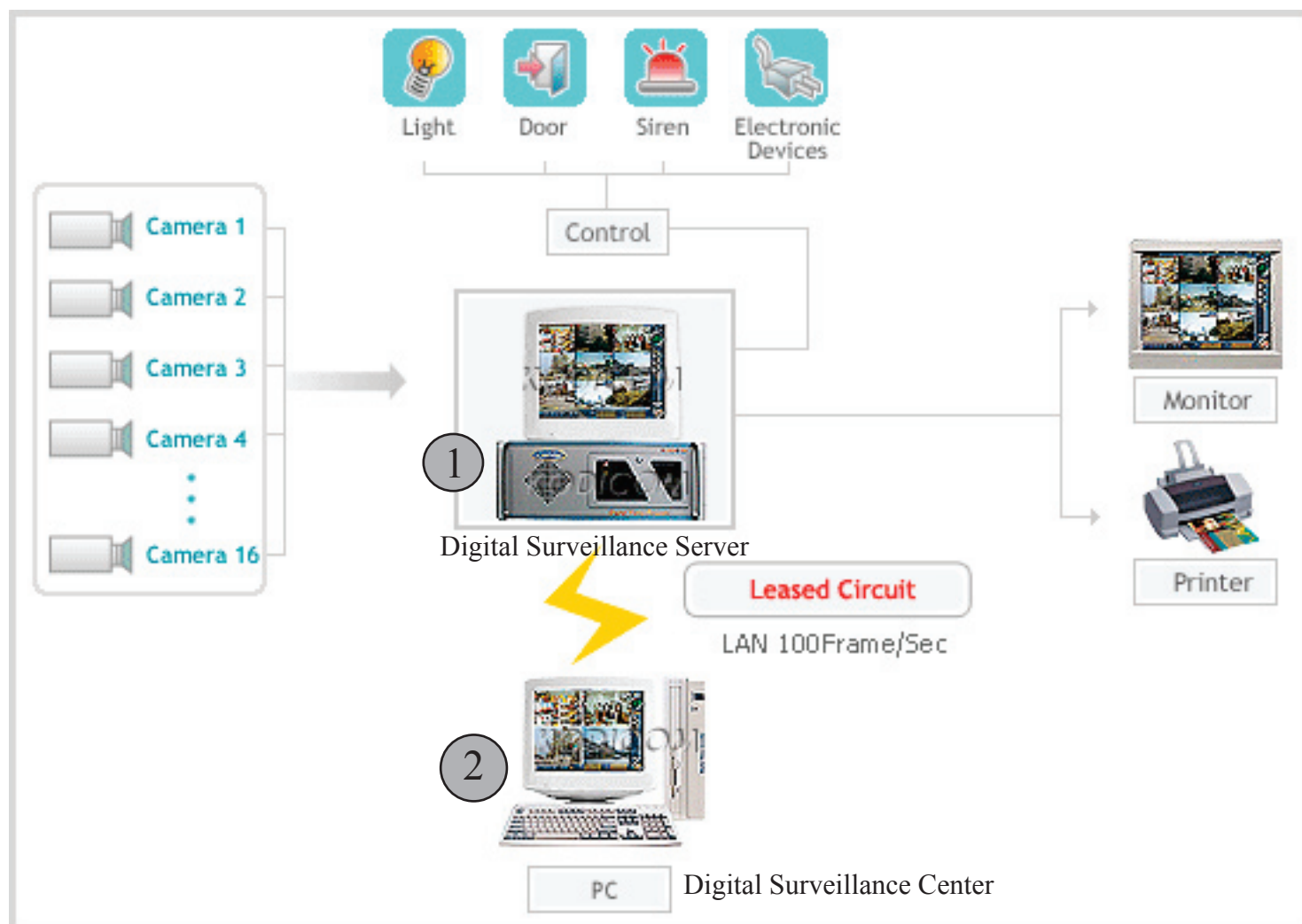


Basic Concept of KR-63 DVR System



1. Digital Surveillance Server:

The Digital Surveillance Server is responsible of capturing images from Video Cameras and record them to Hardisk, Search, Print, Snapshot video and transmit video or signal through Internet/LAN/WAN to Digital Surveillance Center.

2. Digital Surveillance Center:

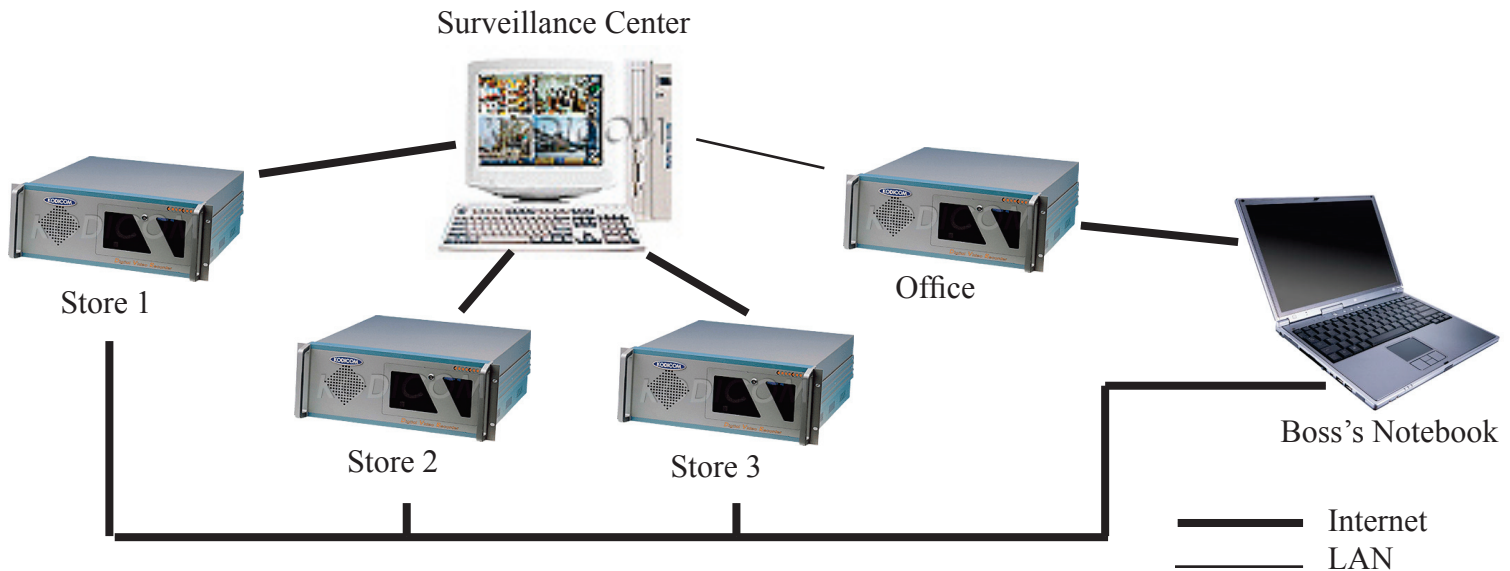
The Digital Surveillance Center is the main component of the whole surveillance system. DVR Operator can monitor and backup all the camera images from surveillance center at remote locations by connected PC/Notebook. Also, operator can manage server system settings and check camera status if necessary.

