

CamBall

The Ball DVR

MANUAL



***EXCEPT FOR SECURITY PURPOSES, DO NOT USE THIS PRODUCT FOR ANY OTHER PURPOSES WHICH MAY DISTURB THE PRIVATE LIVES OF OTHERS.**

THIS PRODUCT IS REGISTERED WITH ELECTROMAGNETIC WAVE STANDARDS AND CAN BE USED FOR ANY PLACE INCLUDING RESIDENTIAL AREAS. BEFORE USING THIS PRODUCT, BE SURE TO READ THE PRECAUTIONS CONTAINED IN THE MANUAL.

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Package Contents

Check to make sure that all of the items shown below are included in your CamBall package.



CamBall Unit



Attachable Case



Connection Cable



Manual

OPTIONAL



**Micro SD Card
(1GB, 2GB, 4GB, 8GB)**



Water-proof Band



Extreme Sports Band



Neck Strap Type Holder



USB type Adaptor



Car adaptor with A/V Out Cable

* Above images may be different from actual products.

Let's get to know CamBall!!

<SPECIFICATIONS>

Section		Description	Remark
Camera		CMOS, 640 x 480 Pixels	Under 1 Lux, 55 Degrees
Memory	Built-In	128 MB Flash Memory	
	External	Micro SD card	Up to 8 GB
Recording Resolution		Up to 320 x 240 pixels	
Recording Methods		Continuous/Power Save(motion detection)	
Video Compression Method		MPEG 4 + Starnex's Algorithm	
Recording Speed		Up to 30fps @320x240 pixels	
Microphone		Built-in Microphone	
Video/Audio Output		1 TV Output Port	NTSC / PAL
Storage Capacity		Continuous Recording: 24 hours Recording on Motion Detection: 32 – 288 hours	8GB @320x240, 30fps
Battery Duration		Continuous Recording: 2.5 hours Recording on Motion Detection: 4 – 48 hours	
Source of Power		Rechargeable Li-Polymer Battery (3.7VDC, 380mA) USB Connector /Adaptor (5V DC, 2A)	
Size: 37 mm / 1.5 Inch (Diameter)		Weight (Including Battery): 20g (0.04 lbs.)	
Humidity: Under 80%		Operating Temperature: -15 °C to + 70 °C (5°F to 158 °F)	

<FEATURE COMPARISON TABLE FOR EACH MODEL>

Feature \ Model	SG-10	SG-20	SG-30
Video Recording	√	√	√
Audio Recording		√	√
Bluetooth			√
TV Output	√	√	√
Snap Shot	√	√	√
Power Save	√	√	√
USB	√	√	√

<What's Special about CamBall?>



Smaller than a Golf Ball

The size is smaller than a Golf Ball and packs all the features of a DVR



Various Applications for End Users

Custom made accessories allow you to use Play-Guard™ for various useful applications



Bluetooth® enabled

Bluetooth to send video and audio to Laptops or PDAs within 100m



Perfect for YouTube™ Videos

With Play-Guard™, general public can easily generate independent digital video contents on the Internet through blogging and etc.

<ACCESSORIES FOR EACH APPLICATION>



Vehicle Security

- Car
- Taxi
- Motorcycle



Extreme Sports Band

- Skateboarding, Mountain Biking
- Hang gliding, Skydiving



Neck Strap

- Personal Security



Attachable Case

- Study Aid for Students
- Home Security
- Nanny & Baby monitor
- Office Security

