USER MANUAL

4 CHANNELS DIGITAL
VIDEO RECORDER

INSTRUCTION MANUAL

To obtain the best performance and ensure device function correctly, please read this instruction manual carefully and completely.
FCC Compliance

USER-INSTALLER CAUTION: YOUR AUTHORITY TO OPERATE THIS FCC VERIFIED EQUIPMENT COULD BE VOIDED IF YOU MAKE CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED BY THE PARTY RESPONSIBLE FOR COMPLIANCE TO PART 15 OF THE FCC RULES.

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.

THIS CLASS A DIGITAL APPARATUS MEETS ALL REQUIREMENTS OF THE CANADIAN INTERFERENCE-CAUSING EQUIPMENT REGULATIONS.

WARNINGS, CAUTIONS & COPYRIGHT

WARINGS
TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MISTURE.
DO NOT INSERT ANY METALLIC OBJECT THROUGH VENTILATION GRILLS.

CAUTION

	CAUTION	
⚡	RISK OF ELECTRIC SHOCK DO NOT OPEN	❗
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK. DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE		

Explanation of Graphical Symbols

⚡	The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of insinuated "dangerous voltage" within the products enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.
❗	The exclamation point within an equilateral rhombus is intended to alert the user to the presence of important operating and maintenance (servicing) instruction in the literature accompanying the product.

USERS OF THE SYSTEM ARE RESPONSIBLE FOR CHECKING AND COMPLYING WITH ALL FEDERAL, STATE, AND LOCAL LAWS AND STATUTES COIPCERNING THE MONITORING AND RECORDING OF VIDEO AND AUDIO SIGNALS. ULTRAK SHALL NOT BE HELD RESPONSIBLE FOR THE USE OF THIS SYSTEM IN VIOLATION OF CURRENT LAWS AND STATUTES.
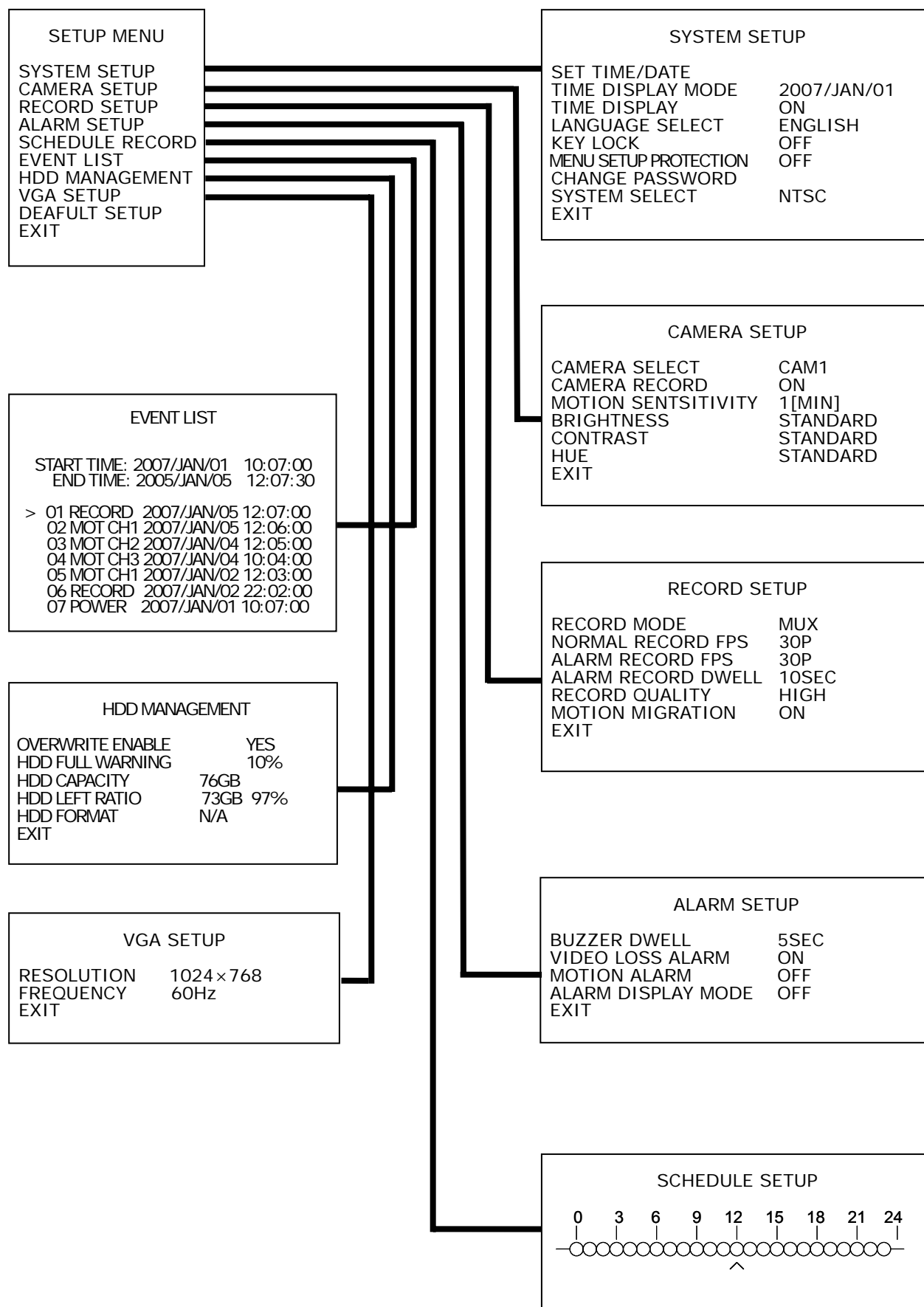
COPYRIGHT

THE TRADEMARKS MENTIONED IN THE MANUAL ARE LEGALLY REGISTERED TO THEIR RESPECTIVE COMPANIES.

TABLE OF CONTENTS

V1.01 2007/Jan/09

SETUP MENU List

```
SETUP MENU

SYSTEM SETUP
CAMERA SETUP
RECORD SETUP
ALARM SETUP
SCHEDULE RECORD
EVENT LIST
HDD MANAGEMENT
VGA SETUP
DEAFULT SETUP
EXIT
```

```
SYSTEM SETUP

SET TIME/DATE
TIME DISPLAY MODE        2007/JAN/01
TIME DISPLAY             ON
LANGUAGE SELECT          ENGLISH
KEY LOCK                 OFF
MENU SETUP PROTECTION    OFF
CHANGE PASSWORD
SYSTEM SELECT            NTSC
EXIT
```

```
CAMERA SETUP

CAMERA SELECT        CAM1
CAMERA RECORD        ON
MOTION SENTSITIVITY  1[MIN]
BRIGHTNESS           STANDARD
CONTRAST             STANDARD
HUE                  STANDARD
EXIT
```

```
EVENT LIST

  START TIME: 2007/JAN/01  10:07:00
   END TIME: 2005/JAN/05  12:07:30

> 01 RECORD  2007/JAN/05 12:07:00
  02 MOT CH1 2007/JAN/05 12:06:00
  03 MOT CH2 2007/JAN/04 12:05:00
  04 MOT CH3 2007/JAN/04 10:04:00
  05 MOT CH1 2007/JAN/02 12:03:00
  06 RECORD  2007/JAN/02 22:02:00
  07 POWER   2007/JAN/01 10:07:00
```

```
RECORD SETUP

RECORD MODE          MUX
NORMAL RECORD FPS    30P
ALARM RECORD FPS     30P
ALARM RECORD DWELL   10SEC
RECORD QUALITY       HIGH
MOTION MIGRATION     ON
EXIT
```

```
HDD MANAGEMENT

OVERWRITE ENABLE      YES
HDD FULL WARNING      10%
HDD CAPACITY       76GB
HDD LEFT RATIO     73GB  97%
HDD FORMAT         N/A
EXIT
```

```
ALARM SETUP

BUZZER DWELL         5SEC
VIDEO LOSS ALARM     ON
MOTION ALARM         OFF
ALARM DISPLAY MODE   OFF
EXIT
```

```
VGA SETUP

RESOLUTION    1024×768
FREQUENCY     60Hz
EXIT
```

```
SCHEDULE SETUP

   0   3   6   9  12  15  18  21  24
   |   |   |   |   |   |   |   |   |
 -OOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOO-
                  ^
```

