

**H.264 High Performance Digital Disk Recorder** 

Security & Sound Systems Business Unit, System Solutions Company

# SD5 Family

SD5 family line up including SD5 cameras, WJ-HD616/716 and LCD monitors ensure the quality and usability of total surveillance system.









WV-CW504

Superior Image Intelligence Reinforced Surveillance



Recording

WJ-HD6161/716



High quality/frame rate Reliability SD5 Link Viewing
New LCD Monitor



WV-LW1900/2200

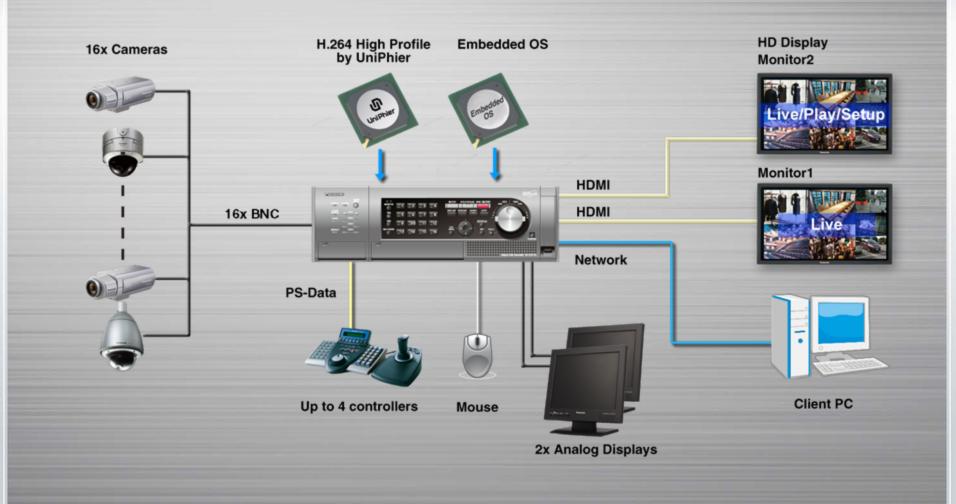
High picture quality High definition

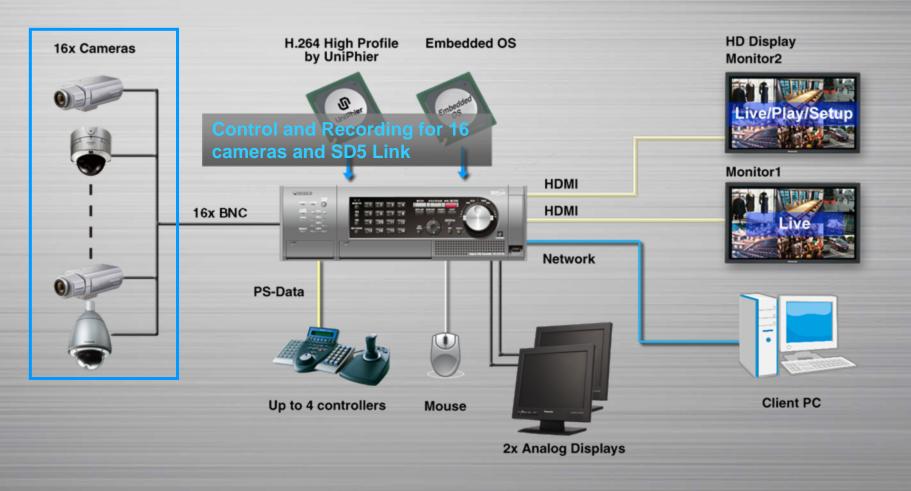
WJ-HD616/716 is a high performance DVR featuring H.264 High Profile, SD5 link, HDMI output, made possible by Panasonic's state of the art technology.