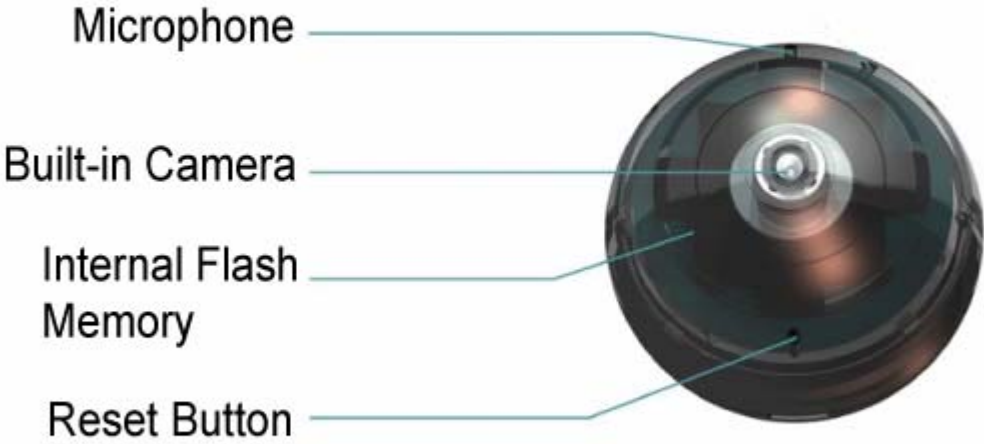


Waterproof Case and Band

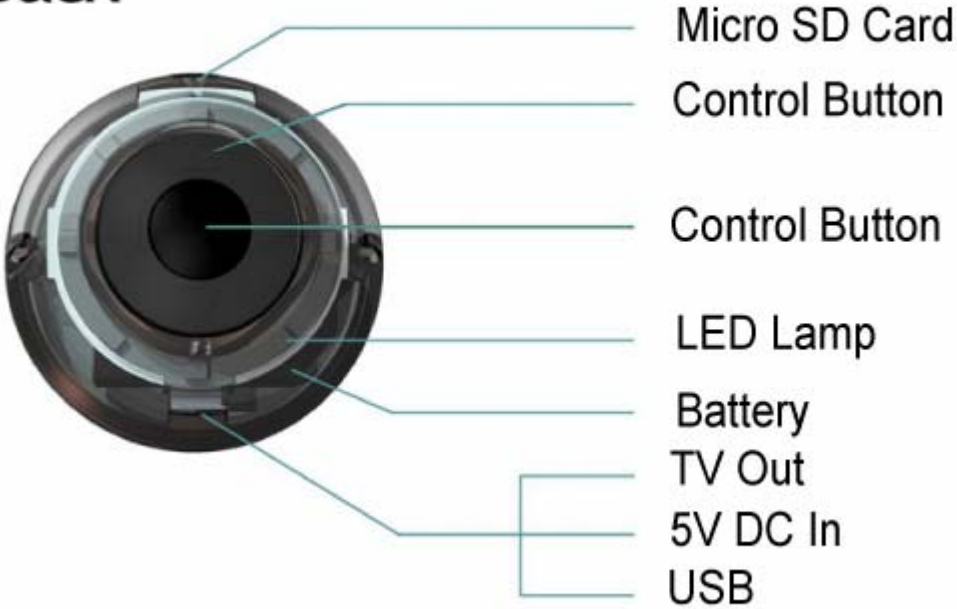
- Surfing, Water Skiing, Scuba Diving

<NAMES AND FUNCTIONS OF EACH PART>

Front



Back



<Protect and enjoy your life!!!>



Safety Rules

***HANDLE WITH CARE**

CamBall is a delicate device. If there is any impact on the unit, it may cause a breakdown or improper operation. When you use CamBall, please use caution and “Handle with Care” as directed below.

Please note that even if the unit is under warranty period and a breakdown is proved that it is user’s fault, the repair will proceed with payment.



Never apply too much force when cleaning the surface of the lens. Doing so can scratch the lens surface. Dust or any other soiling of the lens can interfere with proper image recording. You can remove dust particles from the lens surface by using a lens blower to blow them off. Next, wipe the surface of the lens with a soft lens cloth.



Please be careful not to give an impact on CamBall such as dropping. Do not keep the unit in your pocket to prevent the unit accidentally falling out of the pocket when bending over.



Please make sure CamBall is away from excess force or impact when in a bag.



Please keep the small parts and accessories of this CamBall out of the reach of small children. If swallowed accidentally, contact your physician immediately.



Please keep CamBall away from intense sunlight or heat. It may cause a breakdown.



Never try to open the case of the CamBall or attempt your own repairs. High-voltage internal components may cause electric shock when exposed. Always leave maintenance and repair work up to a STARTEX authorized service center.



Please keep CamBall away from water and other liquids, and never let it get wet. Moisture may increase risk of fire or electric shock. When you use CamBall outdoors in the rain or snow and at the seashore or beach, use it with a Water-proof Band or proper CamBall accessories.

<COPYRIGHT RESTRICTION>

Except for the security purpose, unauthorized copy, reproduction and circulation of snapshot or movie files violate copyright and international contract laws. Distribution to third parties of such files over the Internet without permission of the copyright holder, whether or not for profit violates international contract law and is strictly prohibited.