CHAPTER 1
INTRODUCTION

This product is 4 cameras input appliance with multiple function which will bring you following features:

- Device can be performed as VHS system with live display, play back and video recording.
- Device operates in hardware base with no OS (operating system) necessary for more reliability and stability.
- Digitize data storage with M-JPEG compression technology will give you organized video data management without using mess huge traditional video tape.
- Support various type of camera with real, live mode display.
- Multi-speed recording selection on normal recording mode or alarm recording mode, the highest speed of recording is 30/25 (NTSC/PAL) fields on both mode.
- Contrast, hue and brightness are adjustable for each camera individually.
- Support 1 hard disk (HDD) from 40GB to 500GB compatible & status indicator on screen.
- Selectable recording qualities (best/high/medium/low).
- Recording can operate manually or gets activated automatically when motion is triggered.
- Motion detection function available, user can easily adjust sensitive of motion detection.
- Playback record can be searched by time or by event list.
- Play back mode could not be easier then ever for you to review the video that gets recorded on reverse (×16) and fast forwarding (×4, ×8, and ×16).
- Play back mode with pause (field by field) for forward.
- Easy operation, setting can be easily modified OSD (on screen display) menu.
- Device will overwrite data and notice operator on monitor when the HDD is going full.
- HDD capacity status can be show on the screen for better storage management.
- System will restore the previous setting and continue camera activity after restart.
- Provide optional VGA output function.
- Support PC Link backup via USB connector.
- Date type selectable.
- NTSC/PAL switching by OSD menu.
- Advanced buzzer control.
- Force recording under schedule recording in no record mode.
- Password & key lock protect even power lose.

CHAPTER 2
HARDWARE OVERVIEW

Front Panel Layout Overview
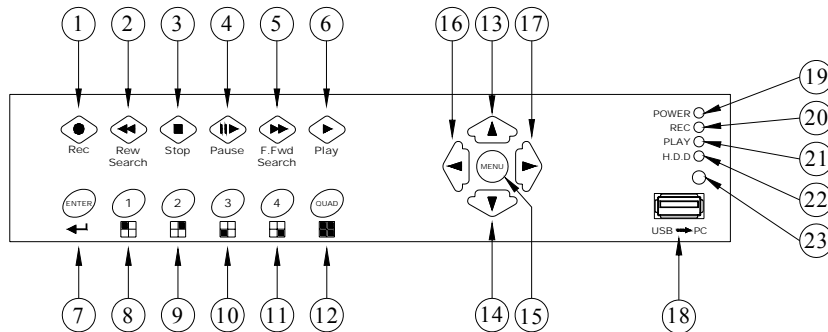
Part	Label	DVR Function	Part	Label	DVR Function
1	1	Channel 1 Full screen & number 1.	2	2	Channel 2 Full screen & number 2.
3	3	Channel 3 Full screen & number 3.	4	4	Channel 4 Full screen & number 4.
5	Quad	Quad screen: All cameras are displayed.	6	ENTER	Make choose or move into MENU item.
7	Rec	Recording button.	8	Rew Search	×16 fast reward.
9	Stop	Press Stop to stop playback or recording.	10	Pause	Pause & Picture by Picture forward.
11	F.Fwd Search	From ×4, x8, ×16 fast forward.	12	Play	Play button & get into quick time search.
13	▲	Move upward or increase the number.	14	▼	Move downward or decrease the number.
15	MENU	Press MENU to go into or exit menu.	16	◄	Move leftward or decrease the number
17	►	Move rightward or increase the number.	18	USB PC	USB connector Image Backup
19	POWER	Power status LED.	20	REC	Recording status LED.
21	PLAY	Playback status LED.	22	H.D.D	H.D.D LED
23	IR Receiver	Accept IR Remote Controller			

Back Panel Layout Overview
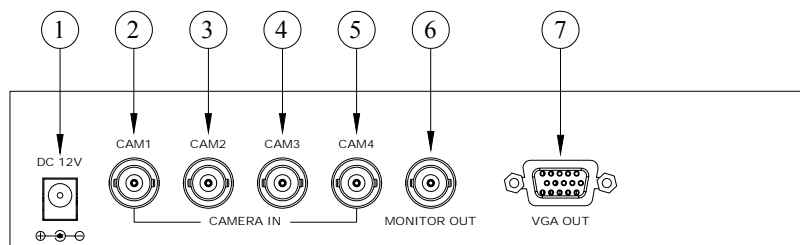
Part	Label	Function
1	Power connector	DC12V Power Adaptor in.
2-5	CAM1 2 3 4	Camera 1 2 3 4 video input with BNC connector.
6	MONITOR OUT	Composite video output with BNC connector.
7	VGA OUT	Connect to CRT or LCD monitor. (Option)

CHAPTER 3
SETUP PROCEDURES

0. LIVE VIEWING

```
REC 30P 2007/JAN/01 10:20:30 MON


        MOT [CAM1]O O[CAM2]
           [CAM3]O O[CAM4]


231GB/239GB 97% [FULL REC]   MUX
```
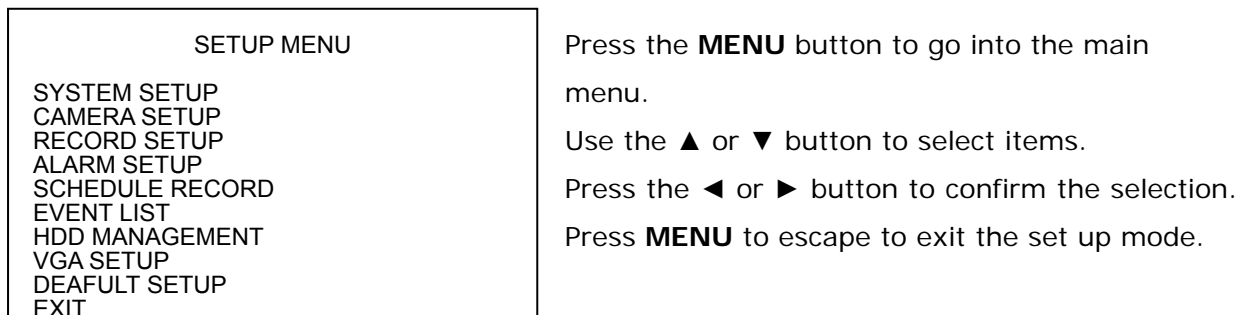
←---- STATUS BAR

←---- INFORMATION BAR

STATUS BAR   Press ▲ button move from top or downgrade a line, and how many recording FPS will show on the left upper corner.