For Example:

Typical Chain Store:

Company A gets 3 large stores for selling goods and 1 office for administrative works, General Manager wants all the stores and office are visually secured, and let his boss can monitor every stores and office while travelling at Europe, but not willing to hire too many surveillance system operators.

Solutions:



General Manager installed DVR KR-63 at every stores with 16 Cameras deployment, and linked all the DVRs to the surveillance center at office by Internet, and installed one KR-63 connecting with center at office by existing computer network, LAN. As all the DVR is connected, he only hired two DVR operators for 24-hour a day surveillance purpose, and manage/backup all the recorded video by high capacity and inexpensive CDR/DVD-R disks. His boss can monitor every stores and office by his personal notebook while he is on vacation.

Real-Time Monitoring

Multi-Screen Monitoring



Real-Time Monitoring

KR-63 built-in 100 Frame/sec monitoring/recording processing speed. Operator can monitor all the cameras real-time.

Remote Monitoring

KR-63 built-in 10/100Mbps Ethernet Adapter, operator can login the server by DVR Center Module, and monitor real-time through the console



KR-63 built-in Multiplexer, operator can monitor 1/4/6/9/10/13/16 cameras simultaneously with one monitor, or monitor in sequencing mode

And user can define the camera number to



Full Screen Monitoring

4 Screen Monitoring

6 Screen Monitoring

9 Screen Monitoring

10 Screen Monitoring

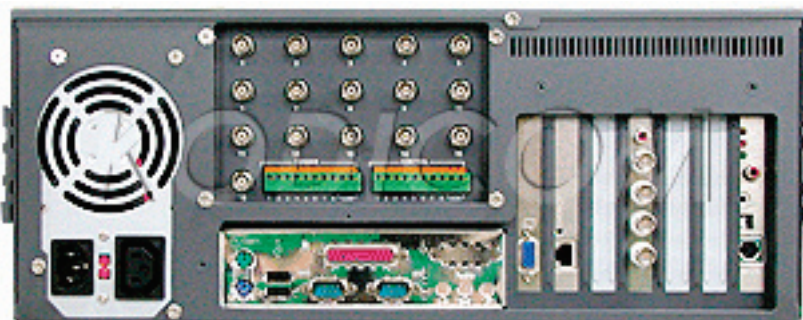
13 Screen Monitoring

16 Screen Monitoring

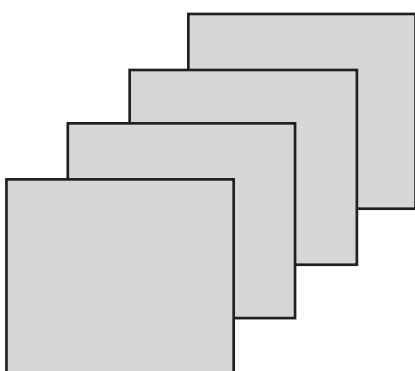
Real-Time Recording

Typical KR-63 system built in:

- 4 to 16 Cameras Input (BNC)
- 1 Audio Input
- Support NTSC/PAL
- Processing Speed: NTSC 120Fps
PAL 100Fps
- 2.5Kb per picture compression rate
- User-Defined Recording Frame rate



Frame rate



Smoothness of Digital Video is represented by Frame rate. All the video is composed of a series of Frame(Picture) linking and playing together. Human eye can see up to 25 Frames per second.

As a result, KR-63 capture 25 Frames/sec per camera, when the record is replaying, viewer can see every movement momentarily, just like real-life.

KR-63 processing speed is up to 100 Frame/sec, so that it captures 4 Channel real-time 25Frame/sec video every second.

However, for the general purpose of visual security surveillance, 2-8 Frame/sec rate is very adequate for capturing all momentarily motion without any loss.

Engine-K Compression [Encoded]



All the recorded video are compressed into Engine-K format at 2.5Kb per picture capacity, this is a format developed by Kodicom and those video can only be viewed or played through Diginet Software. This method ensure the security of video.

However, user can convert them into AVI format for universal purposes.

Adjustable recording Frame rate



Although each captured picture is compressed into 2.5Kb in size, operator can adjust the recording Frame rate from 1 to 25.

Also, operator can adjust brightness and contrast rate of video.

Multi-Recording Mode

Continuous Recording

Recording continues 24-hour a day, 7 days a week, non-stop.

Time-Scheduled Recording

Recording fixes at weekdays, weekend or holiday during a specified period of time.

Motion Detection Recording

Recording only takes place when motion or movement is detected by camera. This mode greatly reduces unnecessary recording as a whole.

Alarm Recording

When motion is detected, recording can save 5 seconds before and after the event, so that complete coverage of the whole event is possible.

The screenshot displays a configuration interface for camera recording. On the left, there is a 'Camera' selection panel with buttons numbered 1 through 16. The main area is a table with columns for 'Camera 1', 'Weekday', 'Saturday', and 'Sunday/Holiday'. The rows represent 24-hour intervals. The first 13 rows (00:00-13:00) are highlighted in blue and show 'M.S.P' for all days. The remaining 11 rows (14:00-23:00) show 'C' for all days. To the right of the table, there are three buttons: 'Simple mode', 'Copy to', and 'Set holiday'. Below the 'Simple mode' button is a 'Record mode' section with three checked options: 'M: Motion', 'S: Sensor', and 'P: Prealarm'. The 'C: Continuous' option is unchecked.

Camera 1	Weekday	Saturday	Sunday/Holiday
00:00-01:00	M.S.P	M.S.P	M.S.P
01:00-02:00	M.S.P	M.S.P	M.S.P
02:00-03:00	M.S.P	M.S.P	M.S.P
03:00-04:00	M.S.P	M.S.P	M.S.P
04:00-05:00	M.S.P	M.S.P	M.S.P
05:00-06:00	M.S.P	M.S.P	M.S.P
06:00-07:00	M.S.P	M.S.P	M.S.P
07:00-08:00	M.S.P	M.S.P	M.S.P
08:00-09:00	M.S.P	M.S.P	M.S.P
09:00-10:00	M.S.P	M.S.P	M.S.P
10:00-11:00	M.S.P	M.S.P	M.S.P
11:00-12:00	M.S.P	M.S.P	M.S.P
12:00-13:00	M.S.P	M.S.P	M.S.P
13:00-14:00	M.S.P	M.S.P	M.S.P
14:00-15:00	C	C	C
15:00-16:00	C	C	C
16:00-17:00	C	C	C
17:00-18:00	C	C	C
18:00-19:00	C	C	C
19:00-20:00	C	C	C
20:00-21:00	C	C	C
21:00-22:00	C	C	C
22:00-23:00	C	C	C
23:00-24:00	C	C	C

