USER'S MANUAL

GN-716J

16 Channel STAND ALONE DVR

GANA I & C Co., LTD

WARNING AND CAUTIONS

WARNING

CAUTION : TO REDUCE THE RISK OF FIRE OR ELECTRONISC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE. DO NOT INSERT ANY METALLIC OBJECT THROUGH VENTILATION GRILLS

Explanation of Graphical Symbols

The lighting flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninstalled "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

USER OF THE SYSTEM ARE RESPONSIBLE FOR CHECKING AND COMPLYING WITH ALL FEDERAL, STATE, AND LOCAL LAWS AND STATUS, CONCERNING THE MONITORING AND RECORDING OF VIDEO AND AUDIO SIGNALS . OUR COMPANY SHALL NOT BE HELD RESPONSIBLE FOR THE USE OF THIS SYSTEM IN VIOLATION OF CURRENT LAWS AND STATUES.

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1. INTRODUCTION

1.1 Product introduction

GN-716J is used with 16 cameras and save images and moving date at HDD (Hard Disk Drive). And sub recording methods are CDRW, USB memory.

User can control and observe at remote place by Ethernet, and support Client Viewer and all functions of normal DVR.

1.2 Product contents

Please check following contents in package.

a. GN-716J Body
b. Power Cable
c. User's manual
d. NetEYE Installation program CD

1.3 Explanation of DVR

This model is digital recording type equipment and whenever user can record and playback image or moving picture.

1.4 Precaution

Do not put overload on equipment and avoid strong impact on it.

Do not put this equipment at place where are lot of moistures and high temperature.

2. FEATURES

-Multi screen (16Channels)
-Stand Alone Type (Non-PC, Linux)
-Real Time Quad Display
-Built-in Time/ Date / Title Generator
-Motion Detection Function
-Motion/ Alarm / Schedule recording
-Quick Search: Time/Event/Record
-Various Display mode and record/playback (4/8/9/13/16 screens)
-Hard Disk Drive Overwrite ON/OFF Function
-Able to watch Live screen and recorded screen at the same time by network(TCP/IP)
- Settable recording mode for event, schedule by network (TCP/IP)
-Pan/Tilt Controller (Option)
-MJPEG Format Compression
-Various function of Network Client Viewer (NetEYE)
-Full / Quad / AUTO-S / 8DIV/ 9DIV/ 13DIV / 16DIV
-Various Back mode (USB memory, CD R/W)
-16Video input/ 1 Audio Input
-16Alarm Input/1 Relay Output(NC, NO)
-Front 21 keys/Remote controller 45keys
-Firmware upgrade by Network
-IR Remote controller
-1Channel Audio

