Out

There are 3 types trigger such as sensor input, motion detection and video loss. This setting is related that which trigger will be activate the action such as Relay, Popup, and Buzzer Alarm Out. Each type can have separate Duration value and also linked to selected camera.



- Duration Time from 5 seconds to 60 seconds
- Sensor Type: Selectable option is N.O. (Normally Open) / N.C. (Normally Close)

6) PTZ

Configure Pan/Tilt/Zoom camera for control via DVR System and Remote client



Driver: Choose Driver to be suitable for PAN/TILT Camera manufacturer.

You have to set Comport value according to the connected camera. There are more kinds of camera which can be supported. Please contact the tech support to want to know the other cameras.

	Baudrate
PELCO D type	9600~2400
PELCO P type	2400
PANASONIC	2400~19200
ORIENTAL	2400(Fixed)
LPT-A100L	9600(Fixed)
LG-SD110	2400~19200

* For connection of PAN/TILT Camera Receiver part, refer to user's manual of the related PAN/TILT Camera.

7) Controller

This sets the ID of remote control. If you have many DVRs in the same place, you can control separately the DVR by different remote control ID.

Use the ID setup and number key to set the ID of remote control on the remote controller. You may check the ID by pressing the remote control key. The ID should be the same between the DVR and remote control.

3-4-4. NETWORK

Configure and view Address, Port, DDNS, E-mail, Control and Status settings

1) Address

Configure Network information for Remote client connection

- DVR Name : Type the URL of DVR using virtual keyboard.
- Type : It can be supported only Ethernet
- DHCP (Dynamic Host Configuration Protocol)
 - Set whether you want to use DHCP or not (On/Off)
 - If you connect LAN after setting it to On, IP is allocated automatically. If you set it to Off, you have to input IP. DHCP is a protocol that allows managers to manage and allocate IP address centrally.

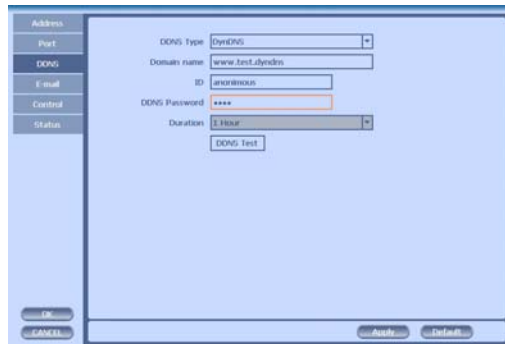
2) Port

There are 4 kinds of ports for the case such as watch, search, setup and web. You can individually set the port number of the DVR. The default is 8000. You can choose from 8000 to 9999.

If you activate 'uPNP (Universal plug and play)' box, DVR connects the router automatically with these port number. You don't have to setup the router.

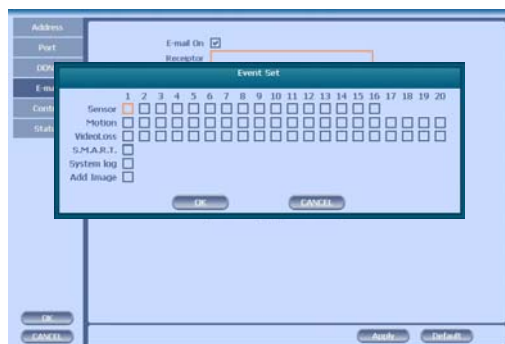
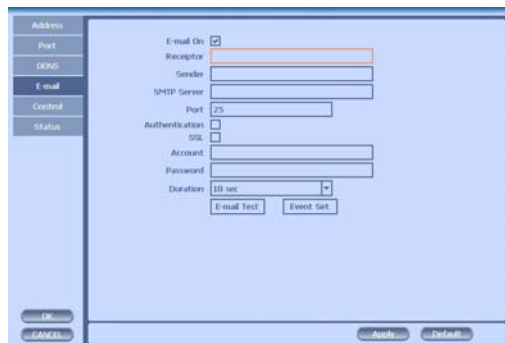
3) DDNS

This is the function to automatically change the IP of DVR to URL. This product supports the automatic DDNS service using manufacture's internal server. Also you can choose Dyndns.



