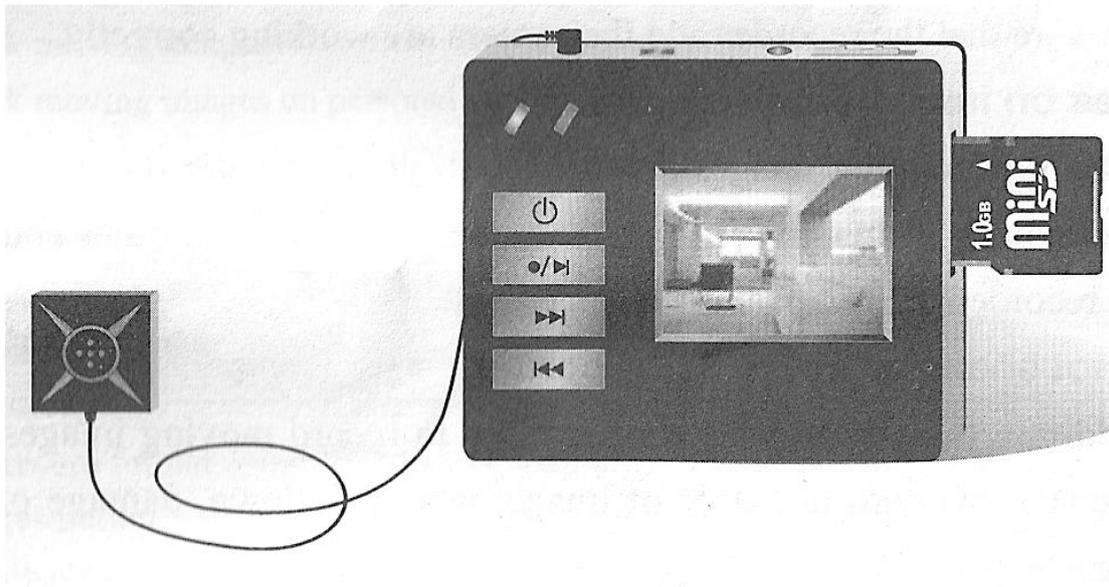




# ZedCam ZC-MS-02 Miniature Recorder/Player User Manual

Before operating the unit, please read this manual thoroughly, and retain it for future reference.



## Warning

To prevent fire or shock hazard, do not expose the unit to rain or moisture

## Attention

Electromagnetic fields at specific frequencies may influence the audio and picture of the recorder.

Be sure to read the following before using the recorder and the mini camera.

### 1) Trial recording

- a. Before you record one-time events, you may want to make a trial recording to make sure the recorder and the camera are working correctly.

### 2) Do not shake or hit the recorder

- a. In addition to malfunctions and inability to record moving images, this may render the SD card unusable. Image breakdown, damage or loss may occur.

### 3) LCD screen and mini camera

- a. Be careful when placing the camera near a window or outdoors. Exposing the LCD screen or the lens to direct sunlight for long periods may cause malfunctions.