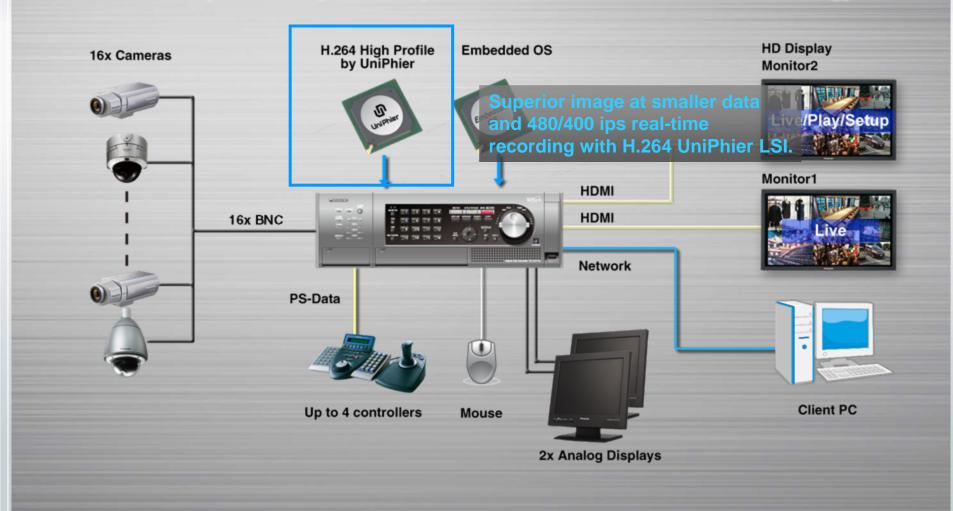
High Image Quality High Frame Rate

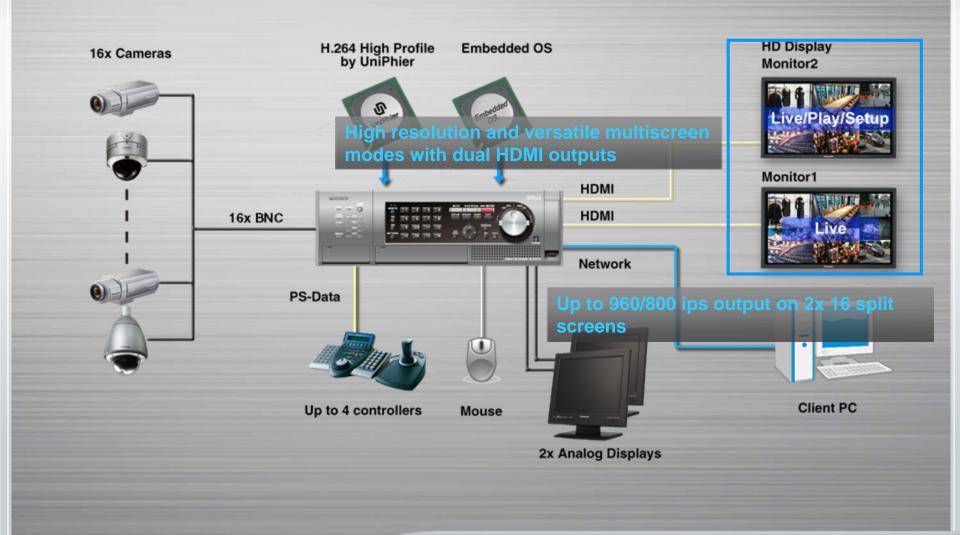


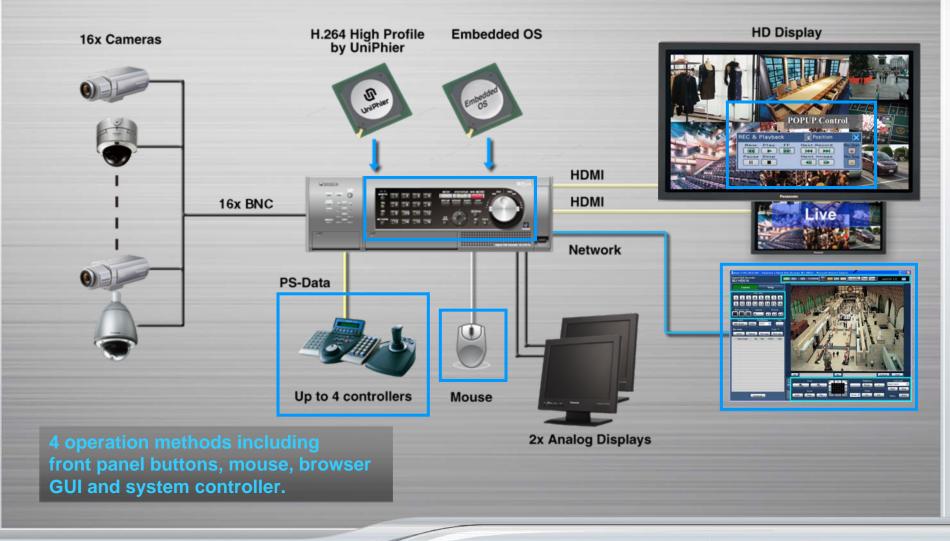
Panasonic ideas for life

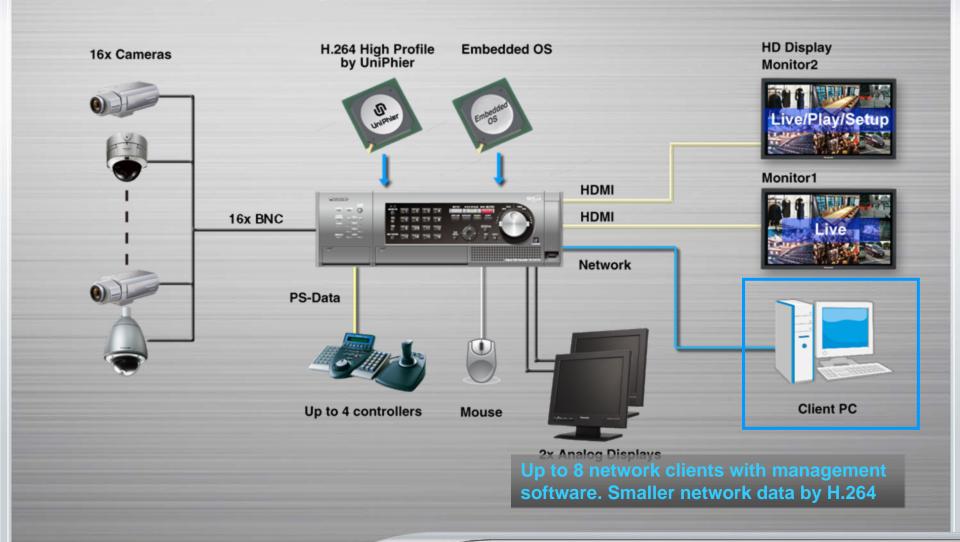


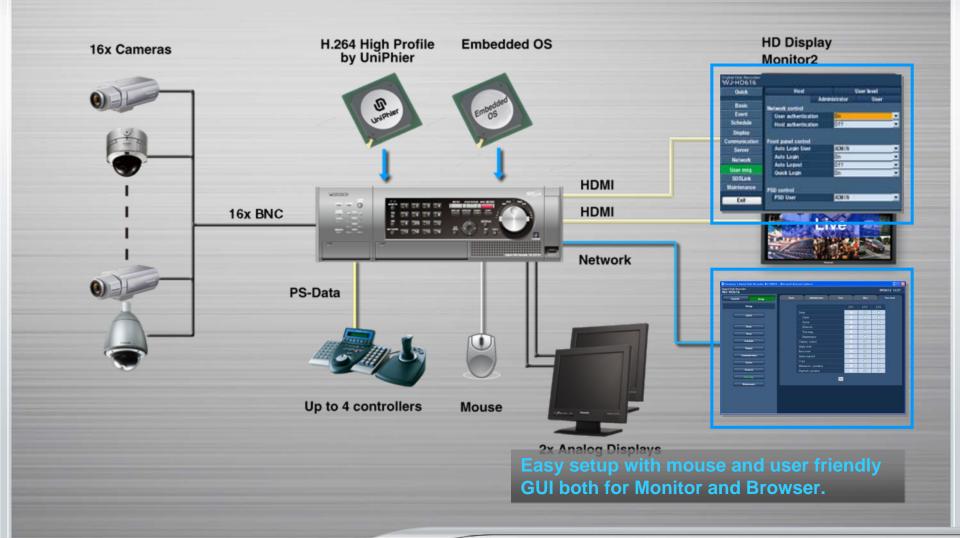


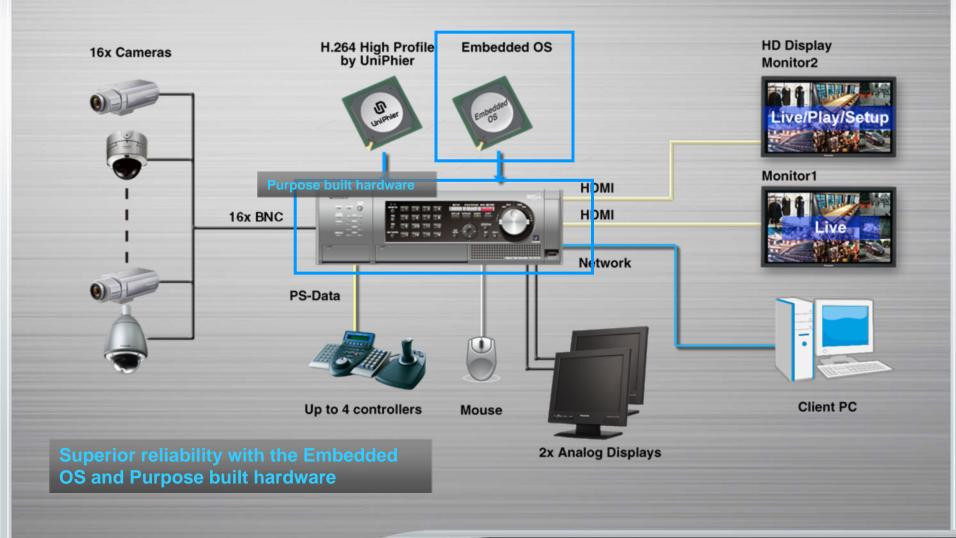




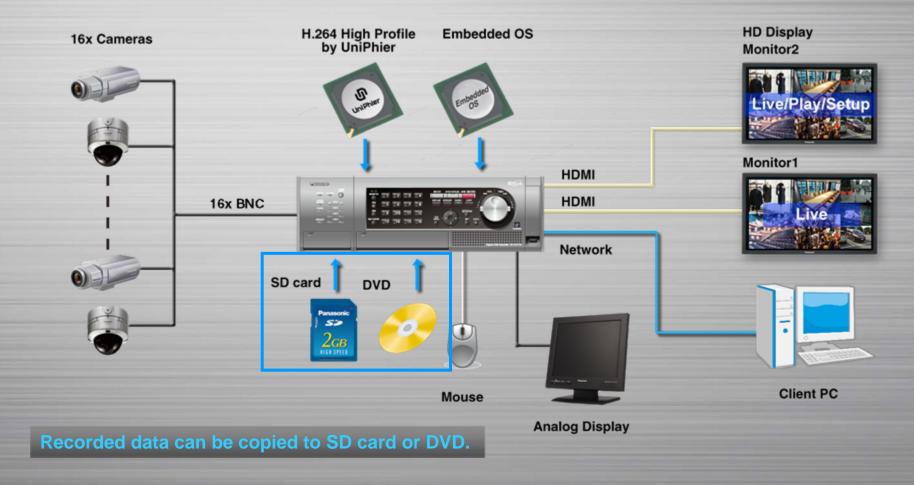








WJ-HD616/716 is a high performance DVR featuring H.264 High Profile, SD5 link, HDMI output, made possible by Panasonic's state of the art technology.



Note: DVD drive is an option. SD card is not included.

# H.264 High Profile H.264 High Profile encoding with Panasonic Uniphier LSI enables high quality high frame rate recording with smaller data size. Quantization 8x8 Transform Matrix **Predictive motion** CABAC compensation UniPhier H.264 High Profile

# H.264 High Profile

H.264 High Profile encoding with Panasonic Uniphier LSI enables high quality real-time video with smaller data size.



Unclear detail even with larger data size.



Superior image with 1/3 rd of data size (SF Field).

# H.264 Real-time Recording

H.264 High Profile with Panasonic Uniphier LSI enables up to 480ips high frame rate recording, ensuring that the decisive moments are captured.



Conventional: 4x15ips: Total 60ips



WJ-HD716: 16x30ips: Total 480ips

Note: In field mode. HD716 PAL: 16x25ips: Total 400ips, HD616 NTSC: Total 240ips, HD616 PAL: Total 200ips.

# H.264 Longer Recording

H.264 High Profile encoding with Panasonic Uniphier LSI enables high quality real-time video with smaller data size, enabling longer recording time.



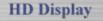
## **HDMI** Interface

HDMI interface supporting 1920x1080 display size allows high quality video and audio transmission with single HDMI cable.