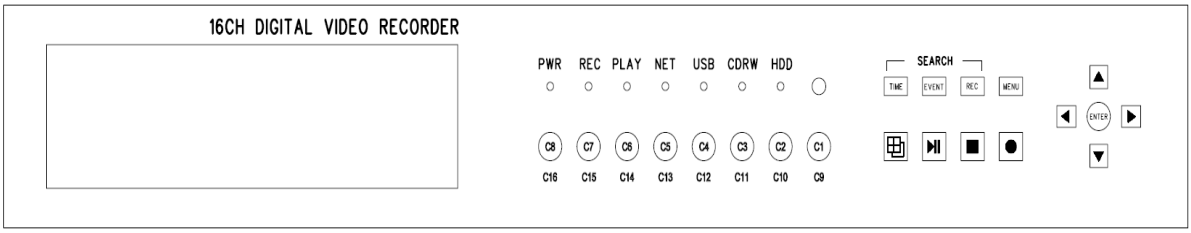
3. Specification

Capacity of saving	All kind of HDD (Support 24 Bit, 48 Bit) Max. 2 pieces of HDD can be installed (MASTER / SLAVE)
Compression	M-JPEG (15KB/Field @ HIGH, NTSC)
No. of input	16 (NTSC/PAL) Channels
Resolution	720 x 480(576), 720 x 240(288), 320 x 240(288)
Recording Speed	60(50)Field/sec, 720 x 240(288) 120(100) Field/sec, 320 x 240(288)
Recording Mode	Manual record Event record - Alarm / Motion/ Schedule
Playback mode	FF : 2X ~ 32X, REW : 2X~16X, STILL, JOG function
Monitoring	60-fps @720x240, 50-fps @720x576
Display	16ch, 9ch, 4ch, Full etc. Anti Rolling Zoom, Freeze Event, Rec, Time List Play
Full Duplex	Live / Playback, Able to record while playback
Alarm Control	TTL LEVEL INPUT 16EA RELAY OUTPUT(NC/NO/COM) 1EA
Motion Detect	Able to adjust 5steps of sensitivity, 16 x 12 Motion (Settable motion detection area)
PTZ control	Pan / Tilt / Zoom function by connecting RS-485
BACKUP	Network Backup (Backup at NetEYE) M-JPEG and save as avi file Save by selecting Live/PB regardless screen output
	USB Storage Backup Save as Moving picture and STILL image Save FAT16 file (Recognized at Window)
Net EYE	TCP/IP Protocol Remote controlling Record ON/OFF Receive recorded list from DVR and playback each list
Remote Control	45 KEYS(39KEY/PTZ control 6KEY)

Audio	Audio input 1-PORT
Input Power	AC 115V/ AC230V
Power Source	Built in power supply
Power consumption	35W
Size (mm)	432 x 67 x 400 (W x H x L)
Weight (KG)	3.1 KG (CDRW including)

4. Unit Description

4.1 Front Panel Description

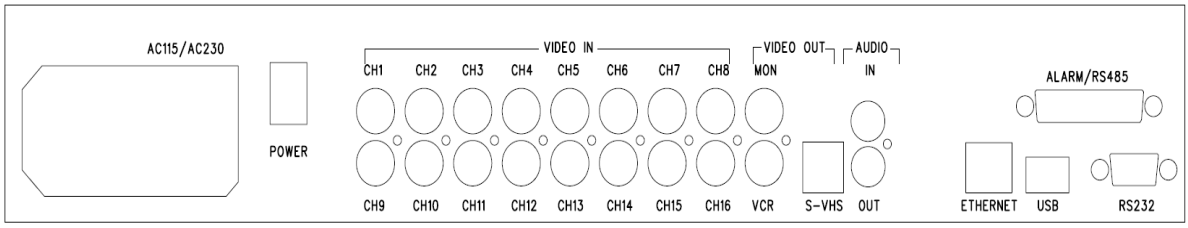


4.1.1 LED

-PWR : POWER INDICATOR
-REC : RECORDING STATUS
-PLAY : PLAYBACK STATUS
-NET : LAN(TCP/IP) STATUS
-USB : USB STATUS
-CDRW : CDRW STATUS
-HDD : HDD STATUS

4.1.2 KEYPAD

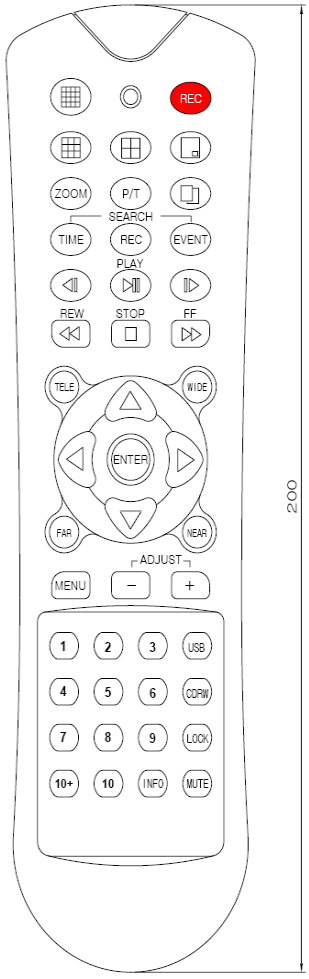
- 1/9 ~ 8/16 : Channel selection (Full screen)
- MODE : 2x2-> 3x3-> 4x4 (->2x2) converting screen mode
  *When the screen mode are 2x2, 3x3, use direction keys to go next.
- MENU(SETUP/EXIT) : Setup
- TIME : Time Search
- EVENT : Event Search
- REC : Record Search
- ENTER : Enter
-▲ ► ▼ ◄ : Direction key(Up/Down/Right/Left)
-◀◀ ▶▶ ⏮ ⏭ : REW, FF, PREV, NEXT
(Direction keys can be used as REW,FF,PREV, NEXT at PLAYBACK mode)
-▶⏸ ■ ● : PLAY/PAUSE, STOP, RECORD
*STOP key will be used as FREEZE key at LIVE MODE. And press STOP again to back LIVE mode.