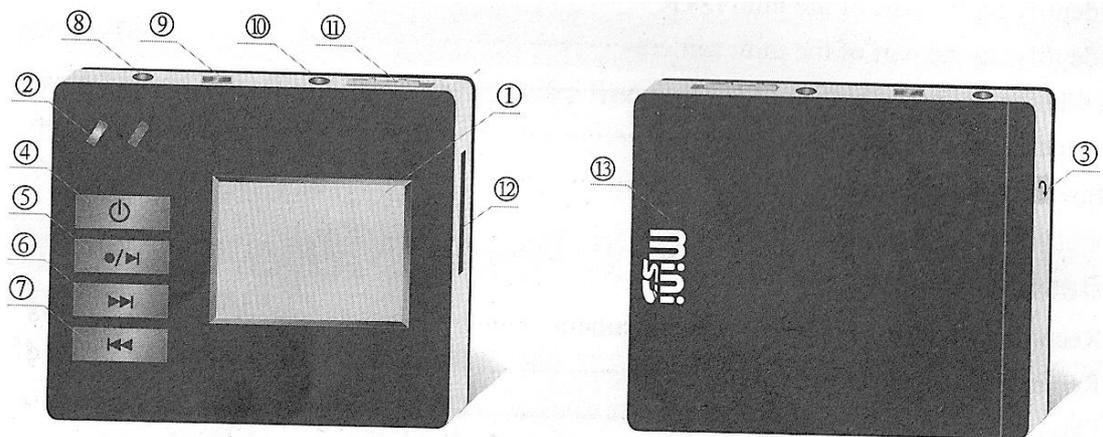
### 4) Back-up recommendation

- a. To avoid the potential risk of data loss, always copy data to a hard disc



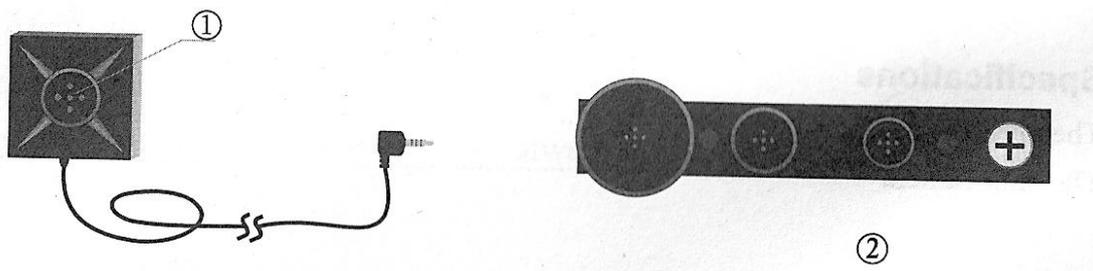
## **Getting Started**

### **Identifying the parts of the mini DVR**



- |                          |   |
|--------------------------|---|
| 1) 1.5" TFT LCD Screen   | 8) AV jack to connect with the Mini camera / TV |
| 2) LED indicators        | 9) USB jack to connect with PC                  |
| 3) [↵] Return key        | 10) AV Out jack to connect with TV              |
| 4) [⏻] Power Key         | 11) [P/R] record/playback slider                |
| 5) [▶/⏸] Play/Stop key   | 12) Mini SD Card Slot                           |
| 6) [▶▶] FWD / Select Key | 13) Battery Compartment                         |
| 7) [◀◀] REV/ Select key  |   |

### **Identifying the parts of the mini camera**

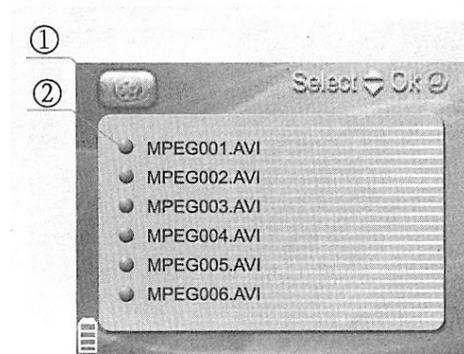


- 1) Lens
- 2) Interchangeable buttons and screens

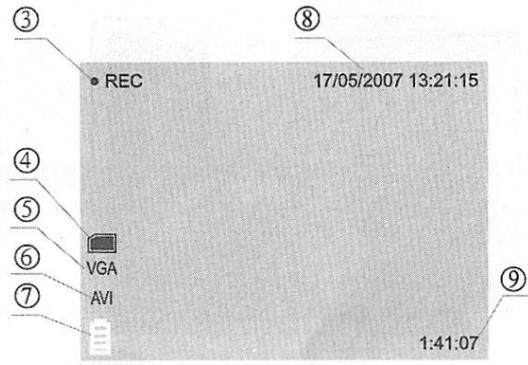


## LCD screen indicators

### Playback mode



### Recording mode

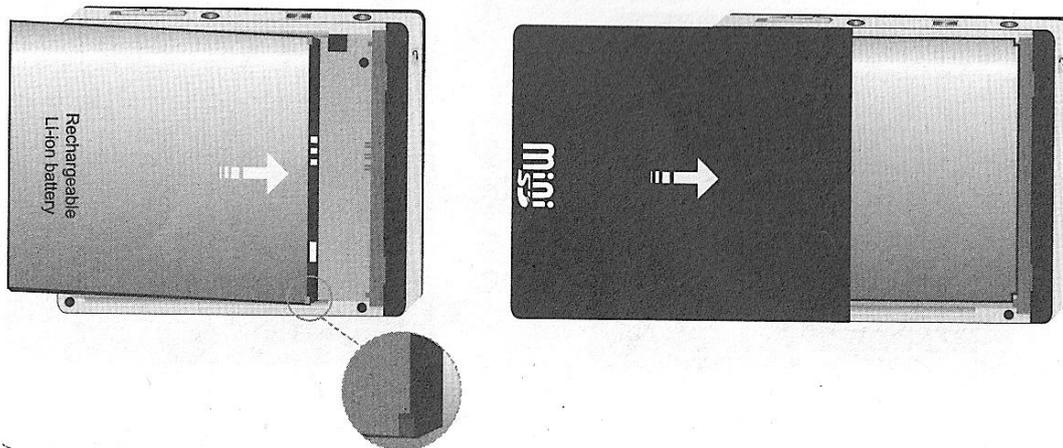


- 1) Playback mode
- 2) Recorded files
- 3) Recording symbol
- 4) SD card symbol, it appears when a SD card is inserted into your recorder, otherwise no symbol is shown
- 5) VGA: 640 x 480  
QVGA: 320 x 240  
SVGA: 160 x 120
- 6) AVI/ASF/MOV: Recording formats
- 7) Battery indicator
- 8) Date/Time indicator
- 9) Remaining recording time - refer to flash memory or SD card capacity