Note: Audio output is Monaural.

# **HDMI Superior Image**

HDMI output supplies 720x540 resolution image even for Quad screen, approx four times higher than conventional Quad screens.



Unclear detail due to shrinked image resolution.



Superior image with high definition output.

Note: The resolution is number of pixels on the display including the border line.

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# Versatile Display Modes

Versatile display modes include various multiscreens and multiscreen sequences, optimizing the capability of the high definition display.



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Status display indicates various system information.

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16 steps sequences are available using the multiscreen modes

4 split screen A-D



4 split screen WD



7 split screen



8 split screen



9 split screen A/B



9 split screen WD



12 split screen



16 split screen



Note: Full screen of 1440x1080 is also avairable.



Function of the cross cursor, set and hold buttons changes depending on the sub menu mode.



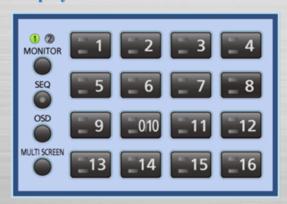


Operation panel can be displayed on the monitor2 for mouse operation.



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#### Display control / Camera select



#### Camera control



#### **Transport control**

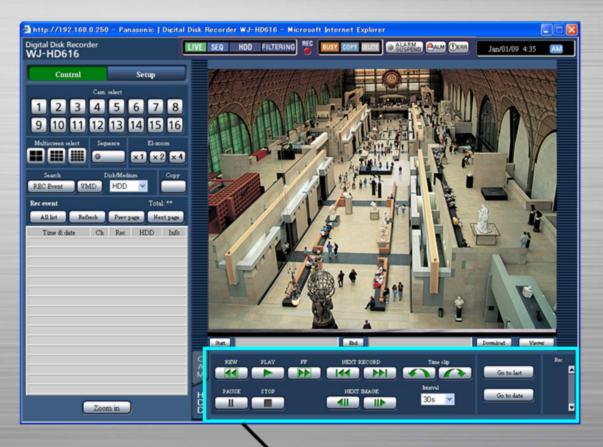


Camera/recorder control and status monitoring cab be made with the side panel, camera/recorder control panel and status display.



Camera control

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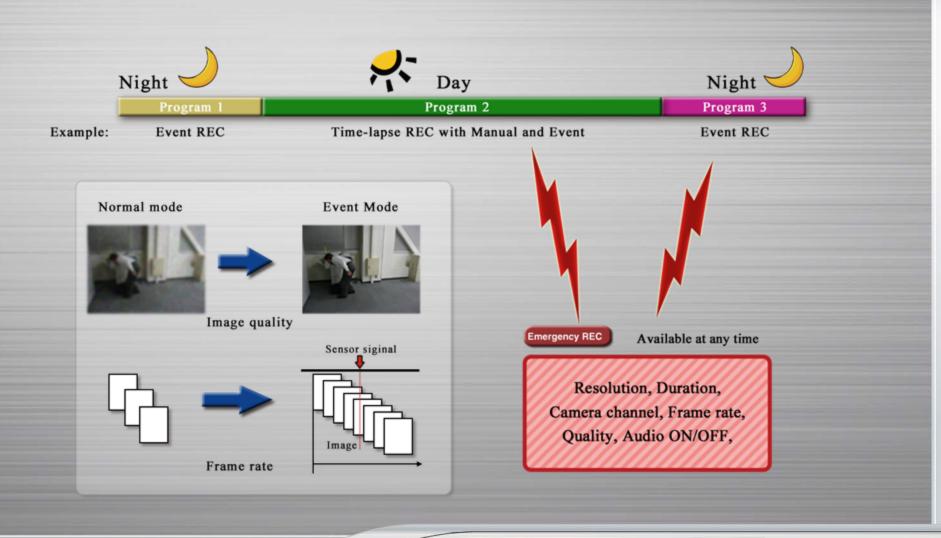
Recorder control

System controller allows quick and steady control with the Joy stick and the Jog/Shuttle.