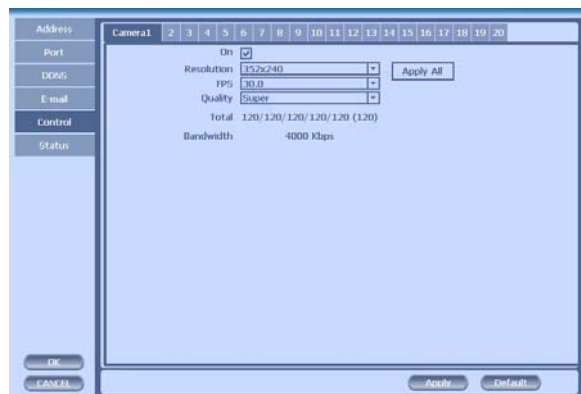
4) E-mail

You can send the event with snapshot by email. Fill all the information correctly and push the 'Email Test'. Also you can select each event individually by 'Event Set'.



5) Control

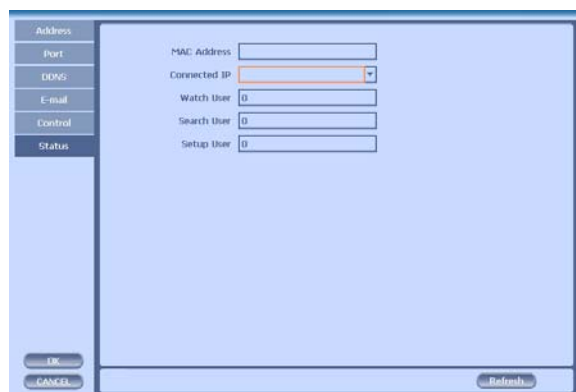
You can individually adjust the resolution and frame rates of video transmission within 600 frames based on CIF.



- ① Resolution : You can choose CIF or D1
- ② FPS: You can adjust the frame rate.
- ③ Quality: Set picture quality

6) Status

This shows the information how many connections and what is the action of each connection.

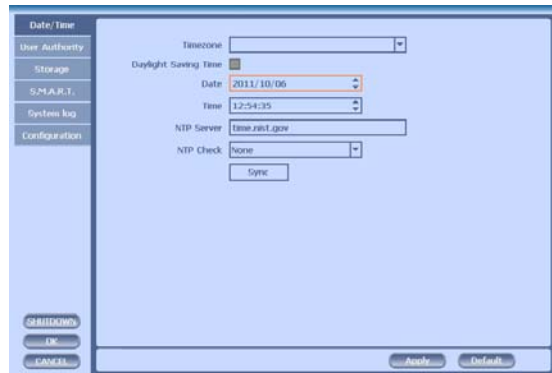


- ① Connected IP : This displays all the connected IP.
- ② Watch User: This displays how many connection for live viewing.
- ③ Search User: This displays how many connection for playback.
- ④ Setup User: This displays how many connection for DVR setting.

3-4-5. SYSTEM

Configure and view system Date/Time, User Authority, Storage, System Log and Configuration settings