## The battery

Your DVR operates with a Sony-Ericsson mobile phone battery pack (BST-33 series) or equivalent



## Installing the battery pack

Open the cover by slightly pushing and pulling it back

Insert the battery pack with the corner of "" facing towards the battery compartment as illustrated. Close the battery cover

## Charging the battery pack

Connect the AC power adapter with the USB port on your DVR and the charge lamp lights up when charging begins. When the charge lamp goes off, charging is completed.

## Charging time

Battery pack capacity	Full charging time
720 mAh	120 min
960 mAh	180 min



## Battery Life

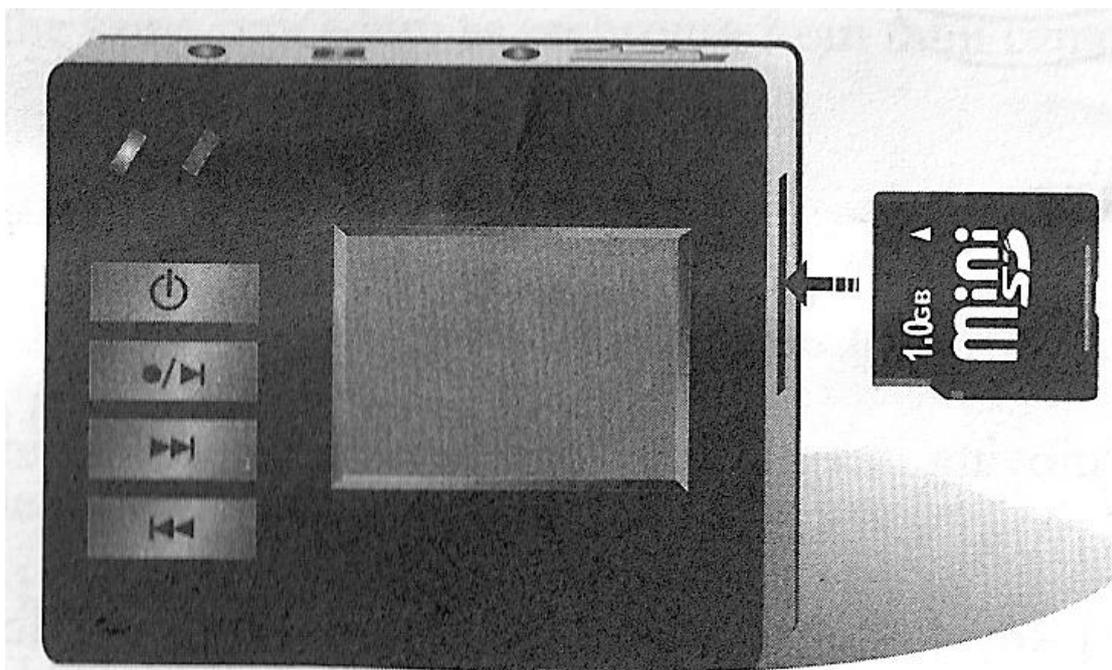
### Video recording

Battery pack capacity	Continuous recording time
720 mAh	120 min (fully charged battery)
960 mAh	150 min (fully charged battery)

### Video playback

Battery pack capacity	Continuous playing time
720 mAh	120 min (fully charged battery)
960 mAh	150 min (fully charged battery)