### Flexible Recording Modes: Manual, Schedule, Event (Pre/Post), Emergency.

Schedule mode includes 4 recording programs with individual recording mode for each camera, and 6 time schedules per day.



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The time table for one day can include 6 time zones where one of the 4 programs can be assigned.

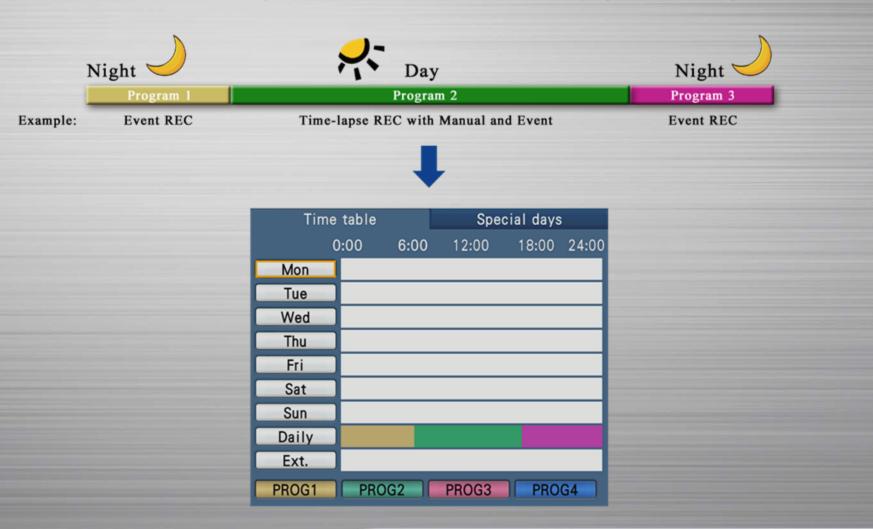




New time table setup					
Schedule	Start	End	Program setup	Event	Alarm message
1	:	:	PROG1_▼	ON 💌	ON 🔻
2	:	:	PROG1_▼	ON 🔻	ON 🔻
3	:	:	PROG1 <u>▼</u>	ON 🔻	ON 🔻
4	:	:	PROG1 <u>▼</u>	ON 🔻	ON 🔻
5	:	:	PROG1 <u>▼</u>	ON 🔻	ON 🔻
6	:	:	PROG1 ▼	ON 🔻	ON 🔻

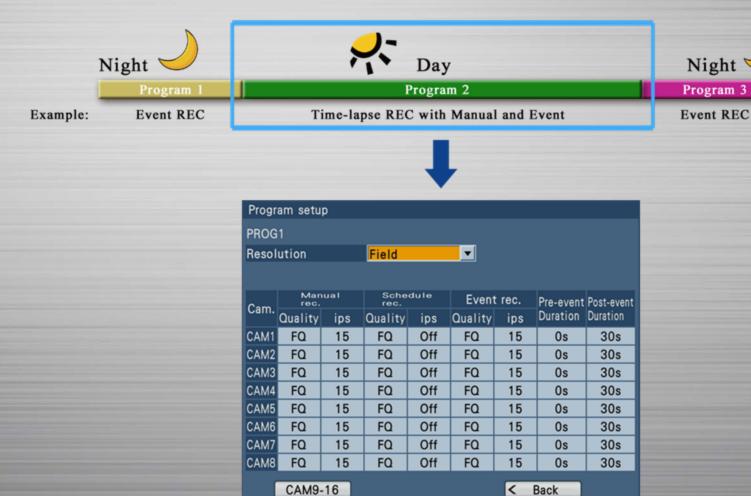
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### Flexible Recording Modes: Manual, Schedule, Event (Pre/Post), Emergency.

Each program includes individual recording mode for Manual, Schedule and Event.

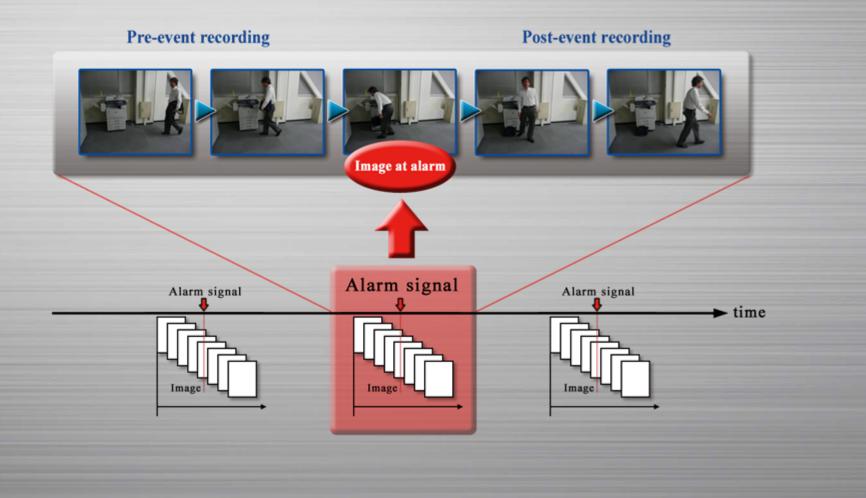


Night

# **Event Recording**

### Event recording mode provides effective use of disk space.

Images prior to the alarm can be recorded so that the critical moment is less likely lost.



## Video Motion Detection

# WJ-HD616/716 is equipped with a built in VMD function so that a motion in the specified areas can easily be detected as an alarm.

Up to 4 detection areas can easily be specified by dragging the mouse on the image.