Retrieval/Search of Record

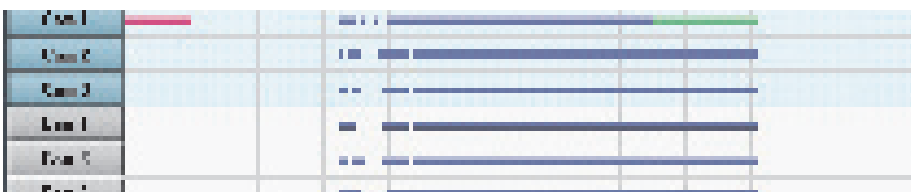
Triplex Operation [Record, Search and Transmit]

Operator can search, backup or edit recorded data without affecting normal recording operation, and KR-63 also support multi-channel replaying, so that operator can replay several cameras at the same time.

- Up to 16 Channels simultaneous replaying record
- Support of Time, Camera Name, date/time stamp for legal evidence



- Easy Search record by year, date, hour and minute



- Easy recognized color coding:
 Pink: Continuous Recording
 Blue: Motion Detection Recording
 Green: Alarm Recording



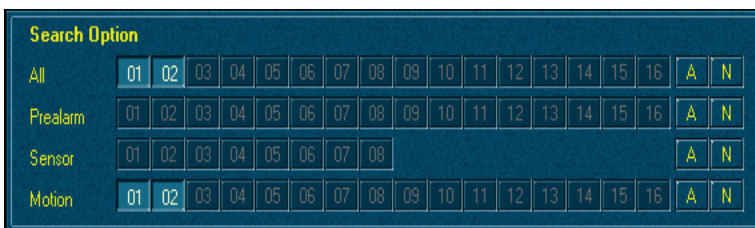
- Operator can snapshot recorded video, and adjust brightness, contrast, or zoom in and out; or play back, forward, fast forward, backward, skip, slow motion, pause, frame by frame



- Print snapshot image



- Backup recorded video into AVI format or original Engine-K encoded Format.



- Easy search record by Index Menu

Support Wide Range Cameras

Type of cameras supported

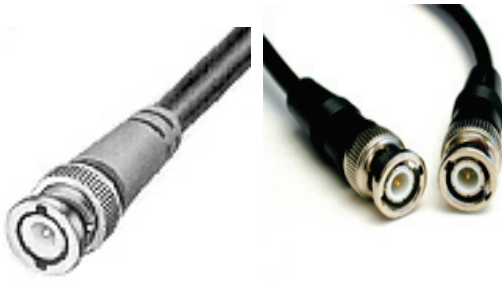
KR-63 supports most cameras, Miniature, Professional Video Camera, Doom Camera with BNC output interface.

Most popular Doom Camera



Professional Video Camera

Miniature Camera



Professional Zoom Camera



- KR-63 also support Pan/Tilt/Zoom, Infrared, Color or B/W Cameras

Infrared Camera

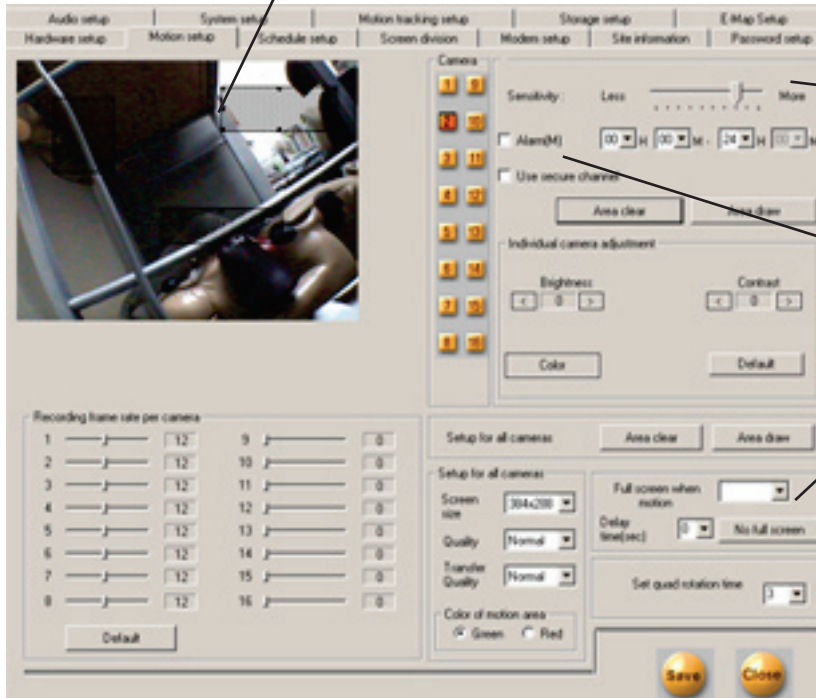


Pan/Tilt Controller



Motion Detection System

- Operator can set up to 5 detection area by easy drag and drop



- Adjustment of motion sensitivity for various environmental factors
- Start Alarm recording for 5 seconds before and after the motion is detected.
- When motion is detected, camera image changes to full screen to alert operator immediately [Optional]

- When Motion is detected by one camera, operator can set other cameras to start recording immediately

Motion Tracking System

- When motion is detected, camera tracks the motion with Pan/Tilt device for a period of time. This make sure image is still capturing when motion is out of range

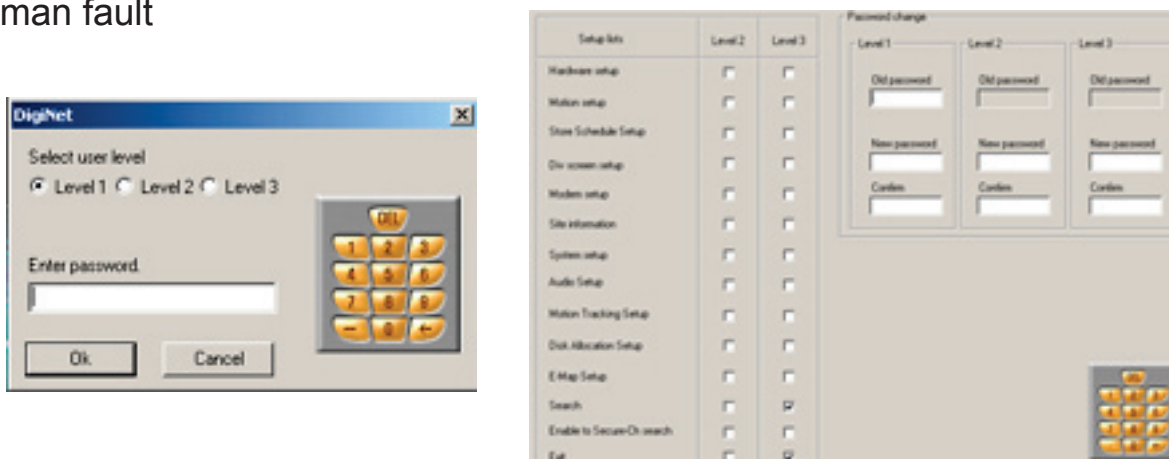
System Security

Password Protected

- Operator have to key in password in order to change internal surveillance settings, search or backup data, shut down or restart DVR

Multi-User System

- Three generic user accounts are available, the top user can manage setting options of other users. That ensure internal settings are well protected and avoid unnecessary editing from human fault



Automatically Daily Operation and System Stability

Automatically Operation

- KR-63 starts DVR Program and execute surveillance settings automatically, operator does not need to set the settings every time. As a result, no Keyboard, Mouse or other Control Peripherals are needed for normal daily operations. Also, internal settings can be changed by Remote Module Program at surveillance center by authorized password.