4.2 Rear Panel Description

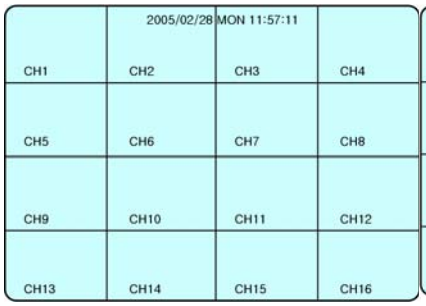
-C1-C16 : Camera Input
-MON : Monitor port
-REC : VCR port
-S-VHS : S-VHS port
-AI : Audio Input
-AO : Audio Output
-ETHERNET : LAN Port
-USB : USB Port
-RS232 : Serial Port (option)
-RS485: PAN/TILT control port (option)
-ALARM : ALARM input/Relay Output

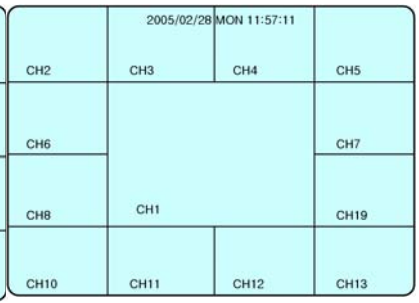
4.3 REMOTE CONTROLLER

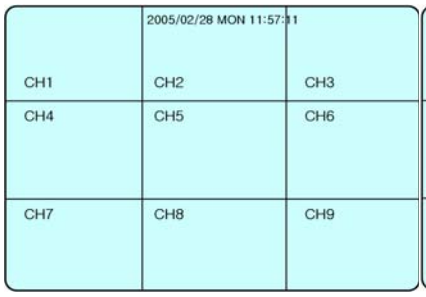


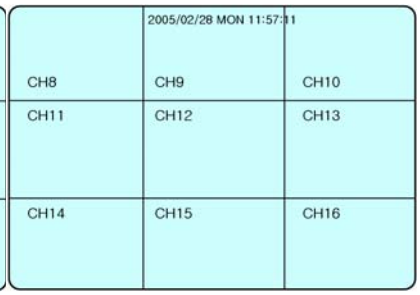
-4X4, 3X3, 2X2, AUTO-S: DISPLAY MODE
-PIP : PICTURE IN PICTURE MODE(OPTION)
-REC(RED): HDD RECORD
-ZOOM : 2X ZOOM
-SEARCH(TIME/REC/EVENT): Time / Recorded Date
/ Search by each events
-ZOOM: 2X ZOOM
-PLAY(▶ ⏸) : PLAY/PAUSE. PLAY/PAUSE operating in PB.
-STOP(■) : This key used as EXIT key at PB mode
and FREEZE key at LIVE mode.
* Press STOP again to back to LIVE mode.
-MENU : MENU/SETUP Key
-ENTER: CONFIRM /SAVE Key
-▲ ► ▼ ◄ : Direction key (Right/UP/Down/Left)
-◀◀ ▶▶ ⏮ ⏭ : REW, FF, PREV, NEXT key.
(Direction keys can be used as
REW,FF,PREV, NEXT at PLAYBACK mode)
-ADJ-,+ : When changing channel at FULL MODE.
-USB: USB BACKUP MENU
-CDRW: CDRW BACKUP MENU
-MUTE : AUDIO CH MUTE
-LOCK : SYSTEM LOCK/UNLOCK키
-INFO : SYSTEM INFOMATION키
-TELE, FAR, NEAR, WIDE: Used with PAN/TILT (OPTION)