INFORMATION BAR   Press ▼ button move from bottom or upgrade a line, by ◄ or ► button to change information between HARD DISK STSTUS, RECORDING MODE and AUDIO RECORDING STATUS.

While MENU mode without press any key would go back to live viewing mode after 2 minutes. And during live viewing for 5 seconds would go back to recording mode automatically, if full time or alarm record set before.

1. MAIN SETUP MENU

```
          SETUP MENU

SYSTEM SETUP
CAMERA SETUP
RECORD SETUP
ALARM SETUP
SCHEDULE RECORD
EVENT LIST
HDD MANAGEMENT
VGA SETUP
DEAFULT SETUP
EXIT
```

Press the **MENU** button to go into the main menu.

Use the ▲ or ▼ button to select items.

Press the ◄ or ► button to confirm the selection.

Press **MENU** to escape to exit the set up mode.

1. **SYSTEM SETUP**

   System set up.

2. **CAMERA SETUP**

   Camera set up.

3. **RECORD SETUP**

   Recording set up.

4. **ALARM SETUP**

   Alarm set up.

5. **SCHEDULE RECORD**

   Schedule Recording set up.

6. **EVENT LIST**

   Recording event list

7. **HDD MANAGEMENT**

   Hard disk management

8. **VGA SETUP**

   VGA display set up.

9. **DEAFULT SETUP**

   Return to factory setting

10. **EXIT**

   Escape from the setup menu

2. SYSTEM SETUP

```
            SYSTEM SETUP

SET TIME/DATE
TIME DISPLAY MODE       2007/JAN/01
TIME DISPLAY            ON
LANGUAGE SELECT         ENGLISH
KEY LOCK                OFF
MENU SETUP PROTECTION   OFF
CHANGE PASSWORD
SYSTEM SELECT           NTSC
EXIT
```

Press ▲ or ▼ key on "SYSTEM SETUP" & ◄ or ►

to enter:

Use the ▲ or ▼ button to select items.

Press the ◄ or ► button to confirm the selection.

Press MENU back to SETUP MENU.

a. SET TIME/DATE

Use ◄ or ► button to move, ▲ or ▼ button to set up date & time, by **MENU** key back to menu.

b. TIME DISPLAY MODE

Use ◄ or ► button to change YY/MM/DD, MM/DD/YY or DD/MM/YY.

c. TIME DISPLAY   ON/OFF

Use ◄ or ► button to change ON or OFF.

d. LANGUAGE SELECT   ENGLISH

Use ◄ or ► button to change language.

e. KEY LOCK   ON/OFF

Use ◄ or ► button to change ON or OFF.

f. MENU SETUP PROTECT   ON/OFF

Use ◄ or ► button to change ON or OFF.

g. CHANGE PASSWORD

Key in password with following sequence CURREBT PASSWORD -> NEW PASSWORD -> CONFIRM PASSWORD. Initial number is 1111. Use the view control button on the front panel to input the number. ⊞ is "1" , ⊞ is "2" , ⊞ is "3" , ⊞ is "4"

h. SYSTEM SELECT   NTSC/PAL

Use ◄ or ► button to change NTSC or PAL video system.

3. <u>CAMERA SETUP</u>

```
        CAMERA SETUP

CAMERA SELECT        CAM1
CAMERA RECORD        ON
MOTION SENTSITIVITY  1[MIN]
BRIGHTNESS           STANDARD
CONTRAST             STANDARD
HUE                  STANDARD
EXIT
```

Press ▲ or ▼ key on "CAMERA SETUP" & ◄ or ► to enter:

Use the ▲ or ▼ button to select items.

Press the ◄ or ► button to confirm the selection.

Press MENU back to SETUP MENU.

a. **CAMERA SELECT**   **CAM1/CAM2/CAM3/CAM4**

Use ◄ or ► button to select the camera from CH1 – CH4 to be adjusted.

b. **CAMERA RECORD**   **ON/OFF**

Use ◄ or ► button to select recording function ON or OFF.

c. **MOTION SENTSITIVITY OFF / 1[MIN] / 2 / 3 / 4 / 5[MAX]**

Use ◄ or ► button to adjust the sensitivity of the selected camera. From 0 (off) to 5 (MAX).

d. **BRIGHTNESS**   **1 / 2 / 3 / 4 /STANDARD/ 6 / 7 / 8 / 9 /10**

Use ◄ or ► button to adjust the brightness of the selected camera. Initial number is 5 (STANDARD).

e. **CONTRAST**   **1 / 2 / 3 / 4 /STANDARD/ 6 / 7 / 8 / 9 /10**

Use ◄ or ► button to adjust the contrast of the selected camera. Initial number is 5 (STANDARD).

f. **HUE**   **1 / 2 / 3 / 4 /STANDARD/ 6 / 7 / 8 / 9 /10**

Use ◄ or ► button to adjust the hue of the selected camera. Initial number is 5 (STANDARD).

4. RECORD SETUP

```
        RECORD SETUP

RECORD MODE          MUX
NORMAL RECORD FPS    30P
ALARM RECORD FPS     30P
ALARM RECORD DWELL   10SEC
RECORD QUALITY       HIGH
MOTION MIGRATION     ON
EXIT
```

Press ▲ or ▼ key on "RECORD SETUP" & ◄ or ► to enter:

Use the ▲ or ▼ button to select items.

Press the ◄ or ► button to confirm the selection.

Press MENU back to SETUP MENU.

a. **RECORD MODE   MUX/QUAD**

Use ◄ or ► button to select MUX (multiplexer) or OD (QUAD) recording.

NORMAL RECORD FPS   1/2/3/4/5/7/10/15 & 30P

Use ◄ or ► button to select recording speed. 15P means 15 fields per second, 30P is the highest speed, and 1P is the lowest. There are 1 / 2 / 3 / 4 / 5 / 7 / 10 / 15 & 30 you can choose, NTSC default 15P, PAL at 12P.

b. **ALARM RECORD FPS   1/2/3/4/5/7/10/15 & 30P**

Use ◄ or ► button to select alarm recording speed when external alarm or motion detection is triggered. There are 1 / 2 / 3 / 4 / 5 / 7 / 10 / 15 & 30 you can choose, NTSC default 30P, PAL at 25P.

c. **ALARM RECORD DWELL1~30SEC**

Use ◄ or ► button to set the dwell time for alarm recording when motion detection is triggered. There are a total of 30 speeds you can choose from 1 to 30. When Motion is triggered and within the dwell period: the screen will be switched into quad mode. The corresponding camera will be marked ID "MOT", default 10 seconds..

d. **RECORD QUALIT   BEST/HIGH/MEDIUM/LOW**

Use ◄ or ► button to select the BEST, HIGH, MEDIUM or LOW recording quality that can be chosen from. The amount of storage will be consumed with higher quality. Thus, this setting should be carefully chosen for hard disk volume. A table at cheap 6 for relationship between quality, recording speed and hard disks for reference.

e. **MOTION MIGRATION   ON**

Use ◄ or ► button to select add detected motion into event list or not, and the default setting is on.