System Stability

- Every KR-63 DVR passed through our internal long duration non-stop recording tests, that ensure system hardware stability before delivery.

Also, KR-63 embedded with Microsoft Build OS that provides supreme system software stability and network compatibility.

Easy Backing up Mechanism

Engine-K Encoding

All the recorded video are compressed and encoded with Engine-K technology, they can only be opened by KR-63 DVR Program, that ensure the security of record.

Approximate Recording size by Engine-K

Duration Frame/sec	1 Minute	1 Hour	1 Day	1 Month
25	4 MB	225 MB	5.4 GB	162 GB
12.5	2 MB	112 MB	2.7 GB	81 GB
8	1.2 MB	72 MB	1.8 GB	52 GB
4	0.6 MB	36 MB	0.9 GB	26 GB
1	0.2 MB	9 MB	0.2 GB	6.5 GB

MPEG-4 [AVI] Backing up technology

Operator can also backup all the video by MPEG-4 technology, then converted into AVI format that can be opened by all computers, that also ensure universal use.

Approximate Recording size by MPEG-4

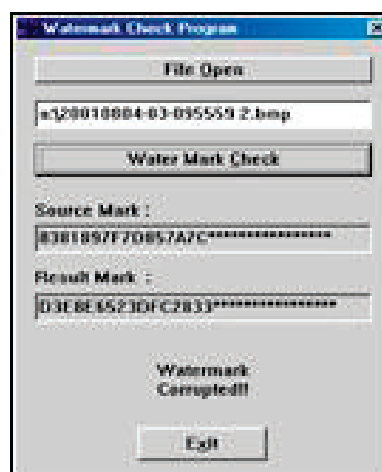
Duration Frame/sec	1 Minute	1 Hour	1 Day	1 Month
25	2 MB	115 MB	2.7 GB	81 GB
12.5	1 MB	56 MB	1.4 GB	41 GB
8	0.6 MB	36 MB	0.9 GB	26 GB
4	0.3 MB	18 MB	0.5 GB	13 GB
1	0.1 MB	4.5 MB	0.1 GB	3.3 GB

Scheduling Backup Period

User can specified when and how to backup recorded data at the server or remote center. Data can be stored by CDR/CDRW/DVD-R/Local or Remote Hard Drive/Removable IDE Drive/Floppy[Snapshot][JPEG/BMP]

WaterMark Image Verification

When operator save an snapshot image to Floppy or other media, WaterMark Image verification can be used. This is a technology that mark the targeted image with a code, if any one edited the image, the code would be changed. This ensure the image is well protected from manipulation.



Corrupted

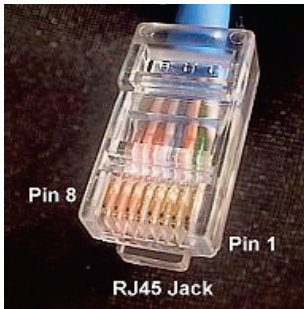


Original

Wide Range Support of Computer Network and Peripherals

KR-63 built-in 10/100Mbps Ethernet Adapter, and equipped with Microsoft Build OS, it supports PSTN, ISDN & LAN network.