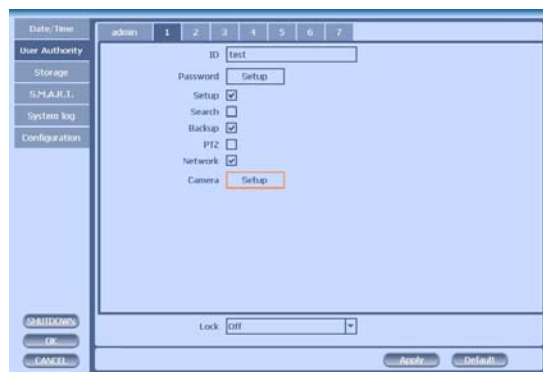
1) Date/Time



- Time Zone: Choose the time zone of your site. If you using the NTP function, it must be set correctly to your zone.
- Daylight Saving Time: It enables to adapt the day light saving time automatically.
- Date/Time: This sets product time. Input time by pressing number buttons after moving cursor with direction buttons. Be careful to move to backward. The overlapped data will be deleted with warning message.
- NTP (Network Time Protocol) Server: This function is to change the time of DVR automatically via network. Press the 'Enter' button and using the virtual keyboard, type the address of NTP server.

2) User Authority

This sets User authority individually. You can give to each users the authorities such as setup, search, backup, PTZ, network and camera control.



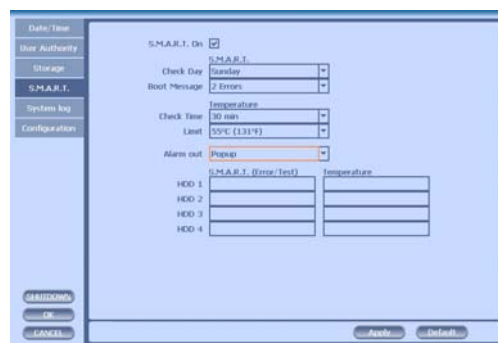
3) Storage



- Display the information and usage of the hard disk drives. If you press the 'Format' button on each HDD, only that HDD will be formatted.
- Total : Display all the HDD usage being used for the product. If you press the 'Enter' button on here, all the hard disk drives will be formatted.
- HDD Overwrite : Determine whether you want to continue recording if there is no spare saving space at hard disk drives.
- Mirroring : If you install two hard disk drives, you can set the second drive as a backup drive by mirroring. The mirrored disk size will be the same or greater than master HDD.
- Auto Deletion : You can select the holding period of the data. If you choose 'OFF', the DVR keep the maximum data regarding the HDD capacity.

4) S.M.A.R.T (Self-Monitoring Analysis and Reporting Technology)

This function lets you probe the hard disk drives and investigate the status of the drivers automatically.



- Check day : Determine the date to perform the SMART.
- Boot message : the number of message of showing the errors
- Check Time : Temperature check period
- Limit : The upper tolerance of the hard disk drive temperature
- Alarm out : You can choose Buzzer or Relay

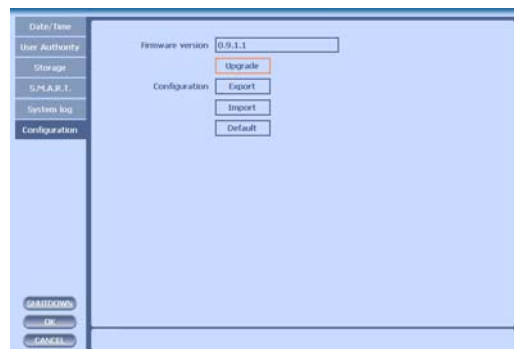
5) System Log

You may view all System administration log from Setup → System → System Log. Also you can export the system log and easily send it to technical support for trouble shooting.