### Inserting the SD card



Insert a mini SD card as illustrated



## Recording time for different SD capacities

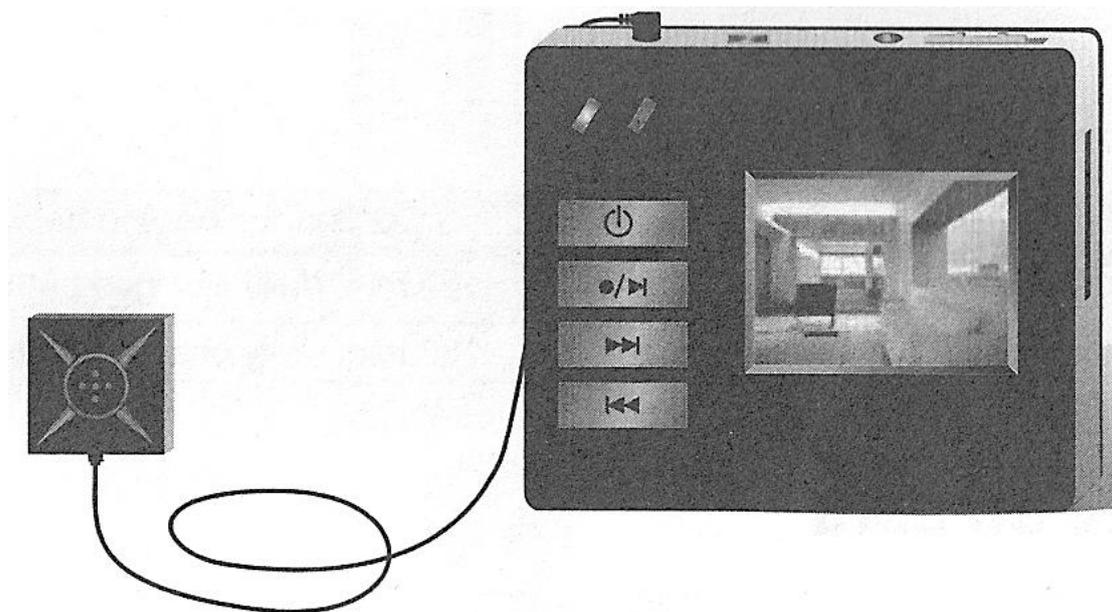
SD card capacity	640 x 480	320 x 240	160 x 120
512 MB	Approx 28 min	Approx 102 min	Approx 341 min
1 GB	Approx 55 min	Approx 200 min	Approx 666 min
2 GB	Approx 111 min	Approx 400 min	Approx 1333 min
4 GB	Approx 222 min	Approx 800 min	Approx 2666 min

**Never** remove the miniSD card or turn off the power whilst the access LED is illuminated

## **Basic Operation**

### **Recording videos from mini camera**

Videos can be recorded in five different formats (refer to Setting up Recording)



### **Start recording**

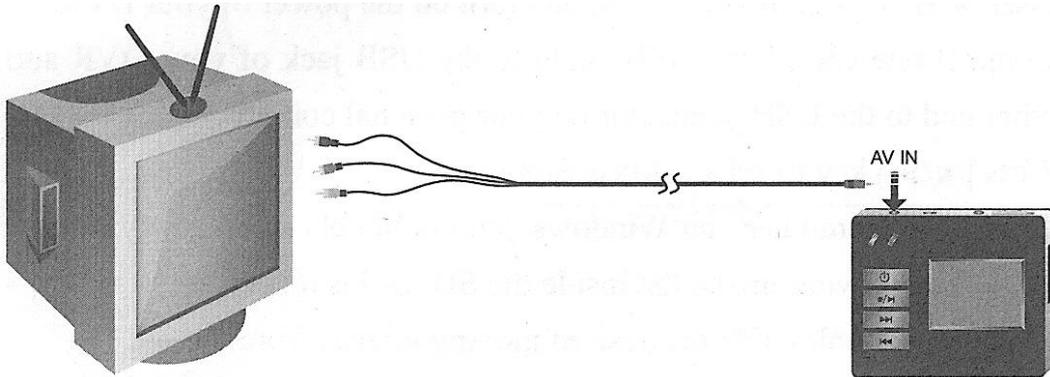
- 1) Slide [R/P] key towards [R] and connect the mini camera as illustrated
- 2) To record videos, press and hold the power button for 3 seconds to turn on the DVR
- 3) Press [●/▶] key to start recording, yellow lamp flashes during recording, "●Rec" shows on the right hand corner of the screen
- 4) The mini DVR screen will automatically turn off after 3 min. Press [●/▶] or [▶▶] or [◀◀] key to turn on the screen



## Stop recording

5) Press [●/▶] key again to stop the recording

## Recording videos from TV set



Start recording

Slide [R/P] key towards [R] and connect the mini camera as illustrated

Following the same procedure as recording from mini camera.

## Playing back recorded videos

Slide [P/R] key towards [P].

Turn on the DVR

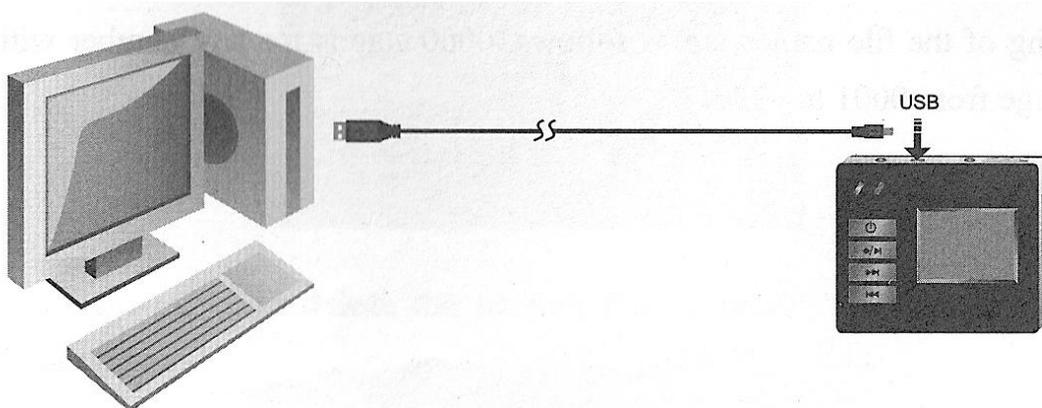
Select the desired video with the [▶▶] or [◀◀] key