RJ-45



- Connect other Computers, Hubs, Router, Internet

BNC



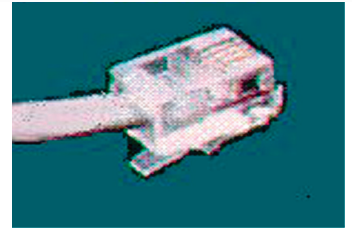
- Connect the Video Cameras

USB 2.0

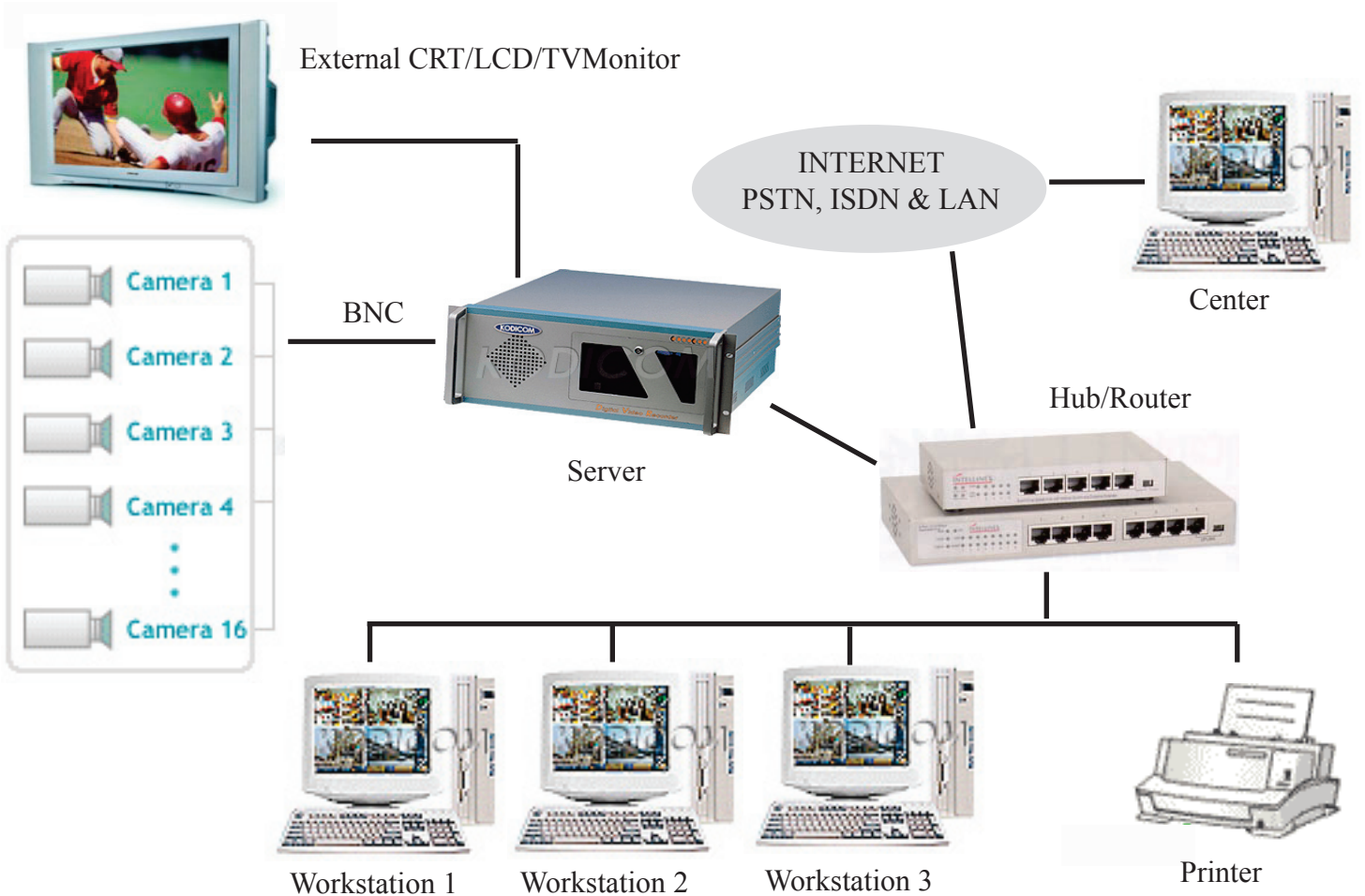


- Connect with Keyboard, Mouse, Printeretc

Telephone Lines [Optional]



- Connect to the Internet by telephone lines

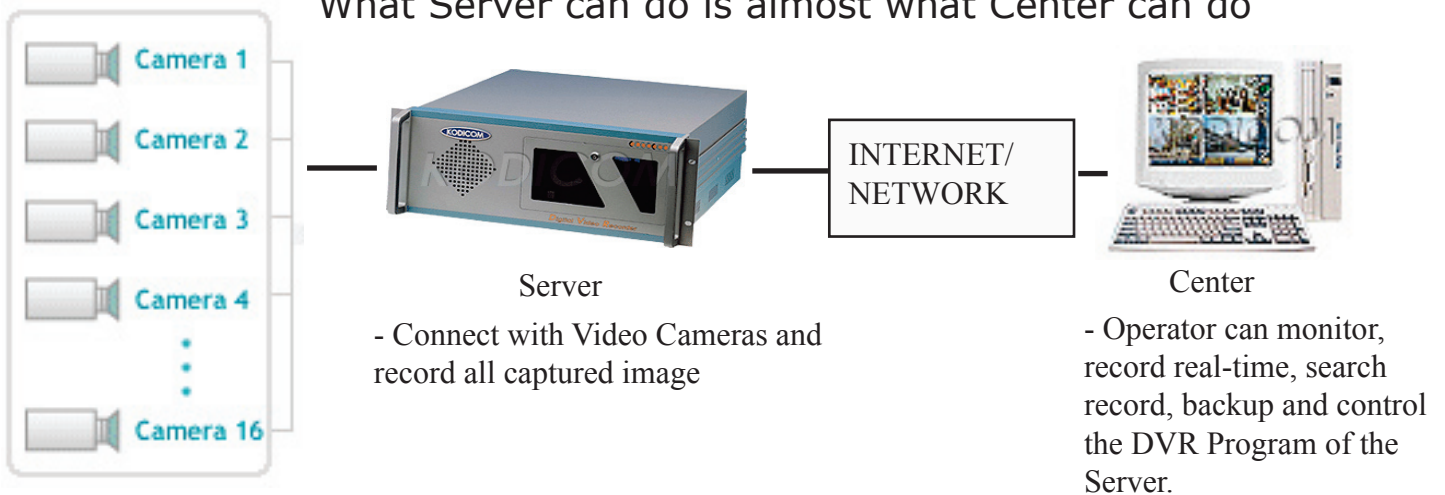


Remote Monitor, Record and Control through Network or Internet

Basic Concept

KR-63 DVR Program comes with two parts, Server Program and Center Program. Operator can monitor, record and control the Server by Center Program with authorized password.

What Server can do is almost what Center can do



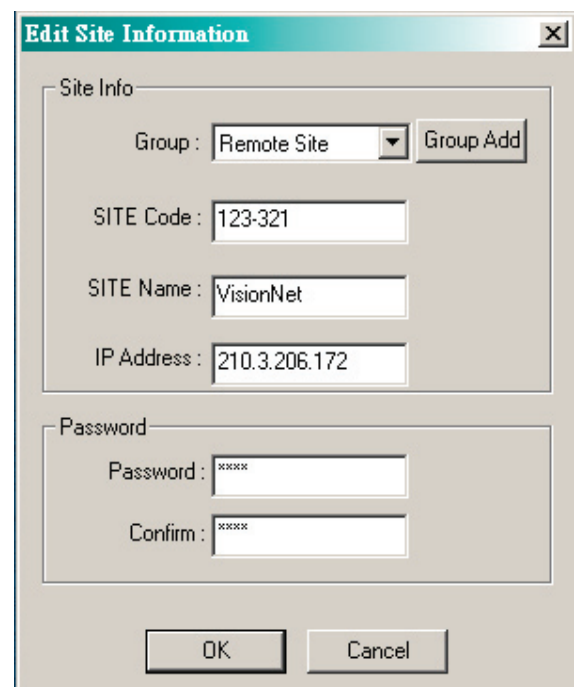
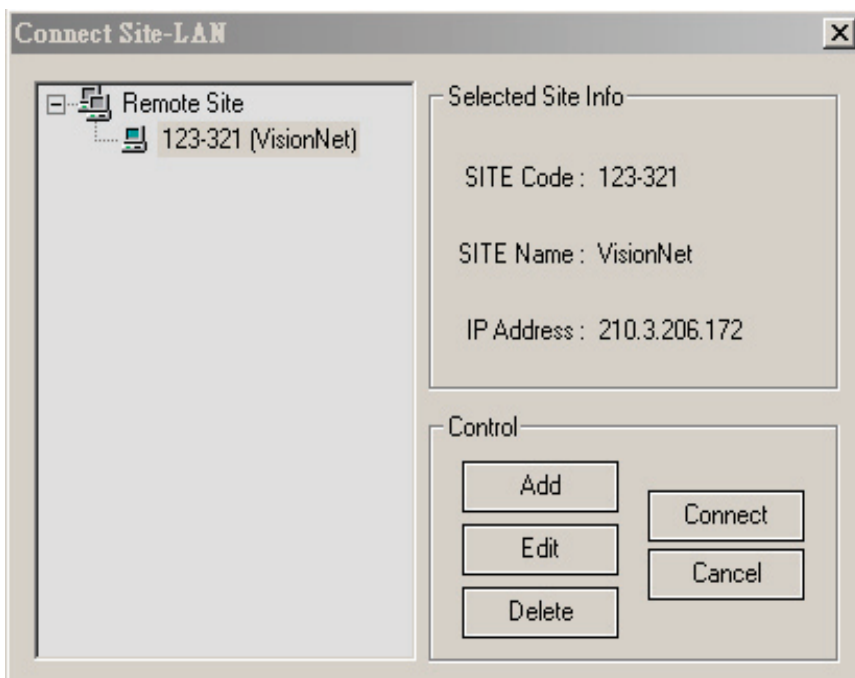
This designation offers great flexibility to DVR Operator for better informed, and hence control every remote locations without coming to the site.