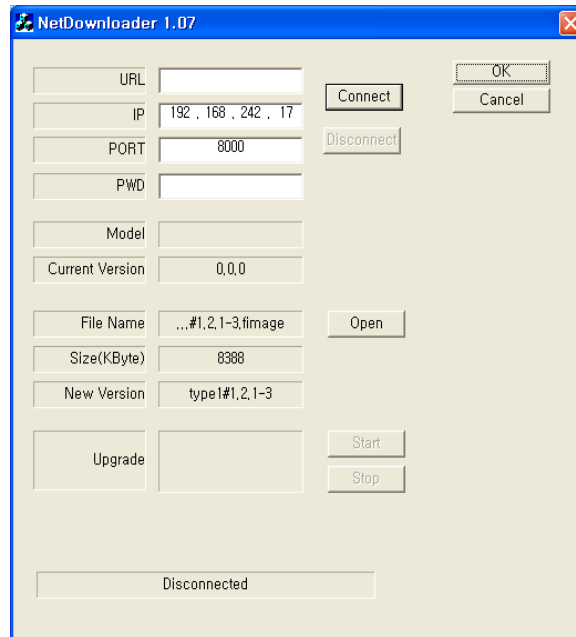
6) Configuration

Shown at the following screen, from Setup → System → Firmware, you may view the current firmware version as well as Upgrade the firmware and additionally, Export, Import, and Default DVR Configuration.

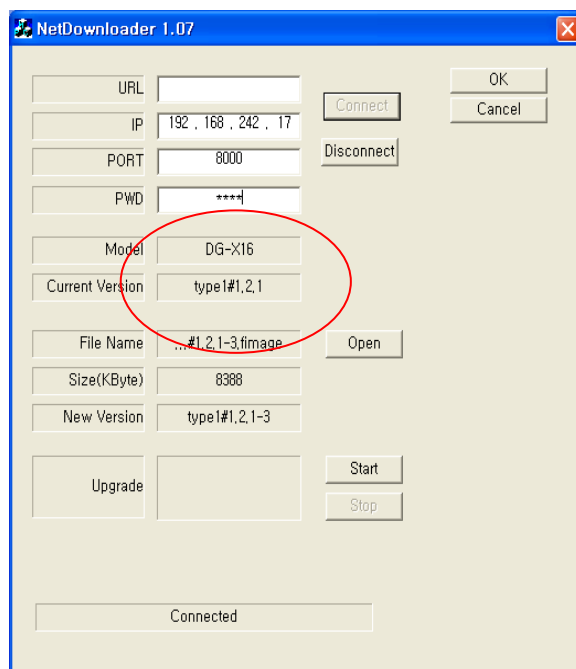


3-5. Firmware Upgrade

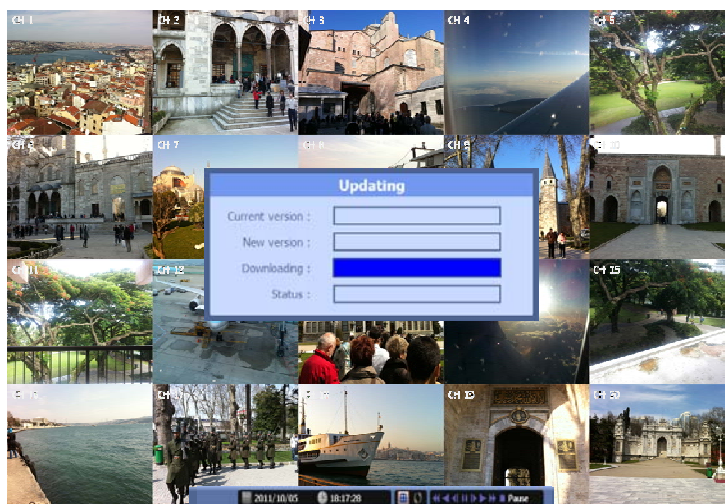
After installing the client software, you can find the 'NetDownloader Program' in the window programs (Start -> programs -> DVR Client -> NetDownLoader) . Please execute this 'Net Downloader Program' to upgrade the firmware of the DVR.



After typing the IP and password of the DVR, click the 'Connect' button. You can check the model name and the current version. If you can't see the model name and current version, you should check the network and try again.



When you connect the DVR, click the 'open' button on the 'NetDownloader Program' and select the update file and then press the 'start' button. You can see the below download window on the DVR screen.



 **WARNING!!!**

Do not turn off the power during download procedure. If you power off manually, all memory will be deleted !

