

**DVR-HA6104**  
4ch 100/100fps DVR (2HDDs)

**DVR-HA6108**  
8ch 200/200fps DVR (2HDDs)

**DVR-HA6116**  
16ch 400/400fps DVR (2HDDs)



**DVR-HA6216**  
16ch 400/400fps D1 DVR (4HDDs)

## Professional Pentaplex H.264 DVR Digital Video Recorder



**DVR-HC6504**  
4ch 100/100fps Combo DVR

**DVR-HC6508**  
8ch 200/100fps Combo DVR



**DVR-HV6004**  
4ch 100/100fps Vehicle DVR

**DVR-HV6008**  
8ch 200/100fps Vehicle DVR

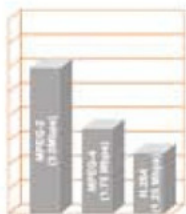


## Latest H.264 Video Compression



- 60% Smaller File Size than MPEG-2
- 40% Smaller File Size than MPEG-4
- Longer Record Times

- Lower HDD Cost
- 30% Lower Bandwidth than MPEG4
- Faster Downloads
- Higher Frame-rate through network



## Pentaplex

Simultaneous Live Monitoring, Playback, Recording, Remote Monitoring & Backup.



## Embedded Linux

Stable, Reliable & Cost Effective comparable to PC system.

## Real-Time Display

Real-Time 25/30fps per channel live display.

## D1/Half-D1/CIF Recording

Various recording resolution, frame rate, programmable through scheduling of each ch. Cater for each customer need.

## Independant VGA & Composite Output (HA Series only)

Support LIVE / Playback or LIVE / PTZ or LIVE / Event Popup display with 1 VGA and 1 composite monitor. Both monitor display independently controlled.



## Advertisement (HA Series only)

Support JPEG images up to 15ips advertisement with scheduling.

## 3 Streaming (HA Series only)

Independant Recording, Network and Mobile Phone resolution, quality and framerate.

## Advance iPhone/iPad/Android Software

Support Multi-Channel Live View, DVR setup, Event Monitoring, Alarm Output Control, PTZ Control and Remote Playback.



### MAC Safari

Remote monitoring through APPLE MAC Safari



### User Friendly GUI

Same GUI for DVR setup at Live & through Network and Mobile phone.

## Powerful Web Function

Remote Monitoring / DVR Setup / Search & Backup through Internet Explorer 7.0 or above.



## Digital Zoom

Up to 8x (HA models) or 2x (other models) digital zoom during live & playback.



Digital Zoom In



Digital Zoom Out

## Advance User Authority

Detail user authority control eg. Remote View, Playback, PTZ by channel.

## Schedule Backup

Automatic backup DVR data to remote PC or NAS Server. Unlimited days of video recording.



## Powerful Call Back Function

DVR can be programmed to send message to 10 CMS center if any event occur. Including, alarm in, motion, video loss, text-in, HDD bad and etc. The CMS operator can view live video & audio or playback easily by clicking the connect button. CMS center can receive un-limited numbers of DVRs callback. Callback message will be stored in CMS PC permanently.