Press [●/▶] key to playback the selected video

Press [●/▶] key to stop playing

Press [↵] key to return to the recorded file list

## Playback videos on a personal computer

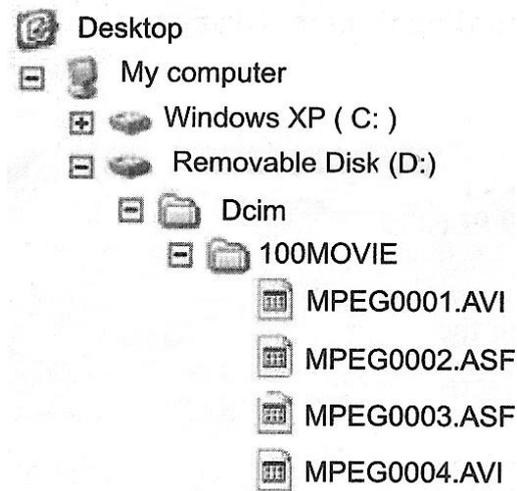




- 1) Turn on your PC/laptop
- 2) Insert a SD card into your DVR, and turn on the power to your DVR
- 3) Connect one end of the USB cable to the USB jack of your DVR and the other to the USB connector on your personal computer.
- 4) Press [●/▶] key to select "Mass Storage", if requested
- 5) Open "My Computer" on Windows and double click the newly recognised drive. The video list on the SD card is displayed.
- 6) Select and double-click the desired video from the list

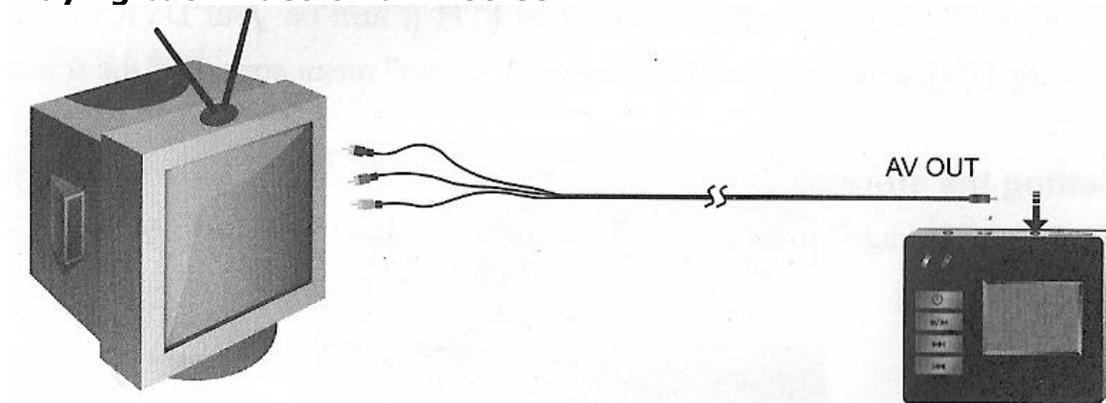
### File storage destinations and files

For Windows XP/Vista users (in this example DVR drive is "D:")



Video files recorded with your DVR are listed in the folder "100Movie" in sequential order.

### Playing back video on a TV screen





- 1) Connect the AV connecting cable to the AV output jack of your DVR and to the input jack of the TV
- 2) Turn on the TV, then start playback on your DVR

### Delete a recorded file

Slide [P/R] to the position [P], then turn on your DVR, and then press the [•▶] key for a few seconds "Delete" appears on the screen, shown as below:



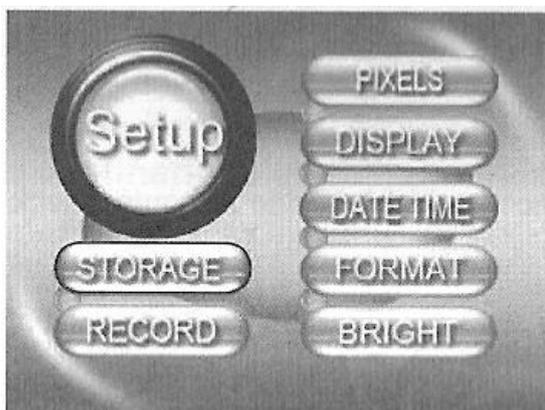
Select "✓" to delete the current file or select "X" to cancel the operation.