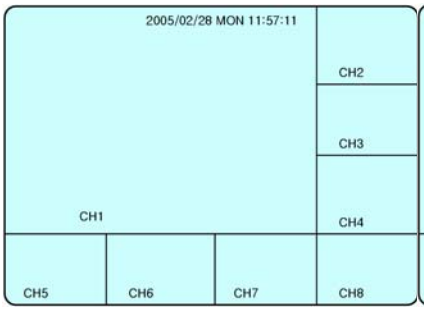
5. Display Modes

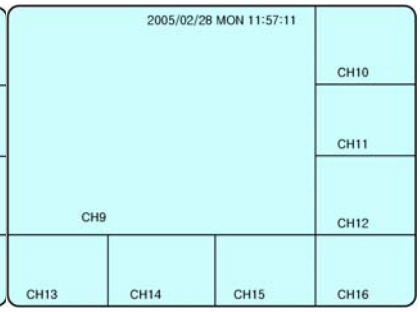


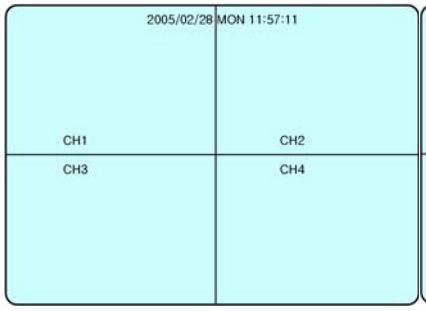


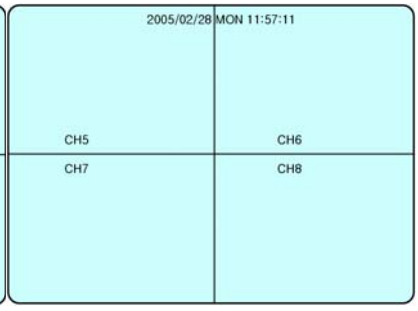


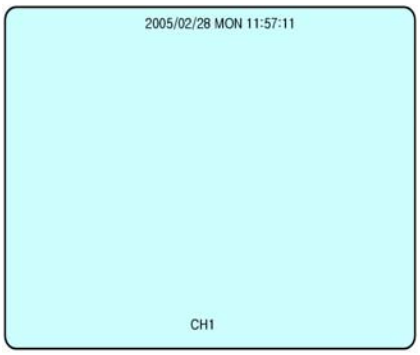












6. Setup Menu

When user want to change setting value, press MENU/EXIT keys in Remote controller or Front key. Move the cursor to sub menu to press Enter key and go out from current menu by pressing MENU/EXIT.

--SETUP MODE consist of 8 icons.

6.1 SYSTEM SETUP

TIME/DATE SET: To set Date and Time

HDD FORMAT SET: To format HDD (Hard Disk Drive)

FACTORY RESET: To return factory specification

PLAY REPEAT : To set Playback repeatedly

VIDEO SYSTEM : T set NTSC or PAL type

BUZZER SOUND : To set Buzzer ON / OFF

6.1.1 TIME/DATE SETUP

DATE : Set current Date

TIME : Set current Time

FORMAT : Set the Date display (DD/MM/YYYY, MM/DD/YYYY, YYYY/MM/DD)

DISPLAY : Set the display of Time and Date or not (ON/OFF)

LOCAL : Select the location of display of Time and Date (TOP / BOT)

6.1.2 HDD FORMAT SET

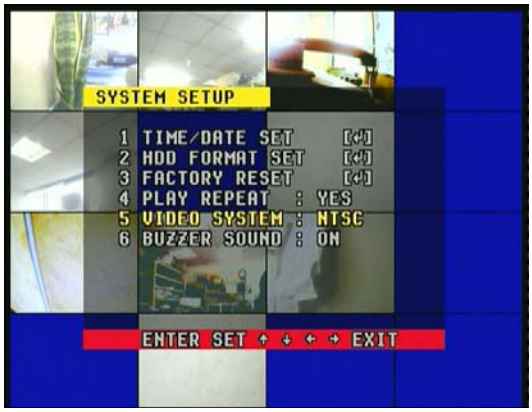
You can format Hard Disk Drive

When you select YES, HDD will be formatted. (All data will be cleared)

6.1.3 FACTORY RESE

You can return all setting as factory specification. If you select YES, all setting will be returned as factory specification.