<GENERAL NOTICE>

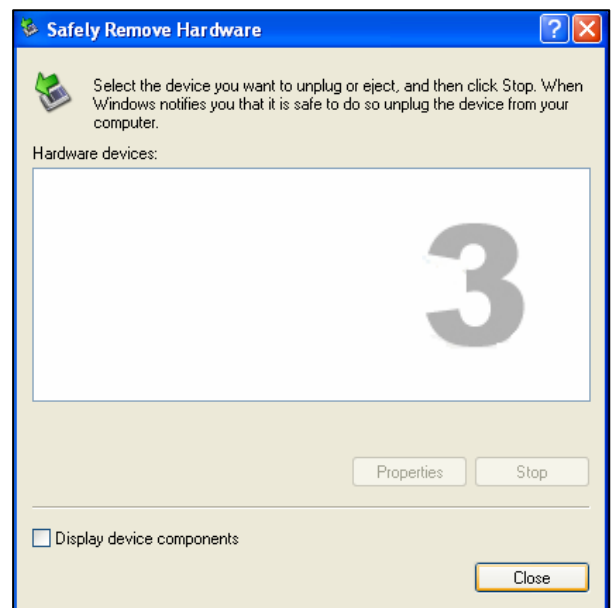
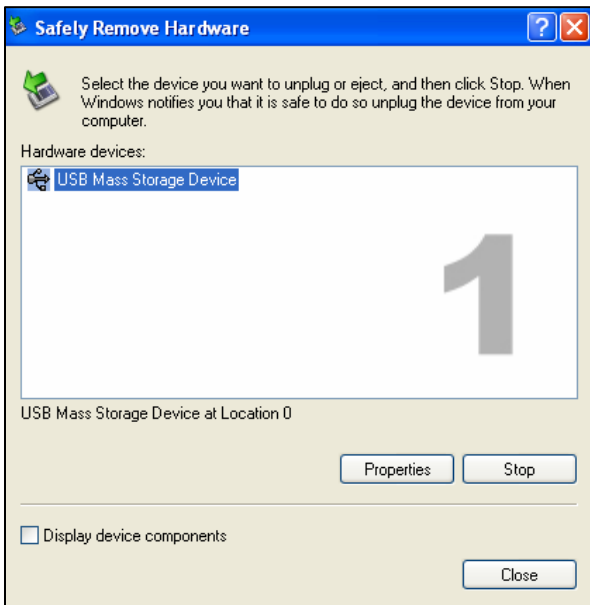
- ✓ The contents of this manual are subject to change without notice.
- ✓ STARNEX Co., LTD. has the responsibilities as the manufacturer of CamBall to tell each distributor that using the CamBall unit in the public domain may be in violation of federal privacy statues.
- ✓ STARNEX Co., LTD. assumes no responsibility for any damage or loss resulting from the use of this manual.
- ✓ STARNEX Co., LTD. assumes no responsibility for any loss or claims by third parties which may arise through the use of the CamBall.
- ✓ STARNEX Co., LTD. assumes no responsibility for any damage or loss caused by deletion of data as a result of malfunction, repairs, or battery replacement. Be sure to back up all important data on other media to protect against its loss.
- ✓ Note that the example screens and product illustrations shown in this manual may differ somewhat to the screens and configuration of the actual product.
- ✓ The buttons and functions, which are not explained in this manual, are aimed to improve the functions in the future.
- ✓ The features of this product can be changed at any time without notice for the purpose of improvement of the product.

IMPORTANT NOTICE

**As with other USB devices, your PC recognizes the unit as a Removable Disk, so you can only copy or playback the files with your PC. You are unable to view or change the OPTION MENU. In order to see the OPTION MENU and to change the settings, you must connect the unit to an External Monitor like a TV or a small LCD monitor.

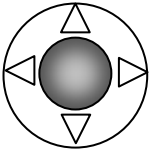
**Please make sure that your PC has MPEG 4 codec to playback the video files. You may also playback the video files with DivX.

**Before you disconnect the CamBall unit (USB cable) from your PC, you MUST “Safely Remove Hardware” in your PC first before disconnection. Otherwise, it may cause a fatal problem to the PC and/or CamBall unit.



Let's get to know CamBall's Functions, Modes, and Recording Types!!

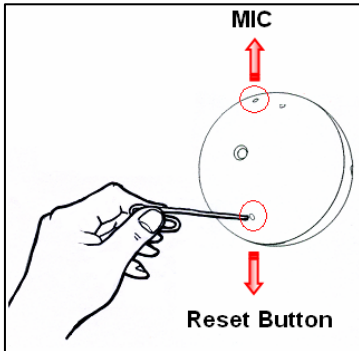
● Power ON / OFF



Press for 2 sec.