### Parameter Setting

Slide [P/R] key into the [R] position, turn on your DVD by pressing [⏻] for a few seconds, and then press [↵] key until the "Setup" menu appears on the screen.

### Setting the storage medium

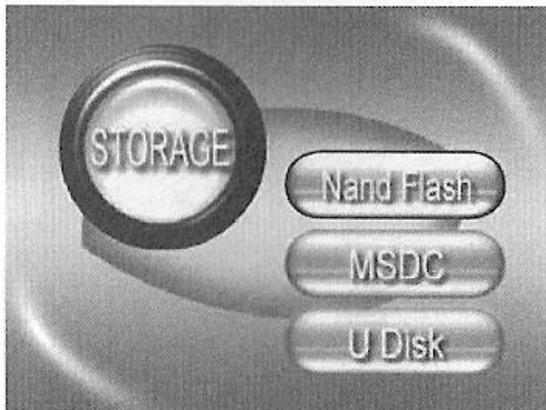
Select "Storage" from the Setup Menu with [▶▶] or [◀◀] key and then press [•▶].





Select a desired memory as recording media with [ ►► ] or [ ◀◀ ] key and then press [ ●► ].

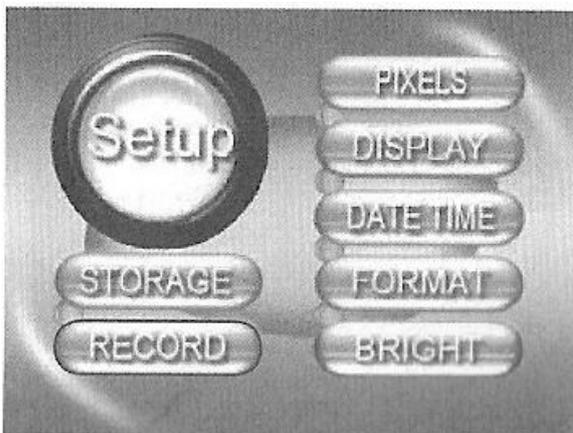
- a. Nand Flash - Build-in flash memory (about 45 MB)
- b. MSDC - Mini SD card
- c. U Disk - External memory storage (optional item)



Press [ ◀ ] key to move back to Setup Menu.

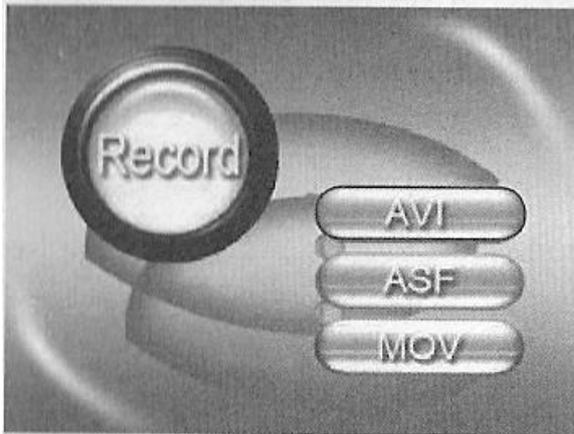
### Setting the recording format

Select "Record" from the Setup menu with [ ►► ] or [ ◀◀ ] key and then press [ ●► ].



Select a desired recording format with [ ►► ] or [ ◀◀ ] key and then press [ ●► ].

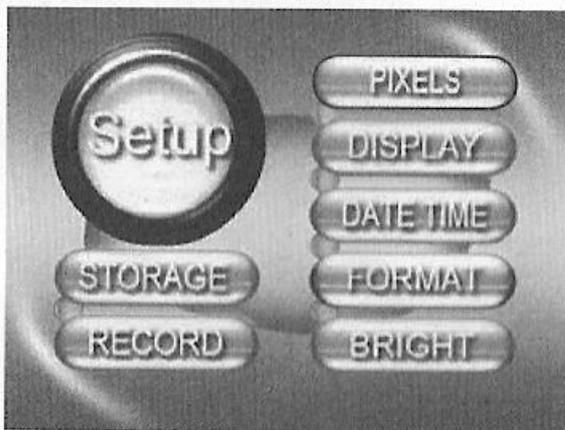
- .AVI - used by Windows Media Player
- .ASF - used by Windows Media Player
- .MOV - used by QuickTime Movie Viewer