5. ALARM SETUP

```
        ALARM SETUP

BUZZER DWELL         5SEC
VIDEO LOSS ALARM     ON
MOTION ALARM         OFF
ALARM DISPLAY MODE   OFF
EXIT
```

Press ▲ or ▼ key on "ALARM SETUP" & ◄ or ► to enter:

Use the ▲ or ▼ button to select items.

Press the ◄ or ► button to confirm the selection.

Press **MENU** to go back to SETUP MENU.

a. **BUZZER DWELL   1/2/3 to 30 SEC & CONT**

Use ◄ or ► button to set the dwell time for buzzer issue occur. There are a total of 31 periods you can choose from 1 to 30 seconds or "CONT" for constantly.

b. **VIDEO LOSS ALARM   ON/OFF**

Use ◄ or ► button to select video loss alarm function on or off.

c. **MOTION ALARM   ON/OFF**

Use ◄ or ► button to switch function on or off when motion occur.

d. **ALARM DISPLAY MODE   ON/FF**

During recording & full channel mode, if ALARM DISPLAY MODE is ON, system would switch to the ALARM or MOTION channel and the period depend on ALARM RECORD DWELL.

6. SCHEDULE RECORD

```
        SCHEDULE SETUP

 0   3   6   9  12  15  18  21  24
 |   |   |   |   |   |   |   |   |
─○○○○○○○○○○○○○○○○○○○○○○○○─
                ^
[RIGHT,LEFT] TO MOVE [MENU TO EXIT]
[UP,DOWN] TO SELECT
```

Press ▲ or ▼ key on "SCHEDULE RECORD" & ◄ or ► to enter:

Use the ◄ or ► button to select items.

Press the ▲ or ▼ button to confirm the selection.

Press **MENU** to go back to SETUP MENU.

There are 24 circles in the schedule table, which represent 24 hours.

Every circle has 3 options to select:

O : represents "fully record"

X : represents "no record"

A : represents "alarm record"

Use the ◄ or ►button to select hours.

Press ▲ or ▼ button to select the **O / X / A** (Fully / No / Alarm Record).

QUICK KEY:

► ⏹ **Play** ⏹ Key to switch between **O / X / A** (Fully / No / Alarm Record) in all hours.

7. EVENT LIST

```
            EVENT LIST

  START TIME: 2007/JAN/01 12:07:06
    END TIME: 2007/JAN/05 12:07:30

 >01 RECORD      2007/JAN/05 10:07:06
  02 MOT CH1     2007/JAN/05 12:06:18
  03 MOT CH2     2007/JAN/04 12:05:22
  04 POWER       2007/JAN/03 22:04:45
  05 RECORD      2007/JAN/03 12:03:00
  06 RECORD      2007/JAN/02 05:02:34
  07 POWER       2007/JAN/01 12:07:06
```

Press ▲ or ▼ key on "EVENT LIST" & ◄ or ►
to enter:

Use the ◄ or ► button to select items.

Press the ▲ or ▼ button to confirm the
selection.

Press MENU back to SETUP MENU.

Use "▲ or ▼" key to select event which needs to be played location of **" > "** symbol will move up and down for indicating current event which been selected.

Press "◄ or ►" key to select events storage from master hard drive or slave hard drive. When once selection has been made and than press ►**PLAY** key to start playback.

There are totally 3 different type's event will be recorded:

1. RECORD   Event starts recording by press "REC" key.
2. POWER   **When power off or loss, system would add this issue, and "POWER ERROR DETECTED" would show on screen while boot.**
3. MOT CH1   When motion detection was triggered, event up with alarm number.

Record setup "MOTION EVENT MIGRATION" must at ON.

In the period of alarm record triggered constantly that the a single EVENT LIST item will be extend while lapsed, thus ENET LIST would show the first triggered channel number on the list and the recording seconds will be extended .

8. HDD MANAGEMENT

```
       HDD MANAGEMENT

OVERWRITE ENABLE          YES
HDD FULL WARNING      10%
HDD CAPACITY 76GB
HDD LEFT RATIO     73GB 97%
HDD FORMAT   N/A
EXIT
```

Press ▲ or ▼ key on "NETWORK SETUP" & ◄ or ► to
enter:

Use the ◄ or ► button to select items.

Press the ▲ or ▼ button to confirm the selection.

Press **MENU** back to SETUP MENU.

a. **OVERWRITE MODE   YES (YES/NO)**

Use "◄ or ►" button to enable or disable overwriting when HDD is full. When HDD overwrite is enabled, the oldest partition on HDD will automatically be reused, and the oldest images will be overwritten the current images. When overwrite mode is disabled, the HDD Full Warning percentage selection will be appeared and need to be configured.

b. HDD FULL WARNING   10% (5% / 10% / 15% / 20%)

Use "◄ or ►" button to select one of the four settings (5% / 10% / 15% / 20%). The default is 10%. The buzzer will turn on when free space left in the HDD go below the set value and alarm again when the total free space left going down each 5%.

c. HDD CAPACITY   76GB

The HDD capacity will be indicated on the screen, it can't be revised.

d. HDD LEFT RATIO   73GB   97%

The HDD left ratio sign will be indicated on the screen, it can't be revised.

e. HDD FORMAT

Use "◄ or ►" button to enter the **HDD FORMAT** menu.

> **PASSWORD INPUT : _ _ _ _**

Use the view control button on the front panel to input the number.

⊞ is "1" , ⊞ is "2" , ⊞ is "3" , ⊞ is "4"

When you key in the correct password, the screen will be displayed the following message:

> **PASSWORD CORRECT!**
> **HARD DISK FORMATTED**

Otherwise, the following error message will be displayed on the screen:

> **PASSWORD INCORRECT!**

CHANGE PASSWORD:

Please refer to "SYSTEM SETUP" → CHANGE PASSWORD.

9. VGA SETUP

> VGA SETUP
>
> RESOLUTION   1024×768
> FREQUENCY   70Hz
> EXIT

Press ▲ or ▼ key on "NETWORK SETUP" & ◄ or ► to enter:

Use the ◄ or ► button to select items.

Press the ▲ or ▼ button to confirm the selection.

Press MENU back to SETUP MENU.

a. RESOLUTION   1024×768 (640×480 / 800×600 / 1280×1024)

Use ◄ or ► button to select 4 kinds of resolutions. This setting on VGA setup has to be the same as the setting on the monitor.

b. FREQUENCY   70Hz (56 / 60 / 70 / 75)

Use ◄ or ► button to select 4 kinds of frequencies. This setting on VGA setup has to the same as the setting on the monitor.

10. **<u>LOAD DEFAULT</u>**

```
┌─────────────────────────────┐
│                             │
│       ARE YOU SURE          │
│                             │
│   >  NO                     │
│      YES                    │
│                             │
│                             │
└─────────────────────────────┘
```

Press ▲ or ▼ key on "DEAFULT SETUP" & ◄ or ► to enter:

Use the ◄ or ► button to select items.

Press the ▲ or ▼ button to confirm the selection.

Press MENU back to SETUP MENU.

    a. **NO**

       Do not load default

    b. **YES**

       Use ◄ or ► button to restore the default setting.

11. **<u>EXIT</u>**

    Exit from the **SETUP MENU**.