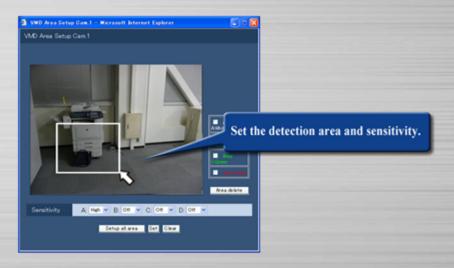






Image Data





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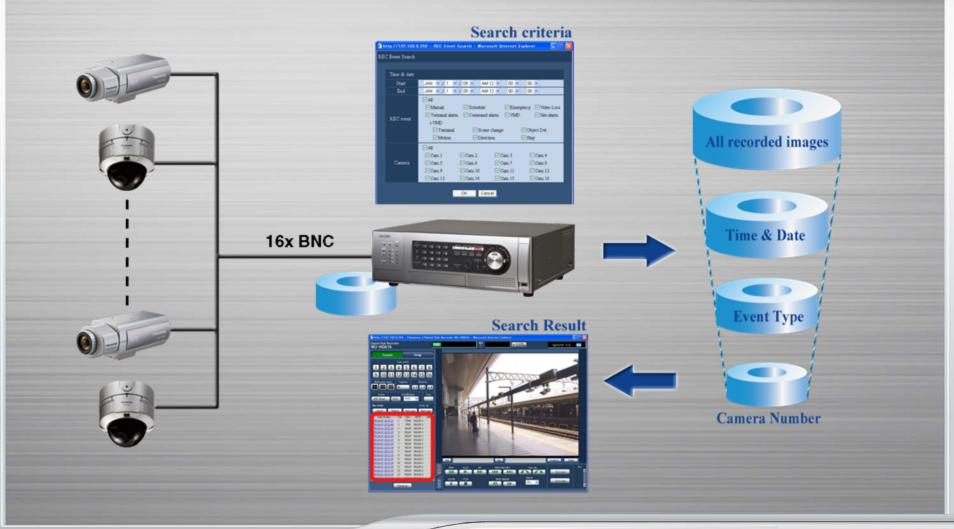
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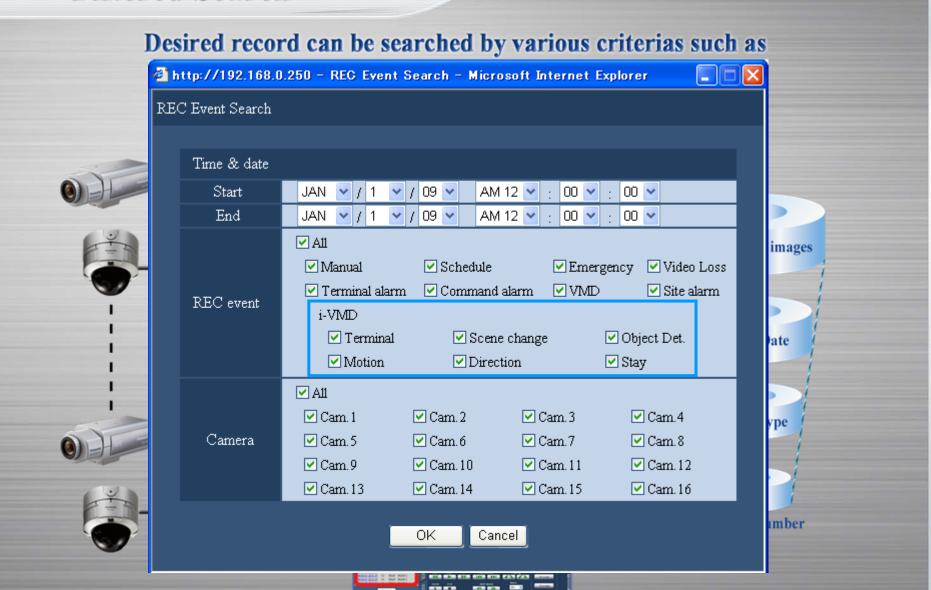
### Filtered Search

# Desired record can be searched by various criterias such as Time & Date, Event Type and Camera number.

SD5 camera' s i-VMD can also be used for search criteria.



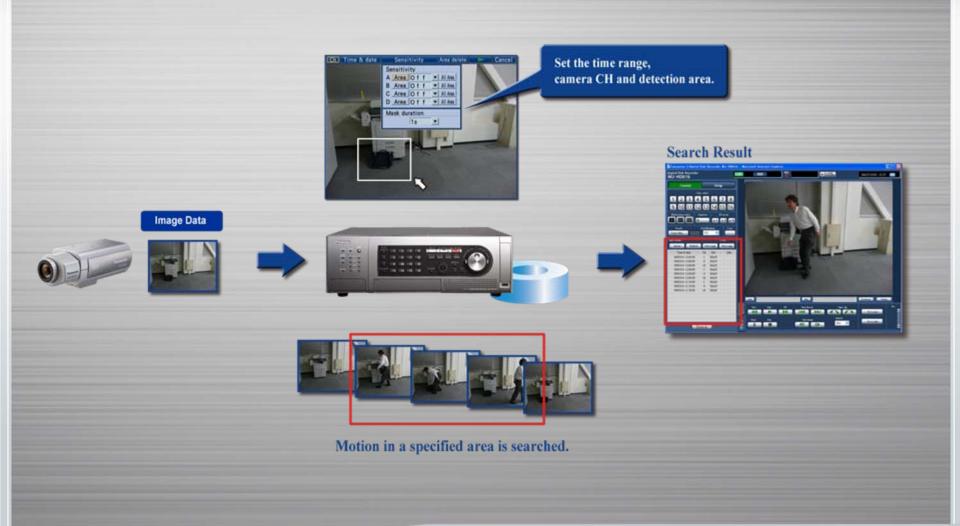
#### Filtered Search



## Playback VMD Search

Motion in the specified areas can easily be searched by analyzing recorded images.

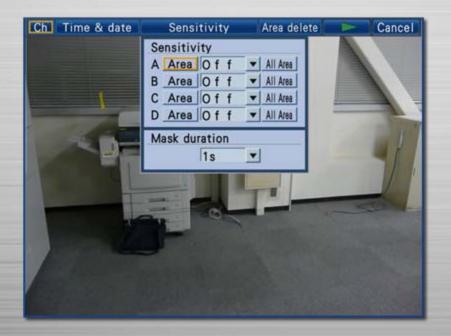
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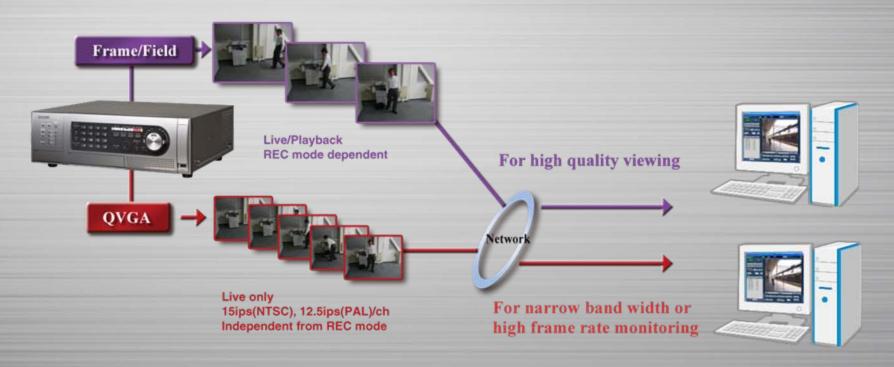




## Flexible Network Output

# Two different quality modes are available for network video stream Frame/Field for precise monitoring and QVGA for reduced traffic.