Center Program supports Windows 98/2000/XP/NT

Password Protection



Each Center PC can connect with the surveillance Server, but correct Site-Code, Site-ID, Password, and IP Address must be entered correctly for better security reason.



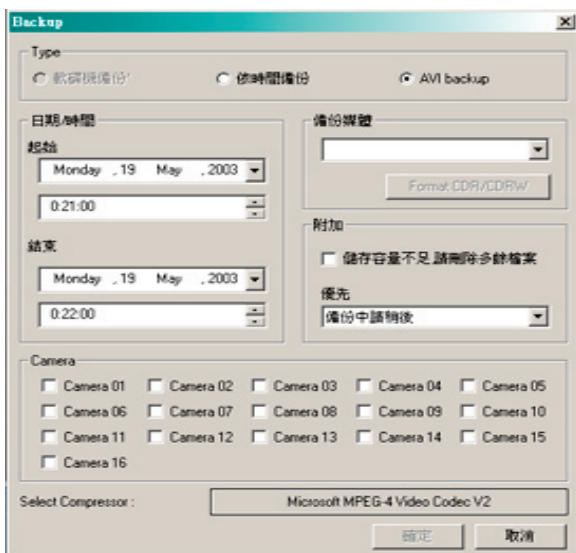
Main Screen of Center Program

Search/Retrieve record stored at Server



- Direct & Immediate Search for any Picture by Date, Time and Camera Name [Multi-Channel]
- Various Searching Function: play back, forward, fast forward, backward, skip, slow motion, pause, frame by frame, zooming up and brightness control etc.
- Print snapshot image for legal evidence

Back up record stored at Server



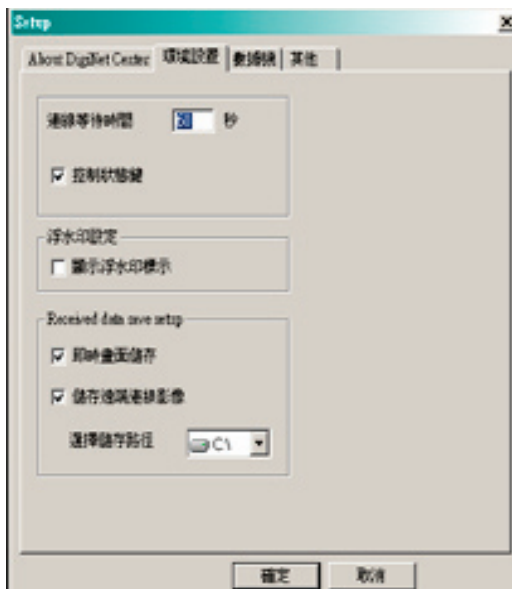
- Operator can back up snapshot image or record from Server to Center PC
 - Video can be backed up with original Engine-K Encoded Format or high compressing MPEG-4 AVI Format
 - When backing up with video image, watermark technology can also be used
- *Watermark Technology:
This is an image encoding technology that detects any modification so that authenticity can be ensured.

Real-Time Monitoring



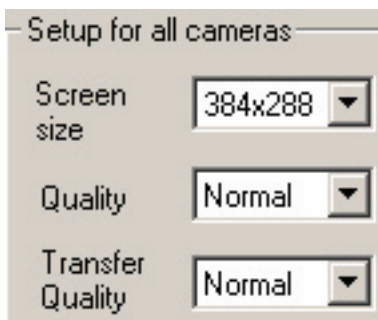
- Operator can monitor images real-time, and multi-channels monitoring is still supported.

Real-Time Recording



- Operator can record the images real-time, the quality of image depends on the Image Quality Transmission setting of which can be adjusted by Center.

Adjustment of Resolution, Image Quality and Image Quality Transmission

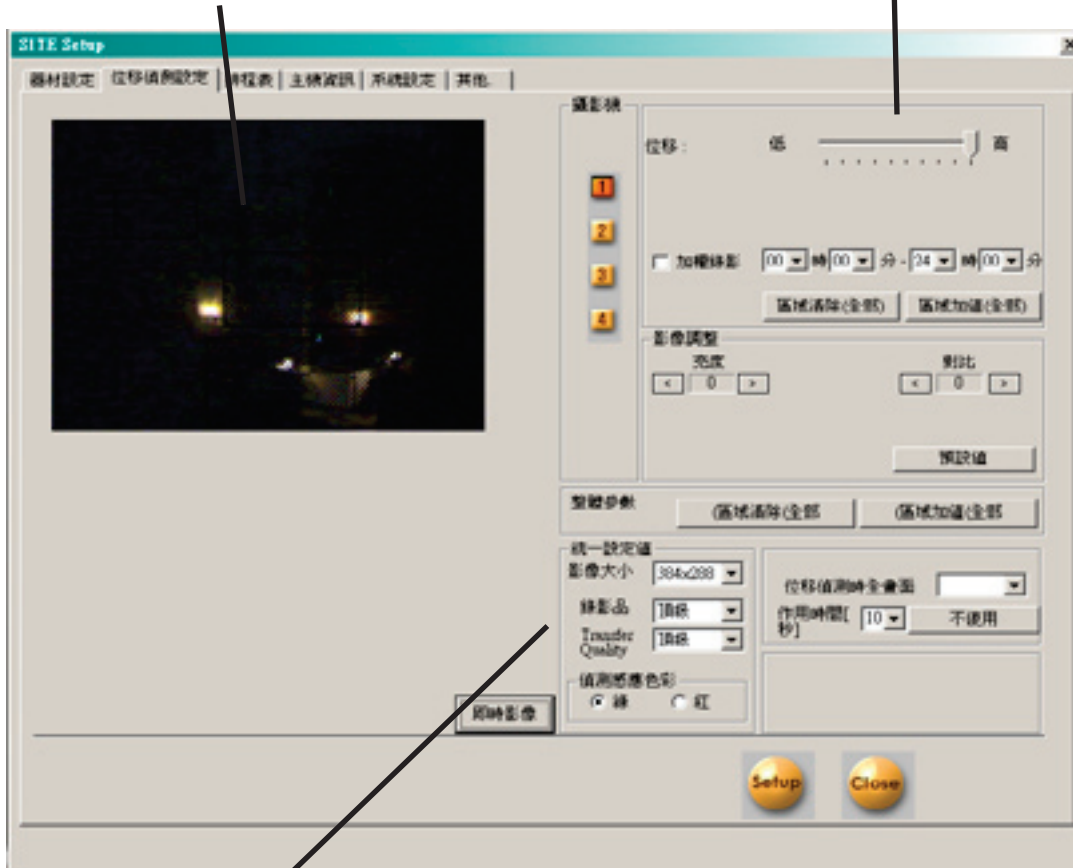


Operator can login the server and adjust the resolution, quality of recording; and the Image Quality Transmission parameter as well.