6.1.5 VIDEO SET



You can return all setting as factory specification. If you select YES, all setting will be returned as factory specification.

6.1.5 BUZZER SOUND

You can return all setting as factory specification. If you select YES, all setting will be returned as factory specification.

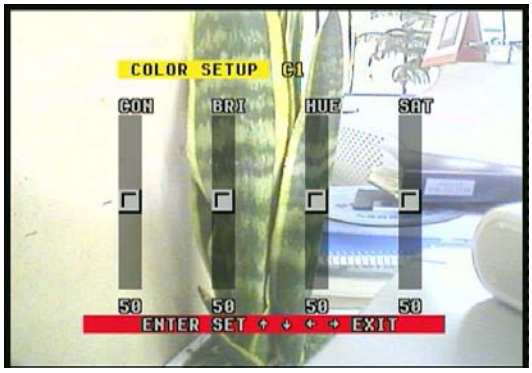
6.2. DISPLAY SETUP

You can return all setting as factory specification. If you select YES, all setting will be returned as factory specification.

6.2.1 CAMERA NAME SETUP

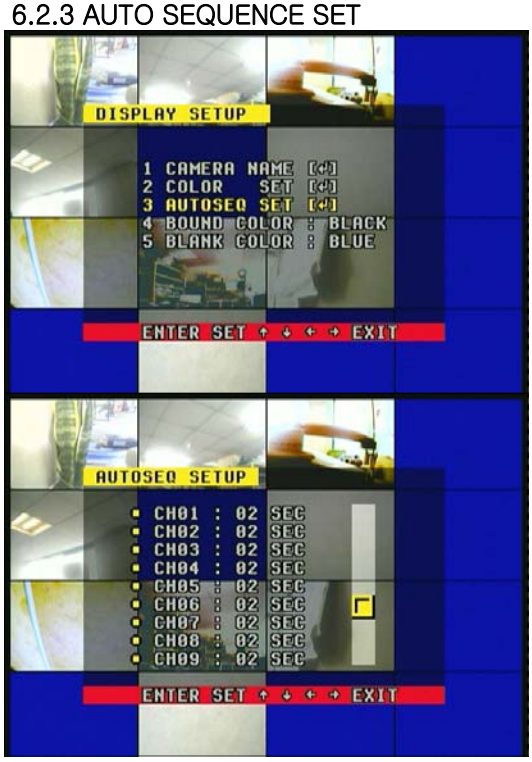
CAMERA NAME : User can make name for each cameras by pressing direction key and Enter key to choose.

6.2.2 COLOR SET



User can set level of color for each channel.
(Using direction keys and select certain channel by Enter key then set each section by UP/DOWN key.
UP/DOWN Key를 사용하여 변경 할 수 있습니다.)
* To go out from current mode, please press MENU/EXIT Key.

6.2.3 AUTO SEQUENCE SET



If pressing Enter key at AUTOSEQ SET in DISPLAY SETUP,
You can set dwell time for each camera in AUTO screen mode.
You can set Dwell time of display of each channel. (0~99sec.)

* To go out from current mode, please press MENU/EXIT Key.

6.2.4 BOUND COLOR SET

To select Border line color (BLACK / WHITE / GRAY)

6.2.5 BLANK COLOR

BLANK COLOR : To select the color of Loss screen (BLACK / WHITE)

6.3 RECORD SET

OVER WRITE : To set OVER WRITE (YES / NO)
* OVER WRITE (When HDD is full, it will write from first section of HDD)
REC SPEED : To set speed of recording
(1F, 2F,3F,5F,12F,20F,30F,60F)
Ex) 60F/sec : Record 60 field per 1 second.
1F/sec : Record 1 field per 1 second.
REC QUALITY : To set recording quality as 4 steps (VERY HIGH / HIGH / LOW / VERY LOW)
RESOLUTION : Field
PLAY BACK SPEED : To set speed of Playback
Ex) 60/sec : Playback 60 field per 1 second.
1/sec : Playback 1field per 1 second.
AUDIO CH EN : To select certain channel for Audio output. Ex) If selecting CH1 for Audio, the color of CH1 Will be displayed as Yellow in main screen.