※ After upgrading, DVR will reboot automatically. Before rebooting, do not operate manually !

Trouble Shooting

Symptom	Checkpoint	Countermeasure
<ul style="list-style-type: none"> ● Can't turn on power ● There is no image on monitor ● Only INFO OSD is on monitor and no image ● There is Video Loss message. ● Can't search with Client Program. ● Motion Detection doesn't work well ● There are differences between Live screen and actual condition during remote monitoring ● Live doesn't work well in remote monitoring 	<ul style="list-style-type: none"> ● Is DVR connected to power supply cable? ● Are DVR and monitor turned on? ● Are cables of DVR connected?. ● Is camera turned on? ● Are cables of DVR and monitor connected? ● Is NTSC/PAL setting normal? ● Is connection between DVR and camera normal? ● Isn't another user using same IP? ● Isn't it too bright or too dark? ● Isn't camera installed too far away? ● Is it set to True Color? ● Are PC specifications and VGA Card specifications are appropriate? 	<ul style="list-style-type: none"> ● Connect power cable ● Turn on power. ● Connect DVR cable. ● Turn on camera. ● Connect cables of DVR and monitor. ● Check whether NTSC/PAL setting is SETUP properly ● Check whether DVR and camera are connected properly ● Use it after another use finishes using it. If another user is searching DVR remotely with same IP, you can not search. ● Increase Motion Detection sensitivity. ● Install camera closer. ● Since it buffers Live images, there might be changes with actual condition. (1~2 sec) ● Refer to recommended Client PC specifications in 4-1 Installing Client Program?

Warranty

This product guarantees free repair based on guarantee regulations only if the malfunction is caused while customers were using it properly.

Warranty Period

Warranty period begins from the day this product is delivered to customer.

Model Name		
Warranty Period	From . . . To . . . (for year)	
User	Address :	
	Company :	
	NAME :	TEL :
Retailer	Address :	
	Company :	
	NAME :	TEL :

In case the malfunction is caused by one of following reasons, repair shall be provided as charged service.

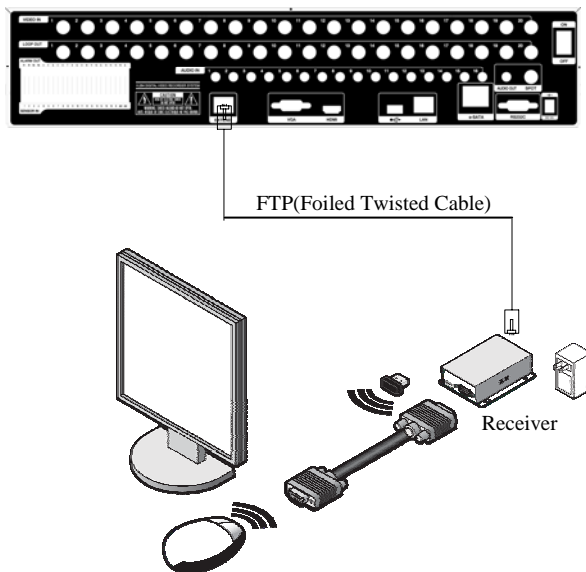
- A) If cause for the malfunction is from external condition other than the product
- B) If malfunction is caused because user tried to reassemble the product
- C) If malfunction is caused by natural disasters such as fire, water disaster, thunder and others
- D) If malfunction is caused while transporting or moving the product after purchasing

1. All other refunds other than warranty repair for this product shall be based on actual cost.
2. Refund standard about product repair, exchange or repayment observe Regulations for Compensating Customers' Damage provided by the Economic Planning Board.
3. Repair part providing period is for five years from the day the production for this product stops.