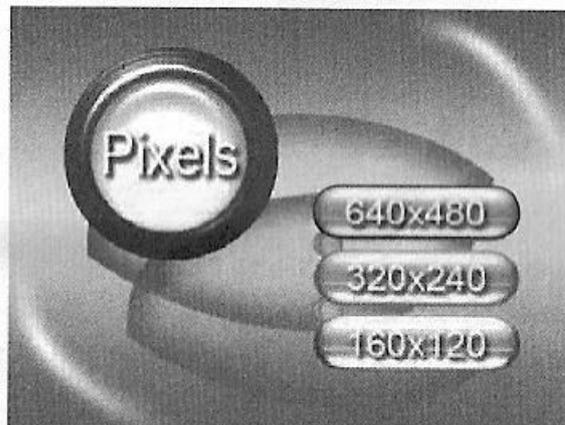
Press [↵] key to move back to Setup Menu.

### Setting the Resolution

Select "Pixels" from the Setup menu with [▶▶] or [◀◀] key and then press [●▶].



Select a desired image size with [▶▶] or [◀◀] key and then press [●▶].

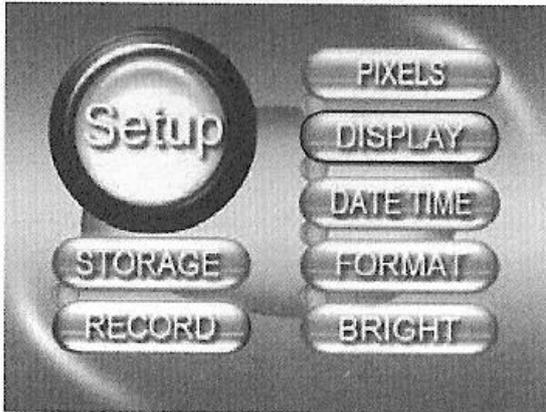


Press [↵] key to move back to Setup Menu.



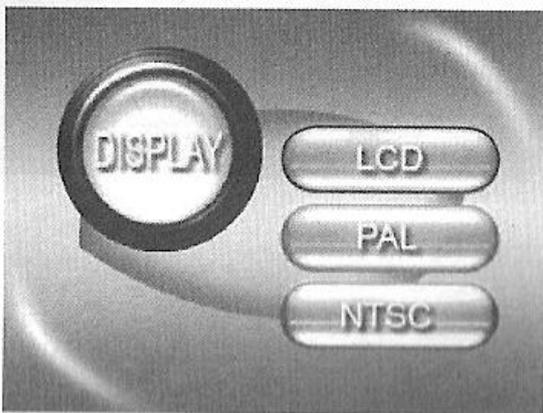
## Setting the display type

Select "Display" from the Setup menu with [ ▶▶ ] or [ ◀◀ ] key and then press [ ●▶ ].



Select a desired display with [ ▶▶ ] or [ ◀◀ ] key and then press [ ●▶ ].

- LCD - Playback on LCD screen
- PAL - Playback on TV screen with PAL system
- NTSC - Playback on TV screen with NTSC system

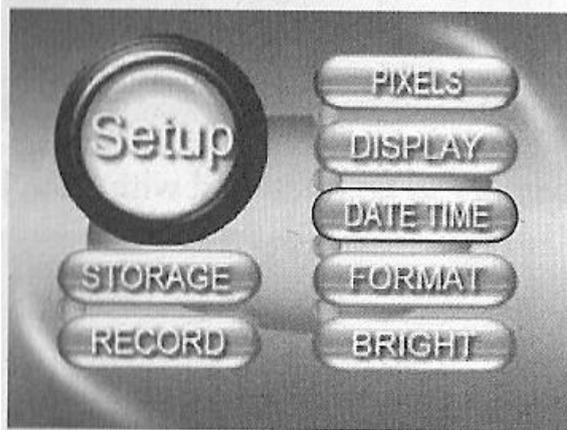


Press [↵] key to move back to Setup Menu.

## Setting the date and time

The date/time are time stamped onto the video.

Select "Date/Time" from the Setup menu with [ ▶▶ ] or [ ◀◀ ] key and then press [ ●▶ ].



Select the year, months, day, hour or minute item you want with [▶▶] or [◀◀] key and then press [▶] to enter the number

yyyy-mm-dd  
hh-mm

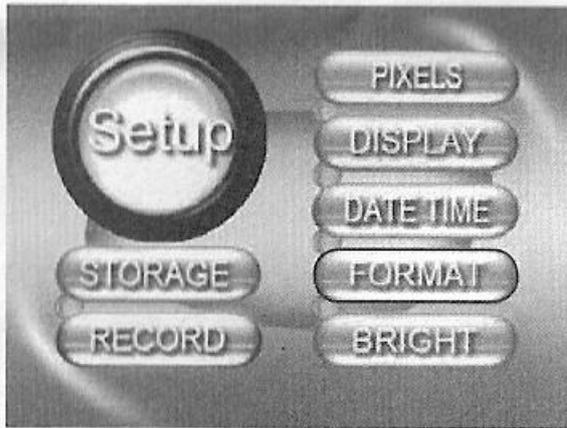


Press [◀] key to move back to Setup Menu.