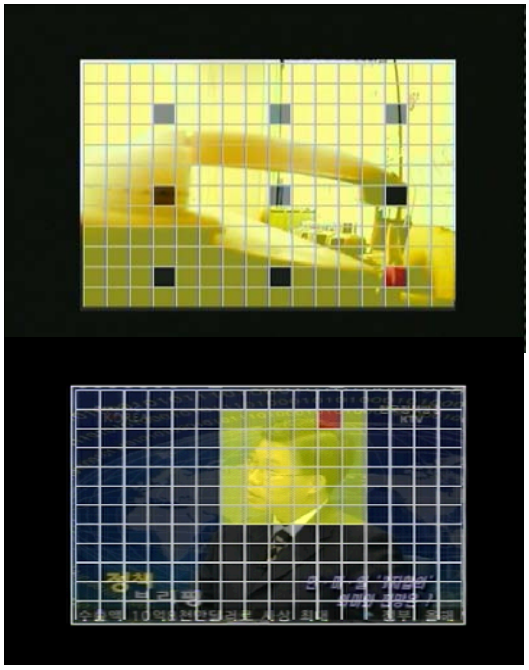
6.4 NETWORK SET

SUB NET : To set Subnet Mask
GATEWAY : To set Gateway
IP ADDR : To set IP Address
NETWORK ENVIRONMENT : To set network environment (LOCAL / EXTER)
Local :
External:

6.5 SENSOR SET

CHANNEL SELECT : To select cannel for setting with sensor (CH 01 - 16)
ALARM ENABLE : To set of Alarm operating or not (ON / OFF)
MOTION ENABLE : To set of Motion detection operating (ON / OFF)
MOTION LEVEL : To set of Motion operating level (VERY HIGH – VERY LOW)
BUZZER TIME : To set dwell time of buzzer sound when Motion detected (0 – 99 Sec)
SENSE REC TIME : When ALARM/Motion occurred, to set recording time (1~99 MIN)
OFF: CONTINUE

6.5.1 MOTION AREA SET



As you see above, Yellow area is Motion detecting area. The other black area is no Motion detecting area. You can move cursor from Yellow area to Black area, then able to set as Motion detecting area by pressing Enter key.
* If pressing Long key of body, all area will be changed as the cursor locating.

6.6 SCHEDULE SET

SUN – SAT : To set recording condition as user's desired day (00:00-23:59)
SCHEDULE RECORD : To set schedule recording condition (ON / OFF)

6.7 USB BACKUP

User can save all recorded data using by CDRW, USB MEMORY.

7.7.1 USB BACKUP

You can set USB BACKUP function .
BACKUP METHOD : To select how to BACKUP (MOVIE / STILL)
USB INFORMATION : To show status of USB Storage

6.7 CDRW BACKUP

7.7.2 CDRW BACKUP

You can set CDRW BACKUP function and carry on BACKUP with CDRW.

6.8 HDD INFO

To show the status of HDD (Hard Disk Drive).

MODEL : To show Model Number of HDD
CAPACITY : Total capacity of HDD
USED SIZE : Total used capacity
OVER WRITE : The number of OVER WRITE

7. OPERATION

7.1 REC

You can set recording ON/OFF of each channel individually as follows order.
SETUP -> RECORD SET -> REC CHANNEL
If pressing REC key, red mark will be turned on in front of channel name which
Has been set Recording ON, that channel will be recorded.
The channel which doesn't have red mark, that channel will not be recorded

7.2 Event

When Alarm, Motion event are occurred, it will be automatically recorded .
SETUP -> SENSOR SET -> CHANNEL SELECT : Select each channel
SETUP -> SENSOR SET -> MOTION ENABLE : ON (Motion detecting)
SETUP -> SENSOR SET -> ALARAM ENABLE : ON (Alarm)
SETUP -> SENSOR SET -> MOTION LEVEL : Set Motion detecting level

Current Status (REC ON/FF)	Operating (Recording)
No recording	Record as 60 field in case of Event occurred
REC : ON, EVENT : ON	Record current status and making Event list of recorded.
REC : OFF, EVENT : ON	Making Event list and record