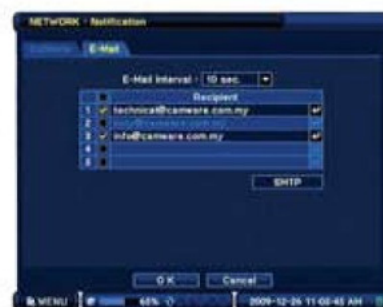
NEMON Callback					
IP Address	DVR Name	Date/Time	Event Type	Title	
192.168.0.160	HO1SP_0.9.9-07011	2009-07-02 04:12:50 PM	Motion	HO1SP_CAMERA.8	
192.168.0.160	HO1SP_0.9.9-07011	2009-07-02 04:12:50 PM	Motion	HO1SP_CAMERA.7	
192.168.0.160	HO1SP_0.9.9-07011	2009-07-02 04:12:50 PM	Motion	HO1SP_CAMERA.6	
192.168.0.160	HO1SP_0.9.9-07011	2009-07-02 04:12:50 PM	Motion	HO1SP_CAMERA.5	
192.168.0.160	HO1SP_0.9.9-07011	2009-07-02 04:12:50 PM	S.M.A.R.T	HO1SP_CAMERA.4	
192.168.0.160	HO1SP_0.9.9-07011	2009-07-02 04:12:50 PM	Data File	HO1SP_CAMERA.3	
192.168.0.160	HO1SP_0.9.9-07011	2009-07-02 04:12:50 PM	Data File	HO1SP_CAMERA.2	
192.168.0.160	HO1SP_0.9.9-07011	2009-07-02 04:12:50 PM	Fake	HO1SP_CAMERA.1	
192.168.0.160	HO1SP_0.9.9-07011	2009-07-02 04:12:42 PM	Alarm	HO1SP_CAMERA.8	
192.168.0.160	HO1SP_0.9.9-07011	2009-07-02 04:12:42 PM	Motion	HO1SP_CAMERA.7	
192.168.0.160	HO1SP_0.9.9-07011	2009-07-02 04:12:42 PM	Video Loss	HO1SP_CAMERA.6	
192.168.0.160	HO1SP_0.9.9-07011	2009-07-02 04:12:42 PM	Motion	HO1SP_CAMERA.5	
192.168.0.160	HO1SP_0.9.9-07011	2009-07-02 04:12:42 PM	Motion	HO1SP_CAMERA.4	
192.168.0.160	HO1SP_0.9.9-07011	2009-07-02 04:12:42 PM	Motion	HO1SP_CAMERA.3	
192.168.0.160	HO1SP_0.9.9-07011	2009-07-02 04:12:42 PM	Motion	HO1SP_CAMERA.2	
192.168.0.160	HO1SP_0.9.9-07011	2009-07-02 04:12:42 PM	Motion	HO1SP_CAMERA.1	

Callback arrived from 192.168.0.160



## Email Notification

DVR can be programmed to send text message to 5 E-mail account if any event occur.





## Spot Monitor Output

Channels, Sequence time, and Pop-up can be programmed for each spot monitor output.  
HA6216 with 4 spot monitor output.



## Quick Setup

DVR 1st time power up, automatically prompt for Quick Setup like DVR name, language, time/date, network setting, recording frame rate/quality, format HDD.

## Video Looping Output

Video input can be loop-out to 2nd monitoring station w/o signal loss. Saving cost for video distribution amplifier. Video looping output is optional for HA series. H6216 build-in video looping output.

## E-Map

Remote monitoring through map with event handling.



## PIP

Monitoring & PTZ on a single channel full screen, while opening a small PIP window for another important channel. Various options for size and location of the PIP.



PTZ mode with PIP



PTZ mode in Web

## PTZ

RS485 output. Multiple protocol & baudrate programmable. 8-direction Pan/Tilt Control. Easy Presets saving and recall. Same GUI and functions in live mode and remote side.

## Keyboard Controller

Multiple DVRs can be operated with a single CCTV keyboard.



## Remote-con ID

Multiple DVRs can be operated with a single remote controller. Both Remote con ID & DVR ID is programmable.



## Multiple Audio Support

H6000 series DVR support multiple audio recording and live audio monitoring through network. Title of each audio in is programmable up to 16-Alpha-numeric.

## Two-Way Audio

Allows 2-way communication between DVR & remote site through network.



## Multi-Backup Format

DVR original format : Multi-ch, require DVR software to playback  
EXE format : Multi-ch, PC direct playback  
Video Clip : 1ch, PC playback using Quick-time player  
AVI : 1ch backup/playback through PC  
DVR support direct playback from backup media like DVD/USB drive if backup in DVR original format.



## Multi Language

Support up to date 12 languages. Including Korean, English, Chinese, Japanese, Portuguese, France, Italian, Czechoslovakia, Spanish, Nederland, Turkish and etc.

## Text-Insert

Integration with ATM / POS / Access Control with RS232/485 connection. User can search & playback the video with text in. Text-in can be turn on/off during live and playback.