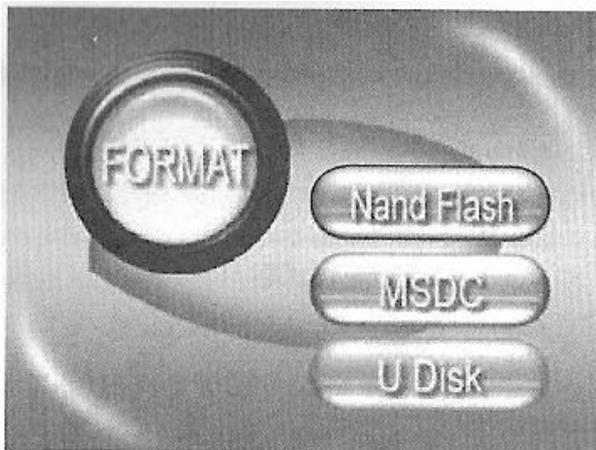
## Formatting/clearing the memory

1) Select "Format" from the Setup menu with [ ▶▶ ] or [ ◀◀ ] key and then press [ ●▶ ].



2) Select a desired memory to be formatted with [ ▶▶ ] or [ ◀◀ ] key and then press [ ●▶ ].

- a. Nand Flash – Build-in flash memory (about 45 MB)
- b. MSCD – Mini SD card
- c. U Disk – Mini memory storage (optional item)

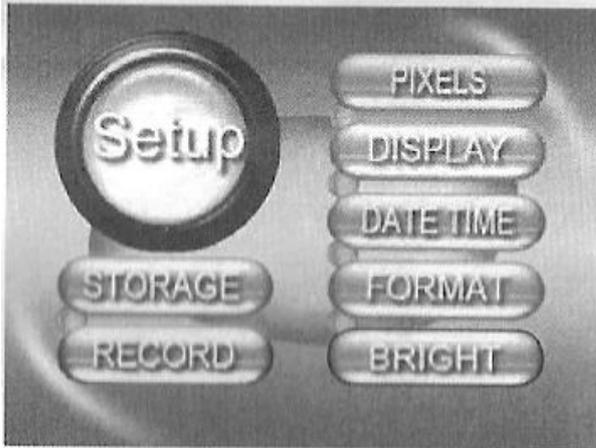


3) Press [ ↵ ] key to move back to Setup Menu.



## Setting the brightness

1) Select "Bright" from the Setup menu with [ ▶▶ ] or [ ◀◀ ] key and then press [ ●▶ ].



2) Increase the brightness with [ ▶▶ ] key or decrease brightness with [ ◀◀ ] key and then press [ ●▶ ].



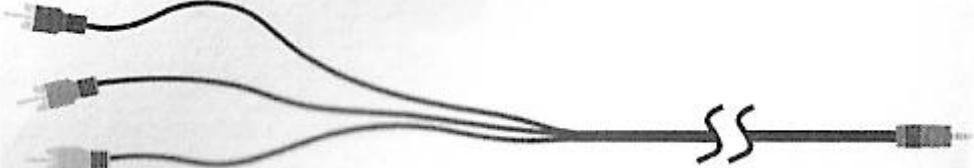
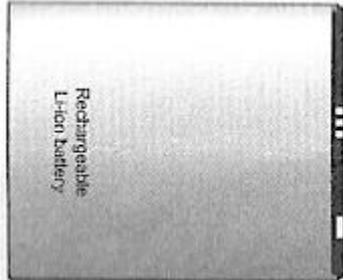
3) Press [ ↵ ] key to move back to Setup Menu.



## Specifications

<b>The DVR</b>	
Digital Screen	1.5" TFT LCD
Recording Format	AVI, ASF, MOV
Recording Resolution	640x480, 480 x 240, 160 x 120
Frame rate	30 frames per second
Build-in Flash memory	45 MB
PC interface	High speed USB 2.0
AV input jack	3 rings with $\varnothing$ 2.5 mm
AV output jack	3 rings with $\varnothing$ 2.5 mm
<b>The mini camera</b>	
Pickup device	1/3" color CMOS
System	PAL/NTSC/EIA
Horizontal resolution	420 TV lines
Minimum illumination	3 LUX
Dimensions	27 x 27 x 8 mm
Power supply	DC 5V

## Accessories

AV out cable	
USB cable	
Rechargeable Li-ion Battery 720 mAh 960 mAh (option)	
AV in cable (option)	
SD card (option)	