CHAPTER 4
OPERATION PROCEDURES

1 Getting Started with your machine

Please assure the following instructions before you switch on the machine:

1.1 Voltage check: Before power cable is connected, please check the voltage of this appliance against the supply.

Adapter input voltage range 100~240V, frequency range 47-63Hz.

CAUTION - Damage would be caused if incorrect power voltage applied.

1.2 Hard Disk connection: Make sure the 40-Pin Hard Disk Data cable and the 4-Pin power connectors are properly connected.

2 Recording

2.1 Press the ●REC key to enter the Recording Mode. And press the ■STOP key to stop recording.

2.2 On information bar the "MUX" or "QUAD sign will be indicated on the screen, it means you select MUX or QUAD recording.

2.3 "15P" sign will be indicated in top right corner on the screen, it mean the recording speed you selected. 15P means 15 fields per second.

2.4 O" sign will be indicated in center corner on the screen, it means the marked channel is recorded.

2.5 For more information on Setting up Recording Mode, refer to Chapter 3 Record Setup

2.6 In Recording Mode, if there is a power failure or power lost for any reasons that cause a shut down of this machine, it will be back to the Recording Mode automatically when power restored.

3 Playback

```
        PLAYBACK TYPE SELECT


  >TIME SEARCH
   EVENT LIST
   EXIT
```
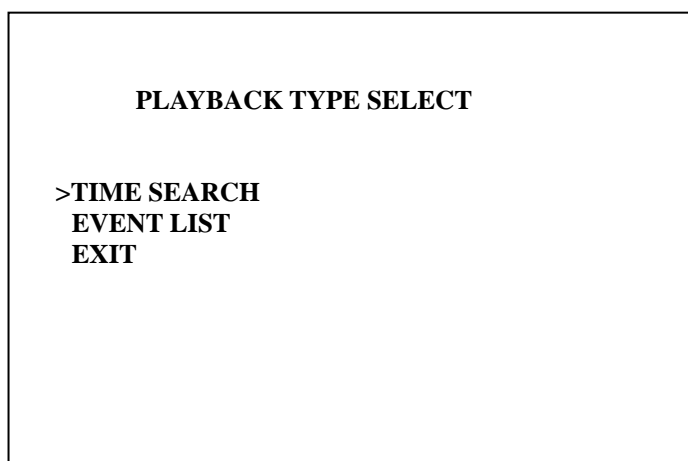
Press the ►PLAY button to into playback mode, There are two ways for searching for video records, use " " or " " key to select a way for searching, there are two selections "TIME SEARCH" and "EVENT LIST". Arrow mark ">" indicates current selection, press "◄" or "►" key to start the search.

3.1 Time Search

```
              TIME  SEARCH

    START TIME: 2007/JAN/05  08:40:34
                               ^


    START TIME  2007/JAN/01  08:12:03
    END TIME  2007/JAN/05  12:10:55
```

When entered "TIME SEARCH" mode, screen will indicates the earliest record on corresponding hard drive with title "START TIME" and "END TIME". Use "◄" or "►" keys to setup condition for time search, an arrow mark "^" will show up on corresponding location for adjustment. Use "▲ "or "▼ "keys to increases or decrease value for search condition on time or date. Press ►PLAY key to start playing back.

3.2 Event List

```
               EVENT LIST

    START TIME: 2007/JAN/01 12:07:00
    END TIME: 2007/JAN/05 10:47:30

  > 01 RECORD   2007/JAN/05 09:07:00
    02 MOT CH1   2007/JAN/04 12:06:00
    03 MOT CH2   2007/JAN/04 10:05:00
    04 RECORD   2007/JAN/02 22:04:00
    05 POWER    2007/JAN/01 12:07:00
```

When entered "EVENT LIST" mode. Screen will indicates the event list on corresponding hard drive with the event type, start date & time. Use "▲"or "▼" keys to setup condition for time search, an arrow mark ">" will show up on corresponding location for adjustment. Use "▲ "or "▼"keys to select the event item, and press ►PLAY key to start playing back.

3.3 Several ways to perform playback:
   3.3.1 Press ►PLAY button to play video forward.
   3.3.2 "PLAY" sign will be indicated in top left corner on the screen.
   "MUX or QUAD" sign will be indicated in top right corner on the screen, it means the recording mode you selected.
   3.3.3 When playback reaches the vary end of record and **"END"**will appear. Press ◄◄Rew Search button to play video reverse at 16 times speed fast rewind mode.
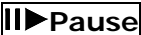   **3.3.4** Press ►►F.Fwd Search button to play video forward at high speed. Press the button again speed will be change circulative from ×4, ×8, to the highest ×16.
   3.3.5 "REW" or "FF* 4 / 8 / 16" sign will be indicated in top left corner on the

screen.

3.3.6   Press ❙❙▶Pause button to pause (field by field) for forward. This function can be used in full screen and quad mode.

3.3.7   "PAUSE" sign will be indicated in top left corner on the screen.

Press the ■STOP button to leave playback mode and resume to Live Mode.

Attention   If you choose QUAD in recording mode than it can't playback in full single channel screen.

4 <u>Hard disk recommend</u>

Hard disk should be connected, the capacity of hard disk from 40GB to 500GB.

When you restart the power of this appliance after install or replace new hard disk it will format automatically, we tested the following model for your reference:

Brand	Model	Capacity	Speed (rpm)
Hitachi	HDS725050KLAT80	500GB	7200 rpm
Seagate	ST380011A	80GB	7200 rpm
Seagate	ST3120023A	120GB	7200 rpm
Seagate	ST3160023A	160GB	7200 rpm
Seagate	ST3400832A	400GB	7200 rpm
Maxtor	6Y120L0	120GB	7200 rpm
Maxtor	6Y080L0	80GB	7200 rpm
Maxtor	6Y160P0	160GB	7200 rpm
Maxtor	7Y250P0-A	250GB	7200 rpm
We **DO NOT** suggest Samsung \ Western Digital \ Maxtor DiamondMax 10 series hard drive base on technical examination.			

5 <u>VGA Output</u>

VGA output is optional, please ensure that you have proper DVR model for VGA out put installation. By D-SUB connecter to CRT or LCD monitor at 1024*768 70Hz.

CHAPTER 5
PLAYBACK FROM USB

1. INTRODUCTION & SYSTEM REQUIREMENT

A.   INTRODUCTION

Form YAViewer4 software will show the stream image stored in the HDD which was previously formatted and recorded from DVR via USB cable.
When DVR connected to PC, DVR would stop to recording and "USB ►►► PC" will show on the DVR screen for HDD data transmission, after unplug the USB connector DVR would boot up automatically.
The YAViewer4 will automatically detect the HDD and show the recorded stream. You can also save the current screen to a BMP file, and save the current stream to a stream file [the file extension for the stream file is "MYS"].

The YAViewer4 consists of two functional modules:
View & Backup   Shows stream stored in the HDD directly.
MYS File Player   Plays captured stream file.

B.   SYSTEM REQUIREMENT

System Recommendation
Microsoft Windows 2000 or Later (XP, 2003).
CPU 1.0 GHz or Higher.
RAM 256 MByte or greater.
DirectX 7.0 or later.

C.   INSTALLATION

Hardware Installation
With the USB cable link DVR and USB port on PC.