## Alarm Input/Output

Multiple Alarm input enable the DVR integrate with various devices like emergency button, PIR motion sensors, door contact etc. Multiple Relay output enable the DVR to control various output devices including siren, lighting, door open and etc.

### Sensor Input

1	2	3	4	5	6	7	8	G
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Alarm Output & RS485

R1	R2	R3	R4	5	6	7	8	G
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

RS485

## NTP Synchronization

DVR can be programmed time sync to any NTP (Network Time Protocol) server through internet. Ensure DVR time frame will not runs off.





	HA6104	HA6108	HA6116	HA6216
VIDEO INPUTS & OUTPUTS				
Signal Format (Auto-Detect)	NTSC or PAL	NTSC or PAL	NTSC or PAL	NTSC or PAL
Video Input	Composite : 4 BNC	Composite : 8 BNC	Composite : 16 BNC	Composite : 16 BNC
Monitor Outputs	1 Composite, 1 VGA	1 Composite, 1 VGA	1 Composite, 1 VGA	1 Composite, 1 VGA, 4 Spot, 1 HDMI
VGA Output	1	1	1	1
Video Looping Output	No	Option	Option	Built-In
Resolution	720 X 576	720 X 576	720 X 576	1920 X 1080
AUDIO INPUTS & OUTPUTS				
Audio Input	4 RCA	Option	Option	16 RCA (4 Mic In, 12 Line In - Option)
Audio Output	1 RCA (Line Out)	1 RCA (Line Out)	1 RCA (Line Out)	1 RCA (Line Out)
AUXILIARY INPUTS & OUTPUTS				
RS232		1EA, For POS, Access Control, PTZ Integration, Key Board Control, ATM		
RS485		1EA, For POS, Access Control, PTZ Integration, Key Board Control, ATM		
USB Port		USB 2.0 x1, USB 1.1 (Mouse) x1		
IR Remote Control Port	Yes	Yes	Yes	Yes
ALARM HANDLING				
Alarm Input	4 TTL	4 TTL	4 TTL	16 TTL
Alarm Output	2 TTL	2 TTL	2 TTL	4 Relay + 12 TTL
Pre-alarm Recording	Up to 30 sec. (Programmable)	Up to 30 sec. (Programmable)	Up to 30 sec. (Programmable)	Up to 30 sec. (Programmable)
Post-alarm Recording	Up to 1 min. (Programmable)	Up to 1 min. (Programmable)	Up to 1 min. (Programmable)	Up to 1 min. (Programmable)
MONITOR VIEWING				
Display Rate	Real Time	Real Time	Real Time	Real Time
Split Screen	1, 4, PIP, Digital Zoom	1, 4, 9, PIP, Digital Zoom	1, 4, 9, 13, 16, PIP, Digital Zoom	1, 4, 9, 13, 16, PIP, Digital Zoom
RECORDING				
Video Compression	H.264	H.264	H.264	H.264
Recording Image Resolution	CIF, Half D1, D1	CIF, Half D1, D1	CIF, Half D1, D1	CIF, Half D1, D1
Speed @ Resolution	120fps / 100fps @ H-D1	240fps / 200fps @ H-D1	480fps / 400fps @ CIF	480fps / 400fps @ D1
(NTSC / PAL)	60fps / 50fps @ D1	120fps / 100fps @ D1	240fps / 200fps @ H-D1	120fps / 100fps @ D1
Picture Quality	Very High, High, Standard, Low	Very High, High, Standard, Low	Very High, High, Standard, Low	Very High, High, Standard, Low
Quality Programmable per CH	Yes	Yes	Yes	Yes
Mode		Time-Lapse, Event, Time & Event, Emergency (Panic)		
STORAGE				
Primary Storage	SATA 2EA	SATA 2EA	SATA 2EA	SATA 3EA + SATA HDD for Max. 4 SATA HDD
Max. Capacity per HDD	2TB	2TB	2TB	2TB
SEARCH & PLAYBACK				
Display	1, 4, Digital Zoom	1, 4, 9, Digital Zoom	1, 4, 9, 13, 16, Digital Zoom	1, 4, 9, 13, 16, Digital Zoom
Search Mode		Calendar Search, Event Search, Text-In Search, Go To Time		
Playback Mode		Multi Channel Normal & Reserve Play, RW & FF ( X2, X4, X8, X16, X32 ), Frame to Frame, Pause		
BACKUP				
ODD	None	None	None	CD / DVD-RW
USB		External HDD (USB), External USB Memory		
Network Backup		1. DVR Own Format (use software to playback) 2. AVI (Single CH, from Network to PC)		
DVR Backup		1. DVR Own Format (use software to playback) 2. DVD Media (exe file for PC view) 3. Video Clip (Single CH, from DVR to PC)		
NETWORK & INTEGRATION				
Remote Monit	Remote Monitoring, Remote Playback, Remote Setting (Configuration), Remote Backup, Web Monitoring, Web Search, Web Set Up, CMS and Call Back Function			
USER INTERFACES				
Mouse	Yes	Yes	Yes	Yes
IR Remote Control	Yes	Yes	Yes	Yes
Software Upgrade	USB, Network	USB, Network	USB, Network	USB, Network
SECURITY				
Key Lock	Yes	Yes	Yes	Yes
TIME SYNCHRONIZATION				
Network Time Protocol	Yes	Yes	Yes	Yes
MISCELLANEOUS				
Dimensions (W x H x D)	370 x 67 x 390 (mm)	370 x 67 x 390 (mm)	370 x 67 x 390 (mm)	430 x 88 x 428 (mm)
Operating Temperature	5°C - 40°C	5°C - 40°C	5°C - 40°C	5°C - 40°C
Power	12V DC, 3.33A, 40W	12V DC, 3.33A, 40W	12V DC, 3.33A, 40W	12V DC, 6.67A, 80W