Setting up Motion Detection Area and other parameters

- Up to 5 Detection Areas setting

- Motion Detection Sensitivity Parameter



- Setting of Recording Resolution and Image Quality, and Image Quality Transmission setting

Setting up Motion Detection Area and other parameters

攝影機	工作日	週末	假日	
攝影機 1	00:00-01:00	M/S	M/S	M/S
	01:00-02:00	M/S	M/S	M/S
	02:00-03:00	M/S	M/S	M/S
	03:00-04:00	M/S	M/S	M/S
	04:00-05:00	M/S	M/S	M/S
	05:00-06:00	M/S	M/S	M/S
	06:00-07:00	M/S	M/S	M/S
	07:00-08:00	M/S	M/S	M/S
	08:00-09:00	M/S	M/S	M/S
	09:00-10:00	M/S	M/S	M/S
	10:00-11:00	M/S	M/S	M/S
	11:00-12:00	M/S	M/S	M/S
	12:00-13:00	M/S	M/S	M/S
	13:00-14:00	M/S	M/S	M/S
	14:00-15:00	M/S	M/S	M/S
	15:00-16:00	M/S	M/S	M/S
	16:00-17:00	M/S	M/S	M/S
	17:00-18:00	M/S	M/S	M/S
	18:00-19:00	M/S	M/S	M/S
	19:00-20:00	M/S	M/S	M/S
	20:00-21:00	M/S	M/S	M/S
	21:00-22:00	M/S	M/S	M/S
	22:00-23:00	M/S	M/S	M/S
	23:00-24:00	M/S	M/S	M/S

Operator can manage the recording mode for each camera, Continuous Recording; Motion Detection Recording; Alarm Recording

Also, setting of camera name, Pan/Tilt/Zoom control protocol are also available

Setting up Reboot Time, or shut down the Server

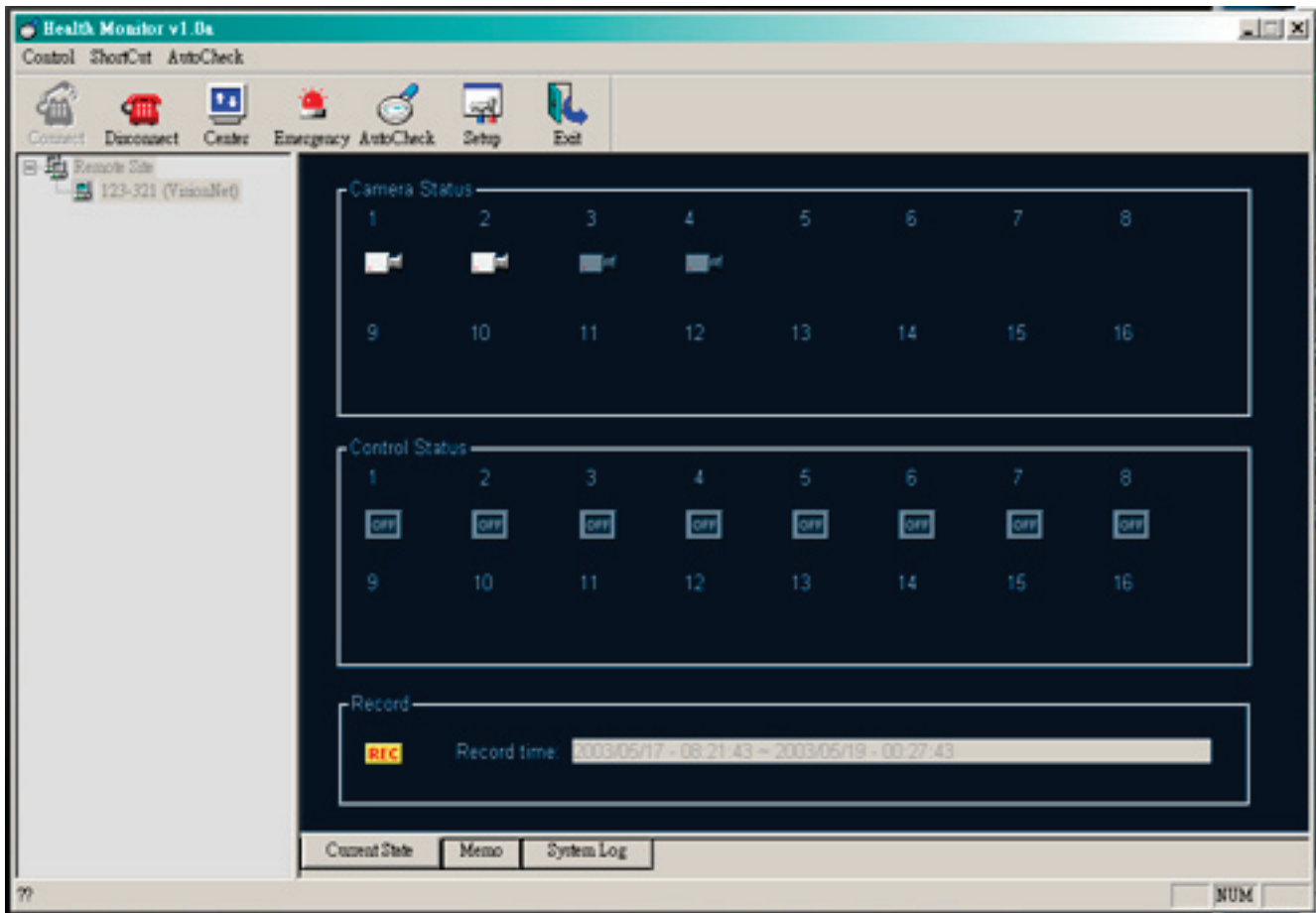
The screenshot displays a configuration interface for a DVR system, organized into several panels:

- System off time:** A list of days from Sunday to Saturday, each with a checkbox and time selection (H and M). All days are currently unchecked.
- System restart time:** A checkbox labeled "Used" followed by time selection (H and M). The "Used" checkbox is checked, and the time is set to 03 H 00 M.
- Watermark:** Two checkboxes: "Use Watermark" and "Display watermark protect image", both currently unchecked.
- Backup:** A button labeled "Backup settings" and a button labeled "Easy Update!".
- Video Loss Alarm:** Two checkboxes: "Alarm Used" and "Beep Used". "Alarm Used" is checked, with a "(Use Control)" label and a dropdown menu set to "0". "Beep Used" is unchecked.
- [Working Time]:** Time selection fields for H, M, and S, all set to "0".
- Hardware setup:** Four dropdown menus: "VGA card" (ATI), "Control card port" (COM1), "PTZ Port" (COM1), and "KwD-102 Port" (Unused). A "Video format" dropdown menu is set to "PAL".