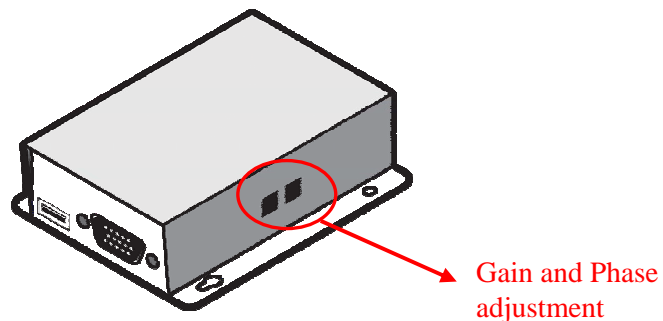
	Address	
	Tel	
	Fax	
	URL	

Appendix A How to Connect Receiver (ULTIMA-X Only)

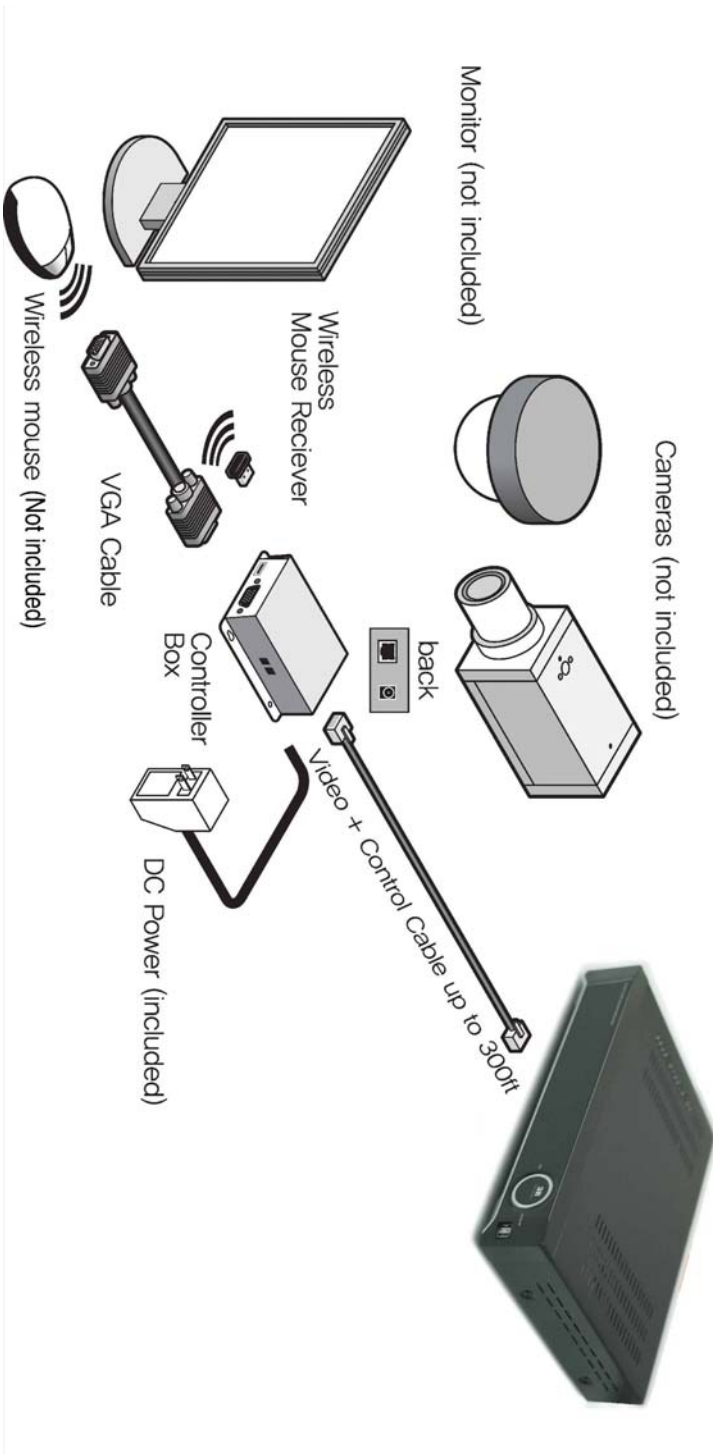
1. Connect EXTEND FTP cable to Receiver (upto 350ft/100m).
Refer to http://en.wikipedia.org/wiki/Twisted_pair about the FTP cable.
Connect Monitor and Wired/Wireless Mouse to the Receiver