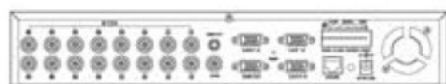
## Rear Panel



HA6104

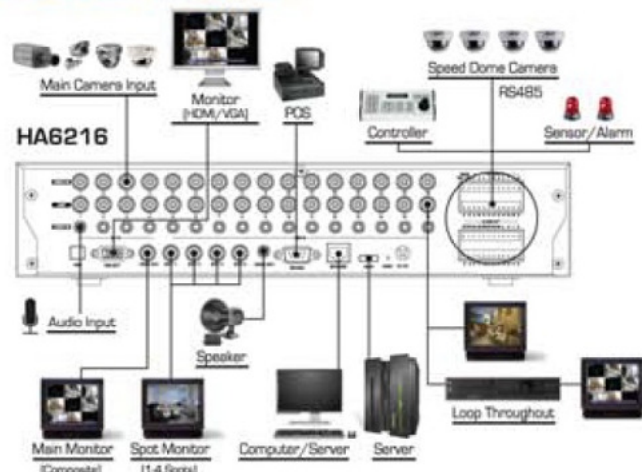


HA6108



HA6116

## Single-Line Diagram







## The Most Rugged And Versatile Vehicle DVR Introduced Ever

### Compact Size For In-Vehicle Installation



### Multi Storage Support - 2.5" Removable HDD, SD Card And USB

3 modes of recording:

- 1) HDD only. 2) SD card only (up to 32GB).
  - 3) HDD & SD card (recommended)
- During vehicle start, if temperature is beyond HDD operating temperature (-20°C ~ -50°C), DVR will record into SD card first. HDD recording will resume automatically when temperature return to normal.
  - Under normal condition, HDD will record continuously, SD card will record Event only.



### Various Useful I/Os

HV6004 is equipped with various useful I/Os. 4ch Audio In and 2ch relay out (350mA). 2 USB ports for backup and Mouse control, RS232 and RS485 are provided for External devices.



### Additional Power Supply For Camera And Monitor (12V)

HV6004 provides additional power (12V, 300mA per camera) for cameras and monitor (12V).



### Industrial Standard To Stand Harsh Temperature

Built-in Heater & Blower for HDD & DVR board. Extend operating temperature to -20°C ~ 50°C



### Anti-Shock And Vibration Tests Upon Military Specification



### G-Shock Sensor

Record events like accident, quick accelerate or quick stop.