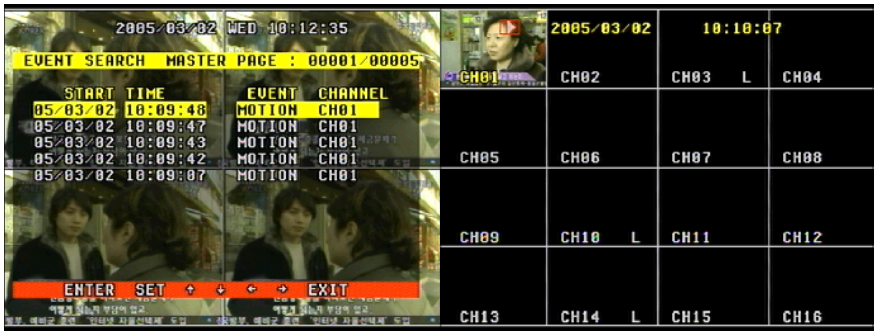
7.3 SCHDULE

User can set schedule (Desired time) for recording (Set in SETUP -> SCHEDULE SET)

7.4 Search (TIME Key)

START TIME : Starting time to record, END TIME : When the recording is finished.
END TIME :
User can move select one of list then can play desired list by pressing Enter key.

7.5 Event Search



User can search Event list by pressing ES key in Remote controller,

7.6 Time Search

User can search recorded data of certain time then user can play desired time of recorded images.

1) Year : User can select desired year with direction key, then press Enter.(Go to Month setup)

2) Month: User can select desired month with direction keys (There are red block under Month setting bar which means it has been recorded at that month)

3) Date : User can select desired Date with direction keys (There are red block under Date setting bar which means there are recorded images at that date)

4) Time : User can select desired Time with direction keys (There are red block under Time setting bar which means there are recorded images at that Time)

Playback : User can select red block and play recorded images by pressing Enter key.

* If there are more than two recorded data, it plays from first of them.

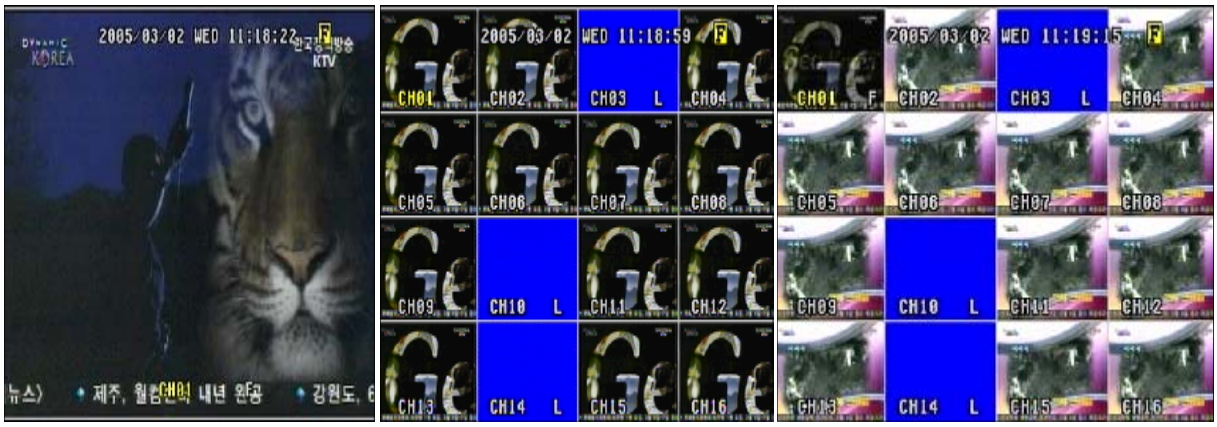
7.7 Zoom

User can watch the zoomed images by pressing zoom key in Remote controller.

The brighter zone will be zoomed at Zoom mode, then zoom by pressing Enter key.

User can watch anywhere at zoomed screen by pressing direction key..