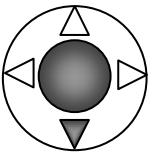
Press the center button for more than 2 seconds to turn **ON / OFF** the system.

● Reset Button



When the system does not operate properly, press this button with a thin object.

● Use Button Hold



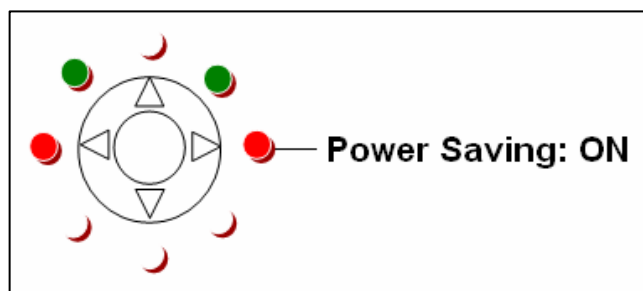
Press for 2 sec.

To prevent unintentional button operation, you can turn ON or OFF [Button Hold] function by pressing the Center & [▽] button together and holding for 2 seconds.

● Power Saving (Motion Detection)

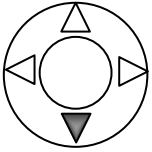
To minimize waste of battery and memory, use Power Saving mode. Press [▷] button for 2 seconds to turn ON/OFF this function. **When if this function is ON and CamBall starts recording, it only records when any motion detected.** The color of the Power Saving Lamp is Red when it is ON.

Lamp Status when Power Saving is ON



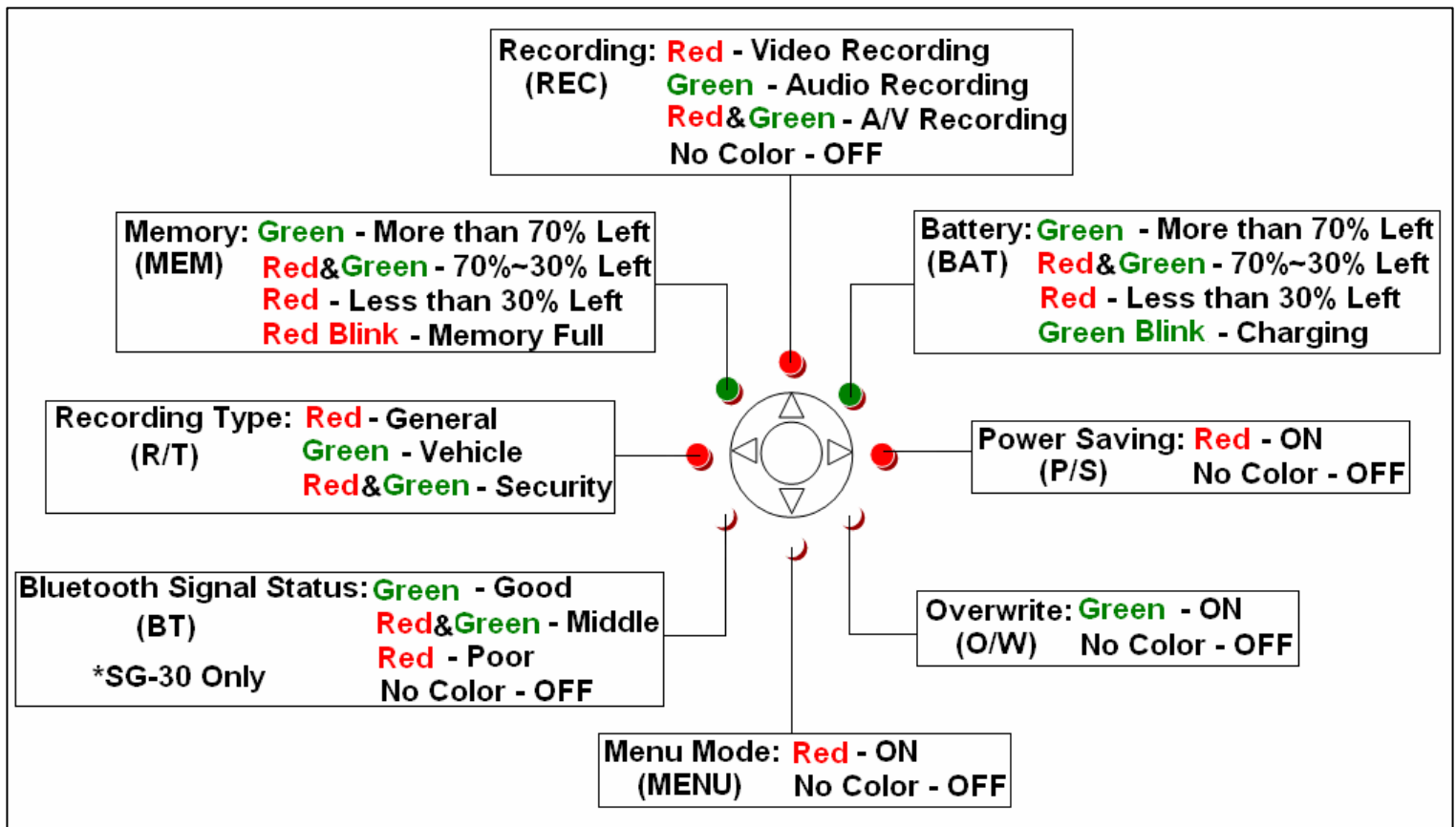
***You may encounter discontinuance of audio sound when you playback files. This does not indicate a product defect. When you set CamBall to Power Saving Mode to achieve a longer battery life, CamBall goes into sleep mode and does not record when there is no motion detected after the very last motion detection. CamBall comes out of the sleep mode every 2 seconds to check if there is motion, and if it does not detect motion, then it repeats the process of going into sleep mode and checking for any motion every two seconds. However, it does not record audio when there is audio if there is no motion. This will result in discontinuance audio sound during playback.