DVR would switch into "USB to PC" mode, after disconnection system would reboot automatically.

PC would detect new HDD added, **if your operation system require initialing the new detect DVR hard disk, please cancel this initial action!!** , all of data will erase if been initialed.

As stated above, the application shows stream which is stored in HDD from DVR. Before installing and executing the application, make sure that you connected HDD to the IDE cable of your PC directly, or via USB HDD adaptor.

Software Installation
Make sure that the OS of your PC is Windows 2000 or above. Otherwise, the application will not operate properly.
The application is just one execution file. Please copy from DVR CD disk to any directory you want.

2. VIEW & BACKUP
A. EXECUTION
Please double click the execution file. The application first detects physical HDDs installed at your PC and search for HDD among them. This process may take up to 1 minute.

B. USER INTERFACE
The default page of the application is DVR HDD PC Viewer. The user interface as below:

HDD Select Button

F. Rewind

Rewind by Frame

R. Play

Slider Bar Zooming Button

Valid Stream Region Indicator

Pause

Play

Forward by Frame

F. Forward

Channel Selection

Capture Current Stream Button (BMP)

Capture Current Stream Button (MYS)

Play Captured Stream Button

Volume Control

Direct Access

Slider Bar

Stream Time Display
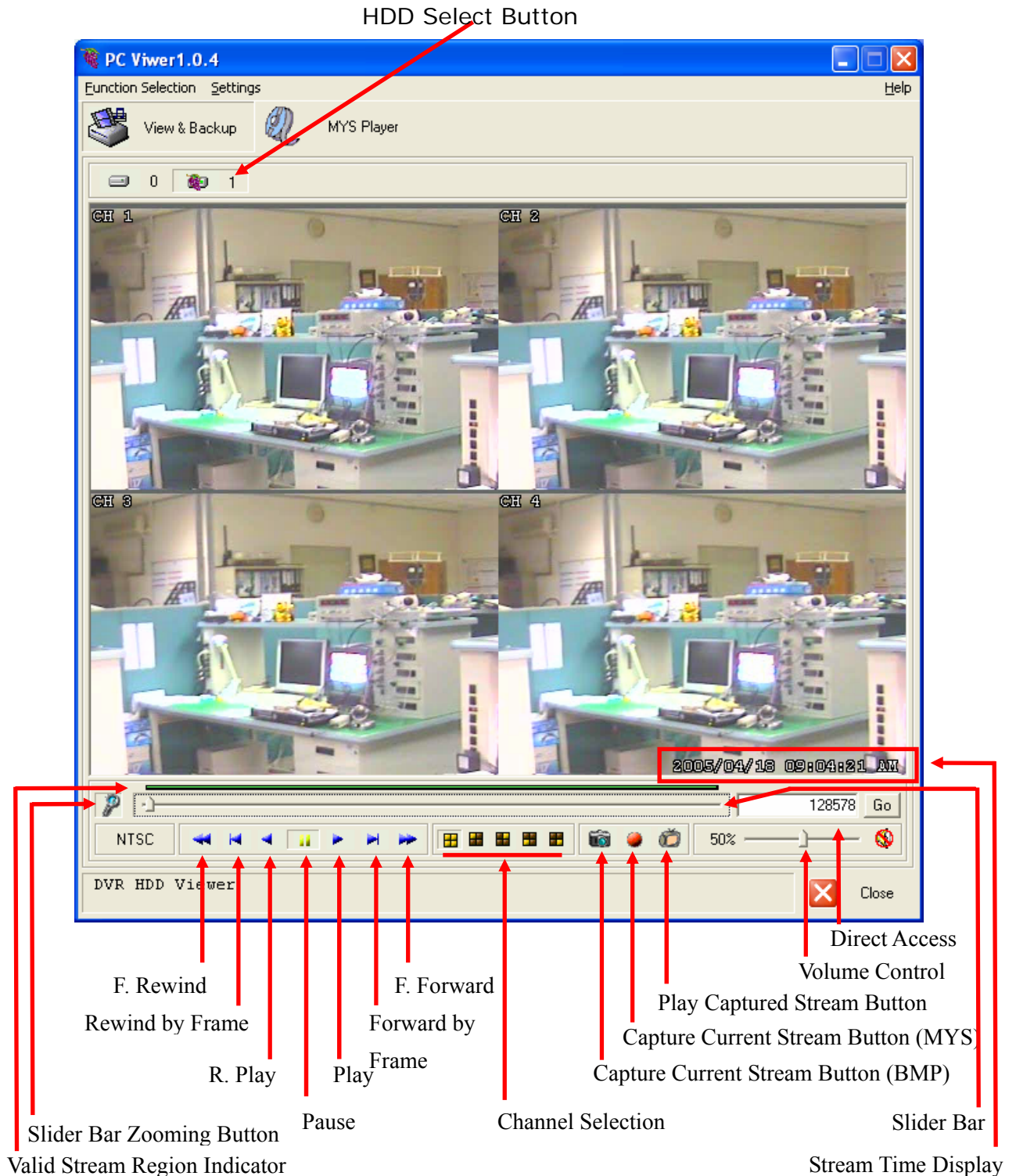
C. FUNCTIONS

I.   HDD Select Button
     Once the application detects one or more HDDs, it automatically selects
     the first HDD. You can select any HDD [the HDDs with YAViewer4_Eng
     marked]. However, you cannot select the normal HDD, which may be
     Windows-formatted one.

II. Valid Stream Region Indication
     Once a HDD is selected, the application detects valid stream region
     where valid video stream resides. The valid stream region is marked as
     green within the Valid Stream Region Indicator.

III. Slider Bar Zooming Button
     If the Valid Stream Region is relatively too small, you may have
     difficulty to navigate within it. In this case, we can enlarge (magnify)
     the Valid Stream Region by clicking Slider Bar Zooming Button.

IV. Playback
     Once a HDD is selected, the application automatically displays first
     screen recorded at the very beginning of it. Then, we can see stream at
     anywhere within the valid stream reason.

V.   Channel Selection
     The default screen display channel setting is ALL CHANNEL, which
     shows all four channel (if the stream has 4 channel streams) at the
     same time. If want to see a channel only or enlarge one channel, press
     any channel button.

VI. Capture Current Stream Button (BMP)
     For capture image, or backup, current screen, press Capture Current
     Screen button. Then it will capture the current screen and saves it as
     BMP file.

VII. Capture Current Stream Button (MYS)
     For capture video, or backup, current stream, press Capture Current
     Stream button. Then it will record the stream you want. It will
     create .MYS file, whose format is Vineyard Technologies' proprietary
     stream file format. We can play the recorded file using MYS file player.

VIII. Play Capture Stream Button
     MYS Player mode.

IX. Volume Control
     Enable/disable audio sounding by clicking "MUTE" button and adjust
     volume by adjusting Volume slider bar.
     For audio optional model only.

X.   Direct Access
     If the stream stored in a HDD is quite long or difficulty to reach the
     exact scene to see. If we find a scene you would like to show your
     friend or report to polis officer later, please remember the number in
     the Direct Access Input edit box, so that we can go there directly by
     entering the number in the edit box and pressing "GO" button besides
     it.