Spot or Quad sequence is available for the network output.



Notes: Frame/Field (recording dependant) or QVGA is selectable and applied to all users.

When displaying multiscreen, QVGA is used for the user even when the setup is frame/field.

Playback images depend on the recorded quality.

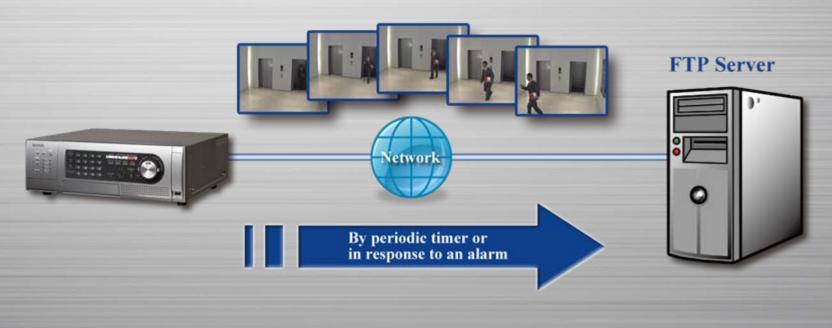
WJ-HD616 QVGA mode is up to 7.5ips(NTSC),6.3ips(PAL). Frame rate in Frame/Field mode depends on the recording rate.

#### **FTP** Client

FTP client function enables periodic live image transfer to an FTP server.

Image transfer in response to an alarm is also available.

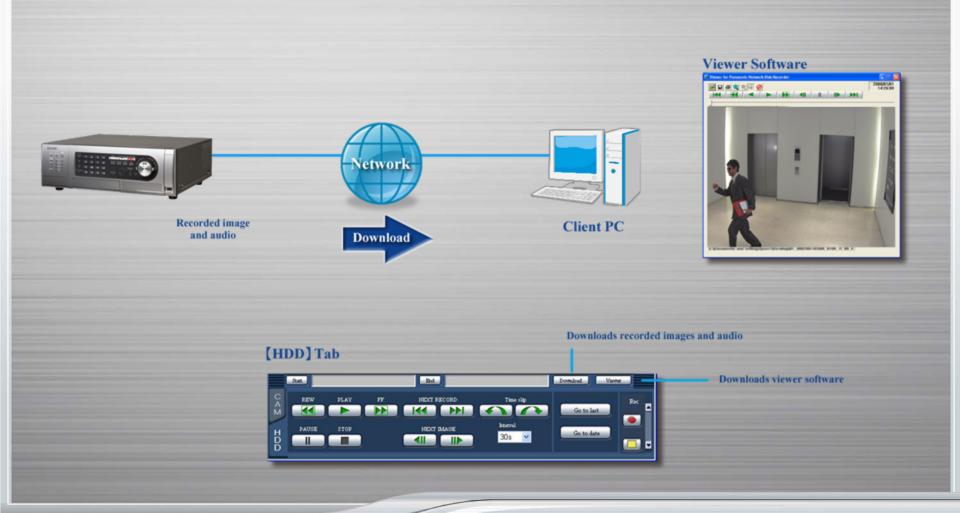




### Record Download

#### Recorded video and audio data can be downloaded to a PC via network.

Downloadable viewer software allows playback of video and audio of the downloaded record.



### Multi-site System

#### Multi-recorder-Multi-site with analog digital hybrid system can be made with the optional WV-ASM100 i-Pro Management Software.

WV-ASM100 enables large scale multi-site surveillance system with management efficiency and user-friendly operation.









**USA (Branch Office)** 



**IP Network** 

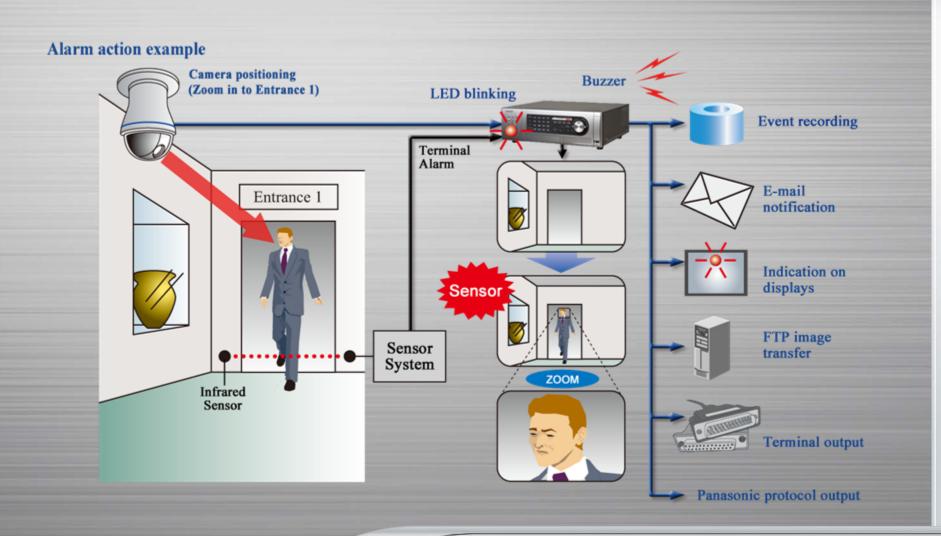


Japan (Headquarter Office) WV-ASM100

## Flexible Alarm Handling

#### Various alarm sources and actions are available for flexible alarm control.

Alarm sources include VMD, 16x Terminal inputs, 16x Camera alarms including i-VMD, Video loss and alarm command.



### Easy Setup Menu

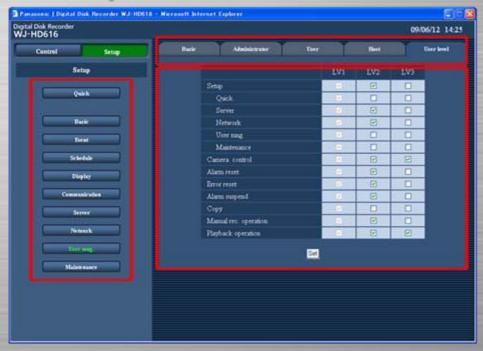
#### Easy to understand multilingual GUI setup menu allows quick and easy system setup.

OSD setup menu and browser setup menu are common structure with i-Pro cameras including category selection panel, sub item tab and setup item area,

#### **OSD Setup Menu**



#### **Browser Setup Menu**



## Easy Setup Menu

#### Easy to understand multilingual GUI setup menu allows quick and easy system setup.

OSD setup menu can be operated with the front panel buttons, jog dial and mouse.



#### **OSD Setup Menu**



Setup menu consists of category selection panel, sub item tab and setup item area, common structure with browser setup menu and i-Pro cameras

## 31TB HDD Capacity

Up to 31 TB with 4 HDD slots in the main unit and three WJ-HDE400 Hard Disk Extension Units each with 9 HDD slots.