Operator can actually remote shut down the DVR Server or set the rebooting time if necessary

Health Monitor

This is a program module that monitor the status of cameras, network connection and data storage at Surveillance Server



- Operator can be informed that whether the camera is working, not connected or connected but signal is lost status



Camera is working good



Camera is connected, but no video signal received



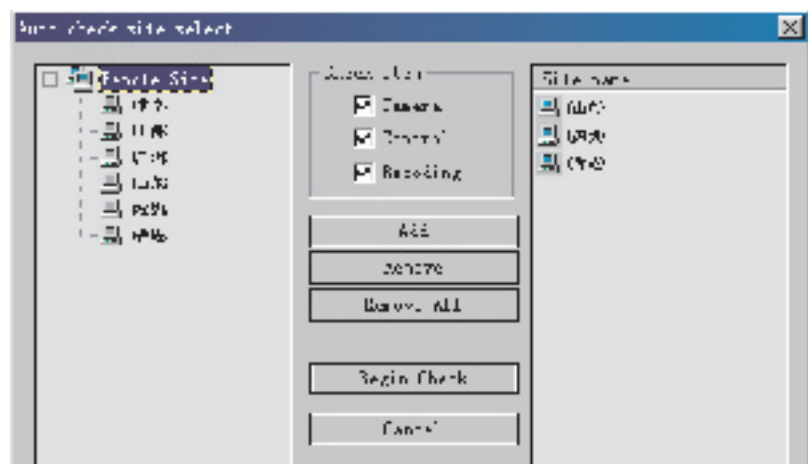
Camera is not connected yet

- Operator can also generate Memo to communicate with server operator or review system log for trouble-shooting

- Health Monitor checks all the status automatically

System Log

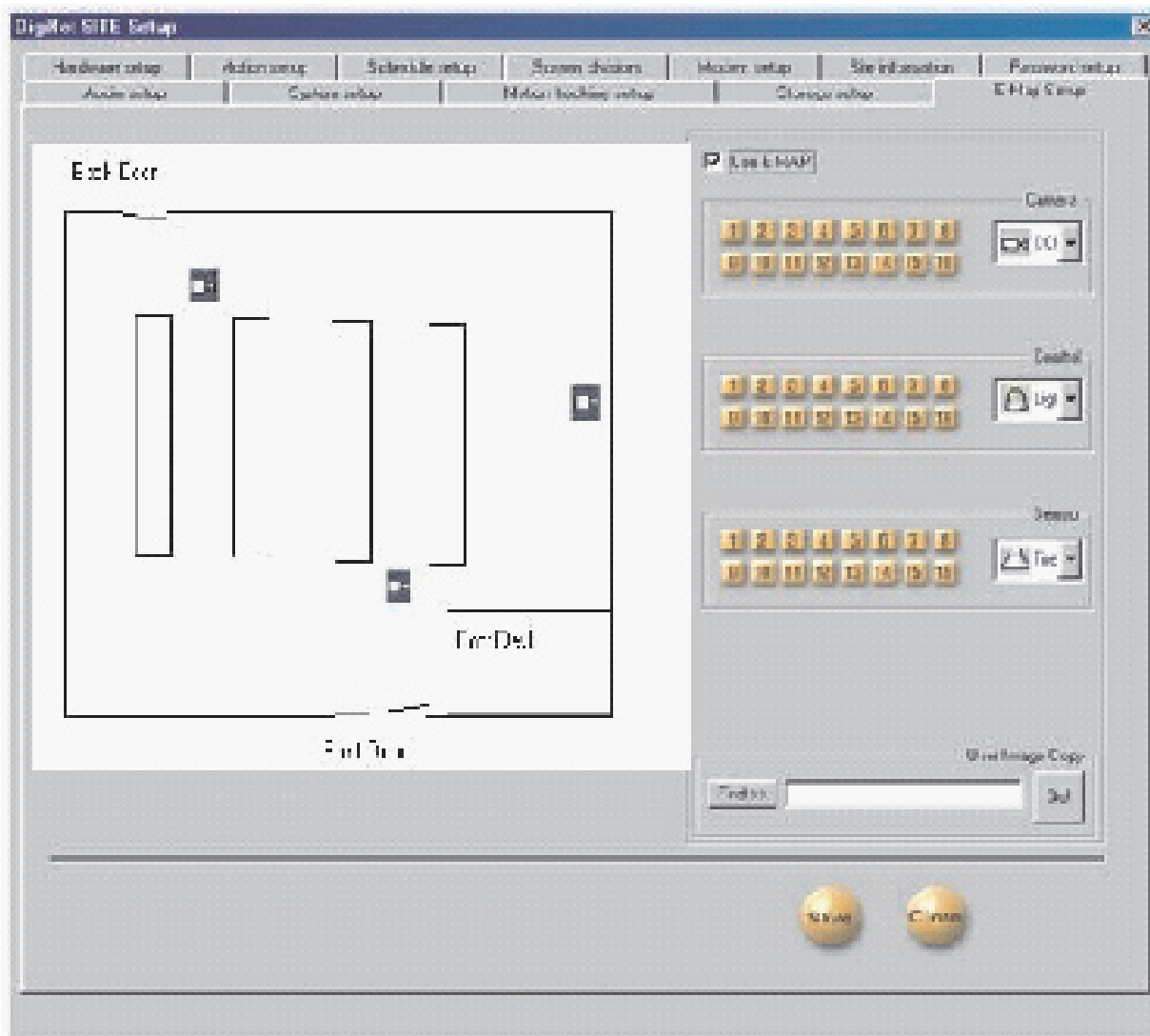
Operator can check the log in and out record of the Server with system log



E-Map



An E-map is a graphical overview of an area indicating the locations of the cameras. This feature is particularly useful during the installation of a new security system as site locations where camera installation seems most appropriate can be easily identified. E-Map also provides a visual grasp of the vicinity to users who are unfamiliar or new to the area under surveillance. By viewing an E-map, security personnel can identify the surroundings and rush to a location immediately and secure an area.



Application

Actually, KR-63 is suitable for almost all indoor environments, especially sensitive locations where recording of momentarily movement is critical, or locations where are so big that camera deployment may be up to 16, or some chain stores like the example from the beginning.