3. MYS PLAYER

   A.   User Interface

   The default page of the application is DVR HDD YAViewer4. The user
   interface as below:

MYS File Info Display   MYS File Select Dialog

                   MYS Player

File Open Button   Volume Control

   F. Rewind   F. Forward   Capture Current

      Rewind by Frame   Forward by

         R. Play   Play Frame

MYS File Info. Display Button   Pause   Channel Selection

Positioning Slider Bar

B. FUNCTIONS

I. File Open

Open MYS file by clicking File Open Button.

II. Playback

Once a HDD is selected, the application automatically displays first screen recorded at the very beginning of it. Then, we can see stream at anywhere within the valid stream reason.

III. Channel Selection

The default screen display channel setting is ALL CHANNEL, which shows all four channel (if the stream has 4 channel streams) at the same time. If want to see only one channel as full screen, press channel button.

IV. Capture Current Stream Button (BMP)

For capture image, or backup, current screen, press Capture Current Screen button. Then it will capture the current screen and saves it as BMP file.

V. Volume Control

Enable/disable audio sounding by clicking "MUTE" button and adjust volume by adjusting Volume slider bar.
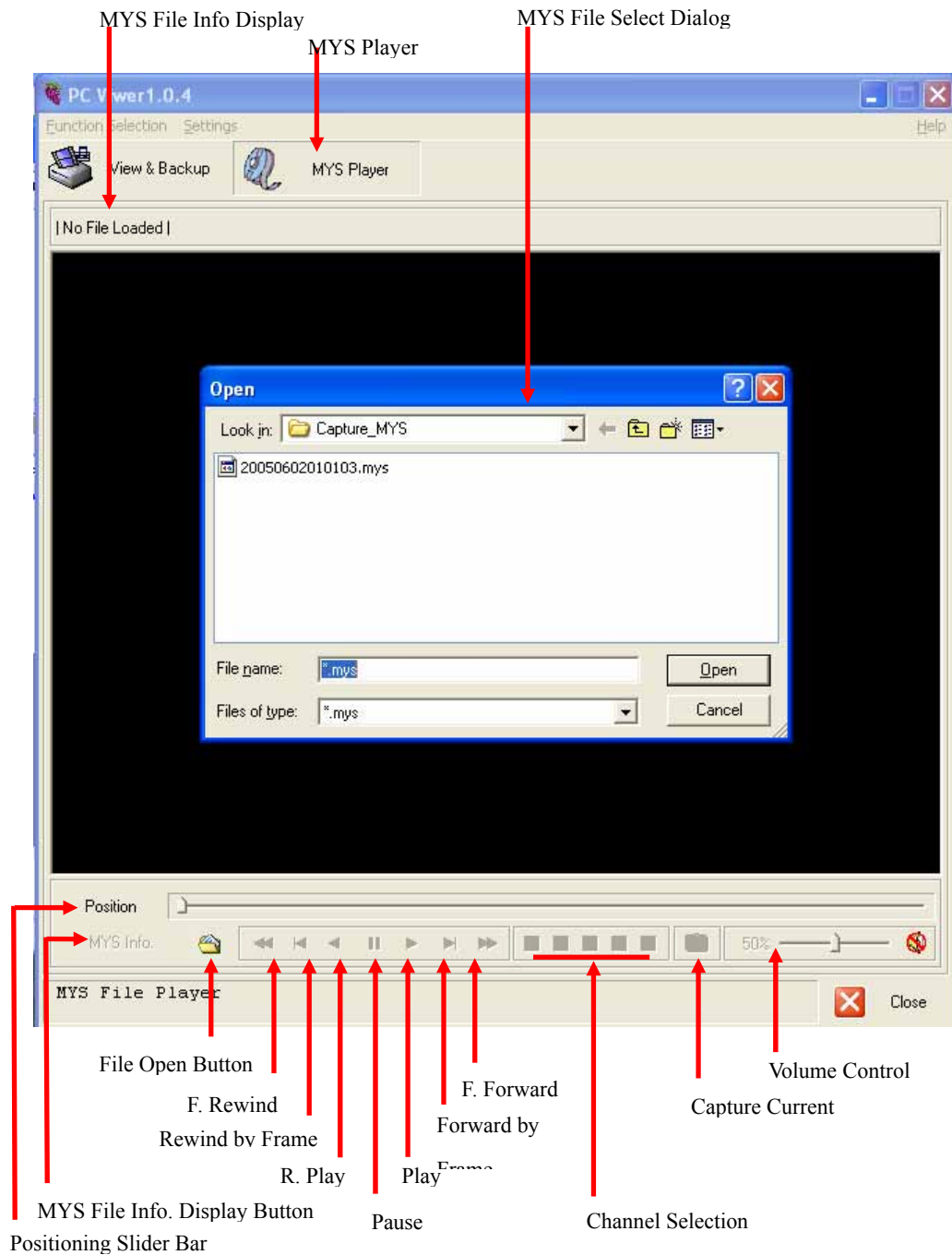
For audio optional model only.

VI. Position Slider Bar

Slide image position directly.

VII. MYS File Info. Display Button

Showing File Name, Video Mode, File Size, and Frame Count & Current Position at upper left corner.
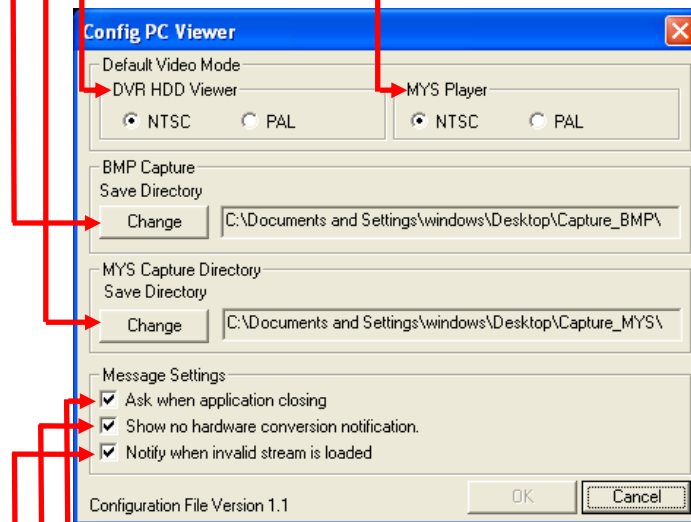
4. APPLICATION SETTING

     A.   USER INTERFACE

Change BMP File Saving Directory

    Change MYS File Saving Directory

        Default Video Mode   Default Video Mode

Enable/Disable Application Closing Confirm

Enable/Disable Notification Message when the application detects the

Enable/Disable Notification Message when the application detects invalid

    B.   FUNCTIONS:

        I.   Default Video Mode Related Setting
              Choose the default video standard.
              1. NTSC/PAL Setting for HDD PCVIEWER
              2. NTSC/PAL Setting for MYS Player

        II.   Change BMP File Saving Directory
              Press "Change" Button to change the directory where the new BMP capture file will be stored.

        III.   Change MYS File Saving Directory
              Press "Change" button to change the directory where the new MYS stream file will be stored.

        IV.   Application Closing
              Enable/Disable the confirm message box for application closing.

        V.   Change No Hardware Color Conversion Support Notification
              Enable/Disable the notification message when the application detects the graphic device installed is not supporting hardware-aided YUV to RGB color conversion.

        VI.   Change Invalid Stream Loading Notification
              Enable/Disable the warning message when the application [HDD PC Viewer] loads invalid stream data from a hard disk.