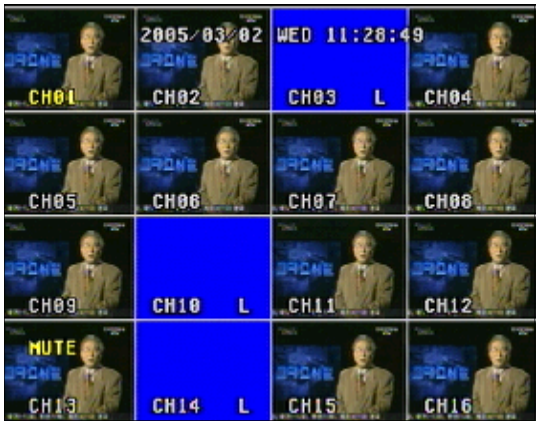
7.8 Freeze



User can freeze screen at full screen mode by pressing STOP key at remote controller or front key on DVR And if pressing STOP key again, it will be back to LIVE mode.

If user press STOP key in other display mode, " F " icon will be displayed on screen. And user can select Desired channel to freeze by pressing the number of channel, those channels will be freeze. And press the channel number again, it will be back to Live mode, or move to another display mode.

7.9 MUTE



User can stop sound by pressing MUTE key and displayed MUTE on screen.

7.10 HDD Information

User can see HDD information by pressing INF key in Remote controller or front body.

7.11 USB Back up

User can save recorded date in USB memory by USB key.There are two method to save, one is to save Moving picture and the other is to save freeze images SETUP -> USB BACKUP -> BACKUP METHOD.

* Caution !!!!

It can be occurred the fetal error if removing USB Storage while it is operating.

User start to backup desired screen by pressing USB key USB. "A" icon will be displayed in certain channel, it means desired recoding channel is selected. Then if pressing USB key again, data will be saved in

USB Storage with flashing icon. The icon will be disappeared when backup is finished..

<USB Backup: Freeze screen >

If pressing USB key in desired screen to backup, then "S" will be displayed on screen. Then when finished

Saving, the icon will be disappeared.

8. NetEYE Connection

Firstly, executing NetEYE program in PC then connect to GN716J by network. The small icon will be appeared.

On screen. User can watch Live mode or recorded mode in NetEYE program.

9. LOCK

9.1 SYSTEM LOCK

User can lock all system in this mode in order to nobody can change the setting.
When you want to lock SYSTEM, enter PASSWORD then retype the same PASSWORD.
User must use 4 numbers 1,2,…,8(1/9,2/10,…,8/16). When complete SYSTEM LOCK, 1/9,2/10,…8/16,MODE, direction keys and ENTER key will be able to use.

9.2 SYSTEM UNLOCK

When you want to release SYSTEM LOCK, just press LOCK key again by entering PASS-WORD.
And back to main mode by pressing MENU key.

10. ADMINISTRATOR OPERATION

10.1 FIRMWARE UPDATE

Before POWER ON, in condition of pressing MODE key, then turn one power.
Now SYSTEM will be initialized then go to F/W(FIRMWARE) UPDATE Menu.
Then carry on F/W UPDATE to connect USB memory.

11.INSTALLATION

11-1. How to install
(1) Please check proper product contents after opening box.
(2) Please check AC115V/230V at real of this equipment.
Before connect power cable to this equipment, make sure the Input voltage selection switch at rear.
Please select proper voltage for your usage(115V /230V)
(3) Before connect power cable, please check power switch of this equipment is OFF
(4) Please check proper camera connection at rear.
(5) Connect cable of VIDEO OUT/MON/VCR/S-VHS to monitor/VCR.
(6) Please check AUDIO IN/OUT CABLE.
(7) Connect ETHERNET PORT and LAN.
(8) Connect cable to ALARM PORT.
(9) Now turn on Power switch.
(10) Please check SYSTEM INITIALIZING on monitor.
(11) Please set Network or other by remote controller or MENU keys.

FCC Warning

FCC15.19

This device is verified to comply with part 15 of the FCC Rules for use with cable television service.

FCC 15.105

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

FCC 15.21

The users manual or instruction manual for an intentional or unintentional radiator shall caution the user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. In cases where the manual is provided only in a form other than paper, such as on a computer disk or over the Internet, the information required by this section may be included in the manual in that alternative form, provided the user can reasonably be expected to have the capability to access information in that form.