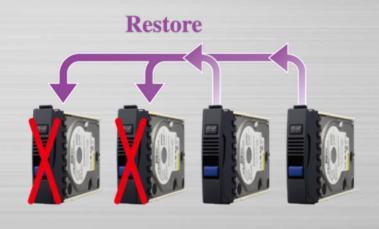
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## RAID Redundancy

With the RAID redundancy, even if one (RAID5) or two (RAID6) HDDs are damaged, recorded images can still be recovered.





Note: Optional RAID5/6 board WJ-HDB601 is required.

Minimum 3 HDDs are required for RAID5. Minimum 4 HDDs are required for RAID6.

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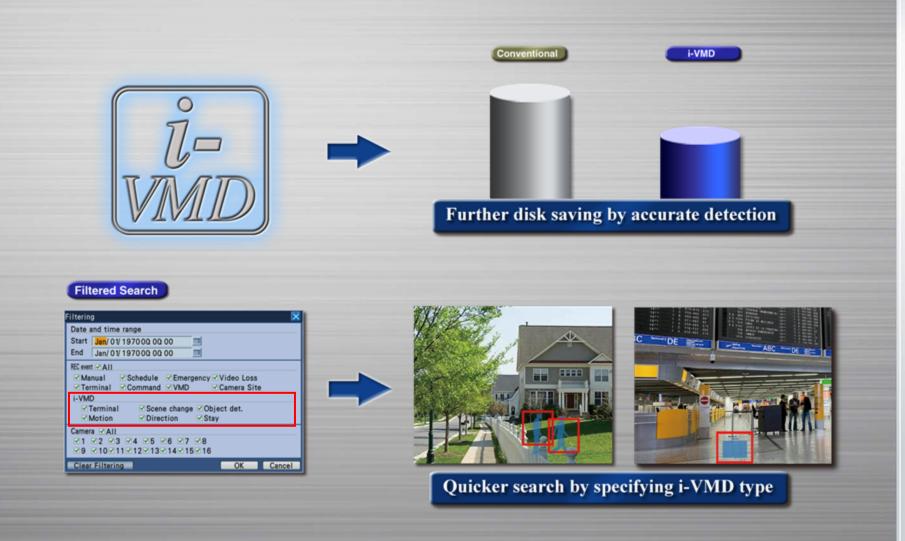
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#### SD5 Link



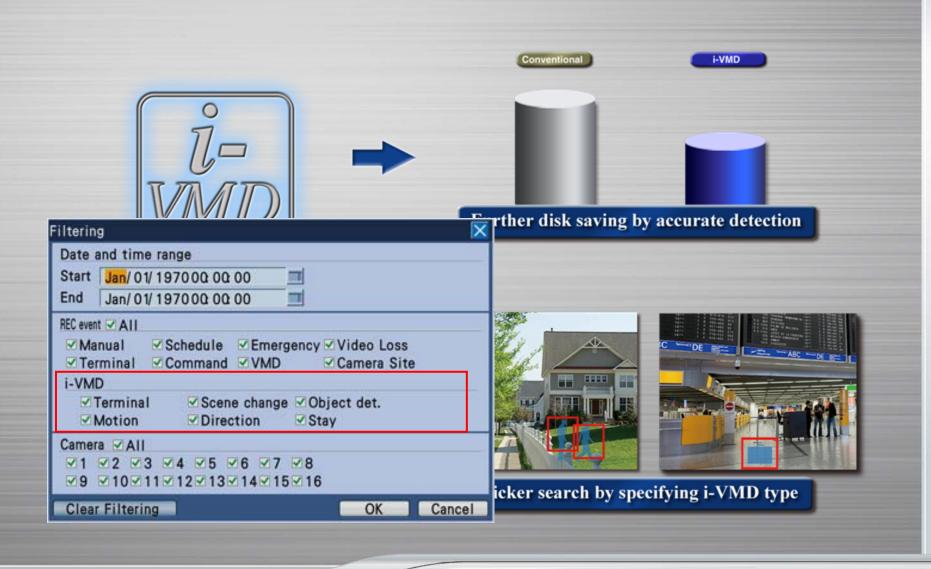
SD5 Link with i-VMD and Filtered search function accelerates the disk saving and search speed.



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SD5 Link with i-VMD and Filtered search function accelerates the disk saving and search speed.



## i-VMD: Intelligent VMD



## High resolution detection area and advanced motion analyze algorism enables accurate motion detection.

Up to two intruder detection areas and two object abandonment/removal detection areas can be programmed.



#### i-VMD: Intruder detection



Up to 4 objects detected in up to 2 detection areas can be traced simultaneously.

Depth correction allows more accurate detection when the scene includes deeper depth.



A person is approaching the fence.



Intruders are climbing the fence.



Intruders are detected and indicated by red frames.

## i-VMD: Object Abandonment



# Abandoned object can be detected and indicated with the red frame to alert a malicious attempt.





A person is leaving a bag.



The abandoned bag is detected and indicated by red frame.

## i-VMD: Object Removal



# Removed object in the specified area can be detected and indicated with the red frame to alert a theft.





A person is approaching to the clothes.



The stolen cloth is detected and indicated by red frame.

## Scene Change Detection



#### Scene change detection can detect interference to the camera and sends an alarm.

It can detect manual change in the camera angle, removal of the camera lens, defocus, blockage of the camera lens with cloth or paint.



Lens defocused



Splay painted

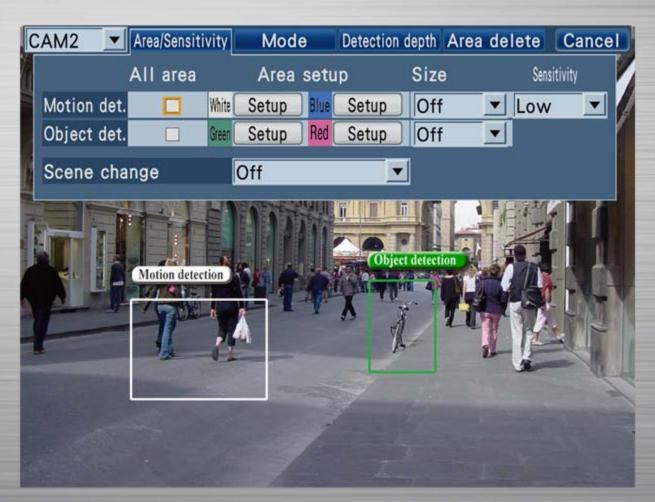


Lens covered by cloth



#### With WJ-HD616/716, i-VMD setup can easily be made by using mouse and GUI.

Up to two motion detection areas and two object detection areas can be set by dragging rectangular areas