CHAPTER 6
SPECIFICATIONS

Image System		NTSC	PAL
Resolution	Display	720 × 480	720 × 576
	Record	640 × 224	640 × 272
Video Input		BNC × 4	
Video Output		BNC × 1	
Display Frame		4 × 30 fields/sec	4 × 25 fields/sec
Recording Frame Rate (QUAD)		Max 30 fps	Max 25 fps
Recording Frame Rate (MUX)		Max 30 / 4 fps	Max 25 / 4 fps
Storage Media		1 IDE Hard Disk	
Image Format		M-JPEG	
Compress Rate		Low 8K bytes/field Medium 10K bytes/field High 15K bytes/field Best 20K bytes/field	
Recording Mode		Manual / Alarm / Schedule	
Playback Speed		Fast Forward ×4 ×8 ×16 Fast Reverse ×16 Frame by Frame Forward Playback	
Image Adjustable		Brightness / Contrast / Hue	
On Screen Display & Setup		Time/Date/Setup Menu	
Password Control		One for HDD format	
Event List		Max. 63 records/H.D.D	
Motion Detection		Yes	
Buzzer		Yes	
Video loss		Yes	
Key Lock		Yes	
IR Remote Controller		Yes	
Backup		USB (PC Link)	
VGA out put		Optional	
Power Input		DC 12 V / 3A	
Dimensions (W×H×D)		218 (W) × 44 (H) × 202 (D) mm	
Operation Temperature		0 - 45	

CHAPTER 7
RECORDING TIME LENGTH

Recording time length is related to recording speed and recording quality. Tables below are offered for your reference.

Record Mode=MUX

Record Mode=QUAD

Recording length under quad mode will shorter than multiplex mode and PAL will shorter than NTSC.

80GB H.D.D Record Mode=MUX									
NTSC Field/Sec		**30/FS**	**15/FS**	**10/FS**	**7/FS**	**5/FS**	**4/FS**	**3/FS**	**2/FS**	**1/FS**
Recording Quality	**maximum**	38 hr	76 hr	114 hr	160hr	228hr	285hr	380 hr	570 hr	1140hr
	high	57 hr	114Hr	171hr	240hr	342hr	428hr	570 hr	855 hr	1710hr
	medium	71 hr	142hr	213hr	298hr	426hr	532hr	710 hr	1065hr	2130hr
	low	100hr	200hr	300hr	420hr	600hr	750hr	1000hr	1500hr	3000hr

80GB H.D.D Record Mode=QUAD									
NTSC Field/Sec		**30/FS**	**15/FS**	**10/FS**	**7/FS**	**5/FS**	**4/FS**	**3/FS**	**2/FS**	**1/FS**
Recording Quality	**maximum**	19 hr	38 hr	57 hr	80 hr	114hr	142hr	190hr	285hr	570 hr
	high	29 hr	57 Hr	87 hr	120hr	171hr	214hr	285hr	426hr	870 hr
	medium	35 hr	70 hr	105 hr	148hr	213hr	266hr	350hr	532hr	1050hr
	low	50 hr	100 hr	150 hr	208hr	300hr	375hr	500hr	750hr	1500hr

80GB H.D.D Record Mode=MUX									
PAL Field/Sec		**25/FS**	**12/FS**	**8/FS**	**6/FS**	**4/FS**	**3/FS**	**2/FS**	**1/FS**
Recording Quality	**maximum**	35 hr	72 hr	110 hr	145 hr	218 hr	291 hr	437 hr	875 hr
	high	46 hr	95 hr	144 hr	190 hr	287 hr	383 hr	575 hr	1150 hr
	medium	67 hr	139 hr	209 hr	278 hr	418 hr	558 hr	837 hr	1675 hr
	low	98 hr	204 hr	306 hr	408 hr	612 hr	816 hr	1225hr	2450hr

80GB H.D.D Record Mode=QUAD									
PAL Field/Sec		**25/FS**	**12/FS**	**8/FS**	**6/FS**	**4/FS**	**3/FS**	**2/FS**	**1/FS**
Recording Quality	**maximum**	12 hr	25 hr	37 hr	50 hr	75 hr	100 hr	150 hr	300 hr
	high	16 hr	33 hr	50 hr	66 hr	100 hr	133 hr	200 hr	400 hr
	medium	23 hr	48 hr	72 hr	95 hr	143 hr	191 hr	287 hr	575 hr
	low	34 hr	70 hr	106 hr	141 hr	212 hr	283 hr	425 hr	850 hr

CHAPTER 8
HARD DRIVE INSTALLATION PROCEDURES

1. Loosen the screw on the cover of the DVR. There are total 8 screws as follows.
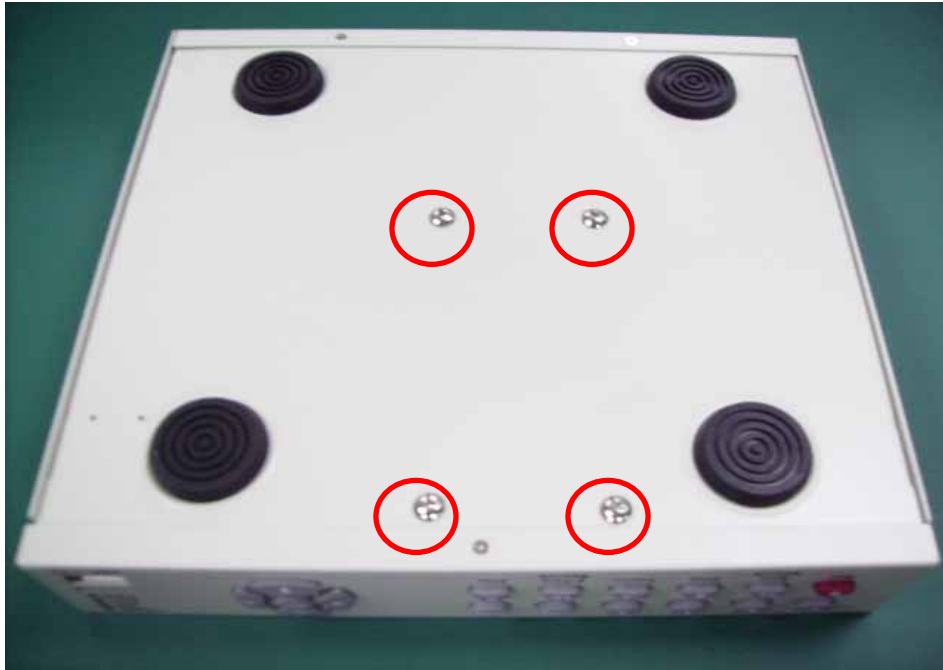

2. Install HDD (Master) and connect it with the power board and the main board as well as follows.

3. Turn the bottom of the DVR up and make 4 screws on as follows. Screws are inside the

accessory kit.

4. After HDD installed and the power connected well, turn on the DVR. Then, OSD will display HDD information. After confirmation, screw on the cover of the DVR.

Attentions
1. **Hard drive master mode must be set correctly.**
2. **Make sure power cable is unplugged before hard drive installation starts.**
3. **IDE cable and power cable must be hooking up correctly.**
4. **HDD cool down is based on the DVR case, so please make sure the HDD is installed well.**