2. Because all the case has different cable length, you should adjust the GAIN and PHASE in Receiver to get a most proper VGA output. You can use the small cross screw driver for adjusting at the edge of Receiver.

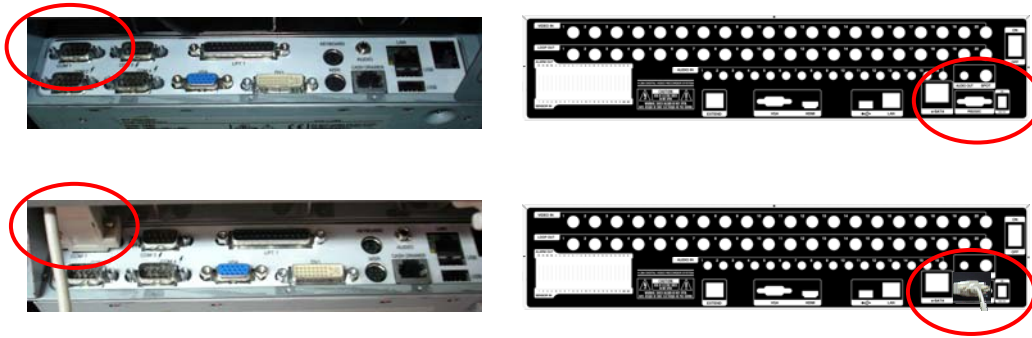


3.This is the whole diagram.

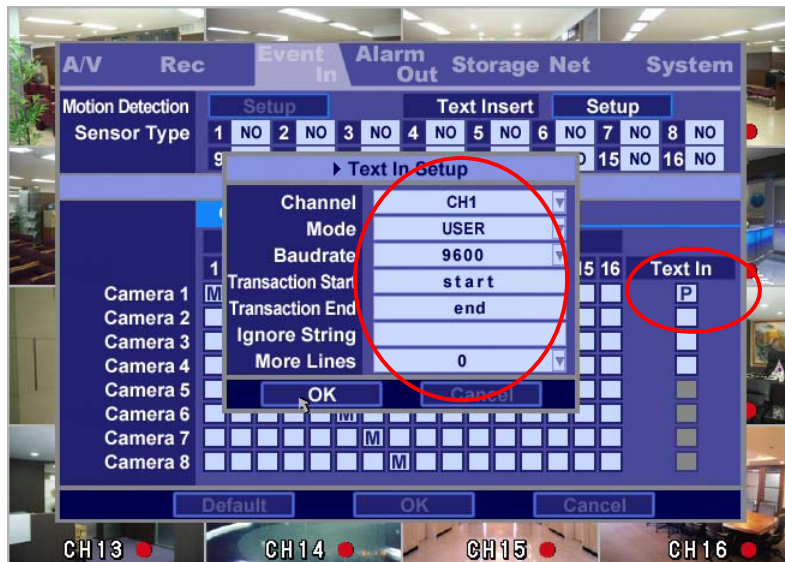


Appendix B How to Connect POS

1. Connect the RS232(COM port) between POS and DVR.



2. Set the preference of the POS on the DVR. If your POS is in the device list in the text in setup of DVR, you just simply choose that device. If not, you should choose 'USER' and manually set the values from the client software



3. To set manually, at first you should know the setting values of the POS. You can get the information from the POS setting screen.



4. If your setting is correct, you can see the below DVR screen on transaction. (This is the popup screen. You can set popup in the 'Event In' setup.)