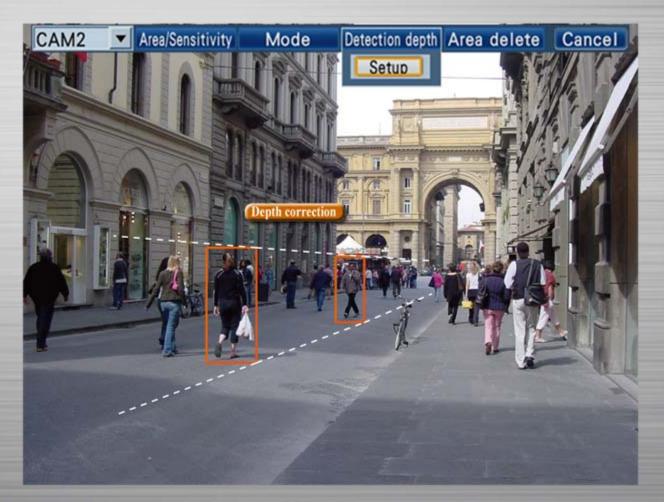


Note: This operation can be made with the OSD setup menu on monitor2, not with the browser GUI.



#### With WJ-HD616/716, i-VMD setup can easily be made by using mouse and GUI.

Depth correction can be set by dragging two rectangular areas corresponding to the proportion of each position.



Note: This operation can be made with the OSD setup menu on monitor2, not with the browser GUI.

## Camera Data Backup



Setup data of the SD5 cameras can be downloaded to the recorder and the saved data can be uploaded, saving time when replacing cameras.

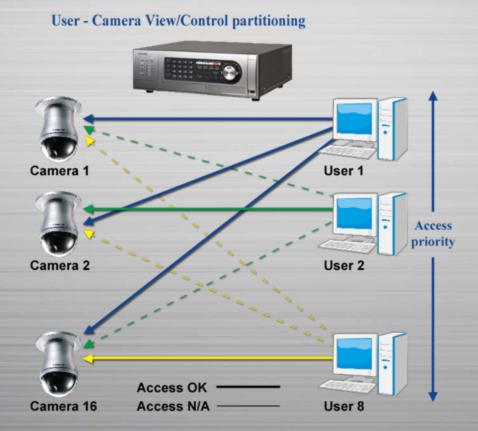


Note: Only with SD5 cameras. The setup data can only be used for the same model.

### User Management

# Sophisticated user management includes User/Host authentication, 3 user levels, 16 user priorities and User-Camera View/Control partitioning.

Up to 8 users can monitor images and control WJ-HD616/716 simultaneously.



[User] Setup Menu

Digital Disk Recorder WJ-HD616								
Quick	Host				User level			
	Ba	sic	Adn	nini	strator	U	ser	
Basic	User name				▼			
Event	Password							
Schedule	Level				LV1 ▼			
Display	Access priority				1			
Communication	Default screen				<u> </u>			
Server								
Network	Camera partitioning							
User mng.	CAM1			▾	CAM5	View/Op	erate 💌	
	CAM2	View/	Operate	◛	CAM6	View/Op	erate 💌	
SD5Link	CAM3	View/	Operate	◥	CAM7	View/Op	erate 💌	
Maintenance	CAM4	View/Operate 💌			CAM8	CAM8 View/Operate 💌		
Exit	▲ Prev page 1			1/	/2 Next page ▼			
	Delete		Edit			Back		

Note: Up to 16 Users and up to 16 PCs (Host) can be registered.

## User Management

# Sophisticated user management includes User/Host authentication, 3 user levels, 16 user priorities and User-Camera View/Control partitioning.

Up to ? users can monitor images and control WJ-HD616/716 simultaneously.

#### 3 User Levels example





LV<sub>2</sub>

Camera control Event log status Playback operation



#### [User level] Setup Menu



### Cascade System

# Master-slave connection with 5 main units allows simple system expansion of up to 80 cameras. All cameras can be monitored with the master unit.

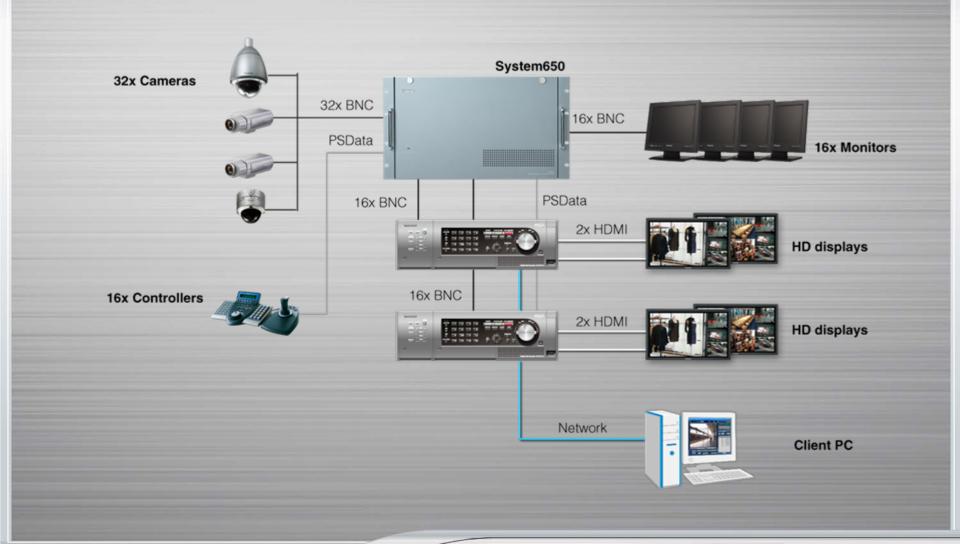
Audio from the slave units can also be monitored through the master unit HDMI output.



### **Matrix System**

Cameras, Matrix and Recorders can be controlled seamlessly with the controllers.

Cameras can also be controlled from the NW client via the recorders.



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Recording

WJ-HD6161/716



High quality/frame rate Reliability SD5 Link Viewing
New LCD Monitor



WV-LW1900/2200

High picture quality High definition

#### Other functions

- WJ-HD616/716 is compatible with Pelco D protocol to control the cameras via RS485.
- Flexible Playback Mode include up to 100x speed play, Goto Date and Goto Last allowing flexible playback operations. Jog/Shuttle control allows intuitive operation.
- · 3D Scan Conversion function for frame recording reduces tearing, motion blur and flicker even when the subject is moving.
- Audio Recording: Up to 4 Audio channels can be recorded and played back.
   Note: Only single channel audio can be played at a time.
- · Data Security: Alteration detection available for data security.
- Easy Maintenance: Hot plug HDDs can be replaced without stoping the recording. Main PCB can be accessed from front without opening the top cover.
- · Reliability: With the embedded real-time OS and the purpose built hardware, WJ-HD616/716 ensures 24/7 operation.