### Built in GPS For E-Map Application

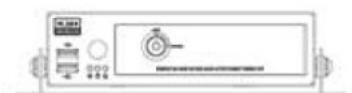
Live tracking vehicle movement by using CMS and Google Maps



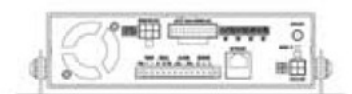
## Specifications

Model	HV6004	HV6008
Video Input	4ch	8ch
Video Output	1x 1Vp-p Composite Video	
Compression	Enhanced H.264	
Display	Real-Time 100fps 100fps@CIF (325x288)	Real-Time 200fps 200fps@CIF (325x288)
Recording (PAL)	50fps@Half-D1 25fps@D1	100fps@Half-D1 50fps@D1
Storage	1x 2.5" SATA HDD (up to 1TB) or 1x SD Card (up to 32GB)	
Audio	4ch In / 1ch Out	
Sensor	2ch In / 2ch Out	
Power	12~36VDC, 64W	
Dimension	218 (W) x 56 (H) x 255 (D)	
Weight	1.3kg w/o HDD	

## Technical Drawing



Front View



Back View

## 128CH CMS (Central Monitoring System) Software



- Compatible with all H6000 series DVR.
- Automatic synchronize with Google map when playing back HV6004 recorded video.
- Health check and auto re-connect for each DVR.
- Group (up to 128ch) Sequencing.
- Monitoring each DVR Sensor in, control each DVR alarm out.
- Up to 128ch video or 128 DVRs Remote.
- Monitoring / Setup / Search, Backup & Upgrade.
- Up to 16 favorite group of DVRs & cameras for easy monitoring.
- PTZ control for each channel.
- 2-way audio for each channel (depend on which model of DVR)
- Preview during playback.
- e-Map.
- Allow multiple CMS operate in the same PC.





**All In One Screen**

## Combination Functions Of:

- DVR
- PC Monitor
- Text Inserter
- Front-End Sensor For Video CMS Center
- DVR Monitor
- Power Supply For Camera
- Advertisement Display Monitor



## 23" Wide Screen

Its 23" Wide Screen allows easy monitoring of CCTV surveillance and sufficient view for normal desk job on PC.

## Power Supply For Cameras

HC6504/6508 provide 4/8ch direct 12VDC (350mA each ch) power to camera, through RJ45 connections. Easy for installation.



## Various And Most Useful I/Os

HC6504/6508 are equipped with various useful I/Os. 4ch Audio Ins and 2ch relay outs (350mA). 2 USB ports for backup and Mouse control. RS232 and RS485 are provided for External devices.



## Multi Functional Monitor (VGA In)

HC6500 series can be used as normal PC monitor using its VGA In. Switching between PC & DVR display by touch of a button. Monitor can be turn-off while DVR still running at the background.



## Personalised ADs From Network

Advertisement (video or JPEG) can be displayed on screen, while DVR is running at the background. ADs content can be transferred from a center control PC through network.



## Specifications

Model	DVR-HC6504	DVR-HC6508
Video Input	4ch	8ch
Video Output	Built-In 23" TFT LCD (16:9)	
Compression	Enhanced H.264	
Display	100fps (PAL) / 120fps (NTSC)	200fps (PAL) / 240fps (NTSC)
	PAL: 100fps@CIF (325x288) / NTSC: 120fps@CIF (325x288)	
Recording (PAL)	PAL: 50fps@Half-D1 (704x288) / NTSC: 60fps@Half-D1 (704x288)	
	PAL: 25fps@D1 (704x576) / NTSC: 30fps@D1 (704x576)	
Storage	1x 3.5" SATA HDD (up to 2TB)	
Audio	4ch In / 1 Line-out + Built In Speaker	8ch In / 1 Line-out + Built In Speaker
Sensor	4 Alarm In / 2 Relay + 2 TTL Out	
Power	12VDC, 6.67A (80W) / Adapter Included	
Dimension	574 (W) x 395 (H) x 250 (D)	
Weight	7.7kg w/o HDD	

## Technical Drawing