● Status of CamBall



Press [▽] button to check On and Off status for each function with indication of 5 different types of Green, Red, Red & Green, Red Blink and Green Blink.

Lamp Colors for each Function



 **[Overwrite] - [ON]:** When Memory is full, the oldest files get deleted in order.

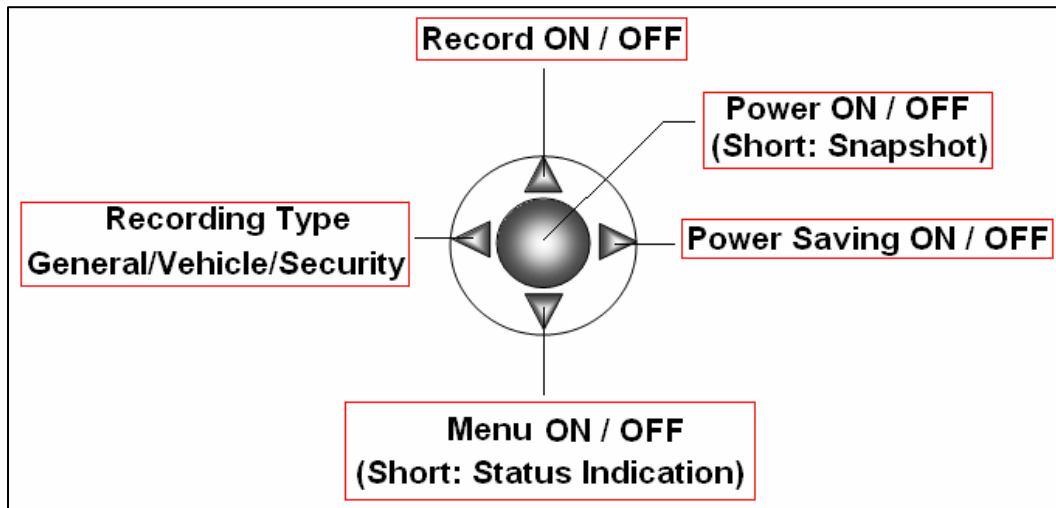
[Overwrite] - [OFF]: When Memory is full, CamBall stops recording. From the [Menu Mode], if [Memory Full Status] is ON, then Memory status lamp blinks for 5 minutes.

● 2 Modes of CamBall (Operating & Menu Modes)

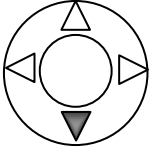
1. Operating Mode

When the power is on, CamBall enters into [Operating Mode] and gives you 6 functions of options as shown below:

1. Snapshot: Take pictures by pressing the Center Button.
2. Status: To check status of each function, press [▽] button.
3. Record: Start /Stop recording by pressing [△] button for 2 seconds.
4. Recording Type: Select among General/Vehicle/Security by pressing [◀] for 2 seconds in sequence.
5. Power Saving: Turn on or off by pressing [▶] for 2 seconds.
6. Menu Mode: Turn on this mode to playback, edit and set up various functions.



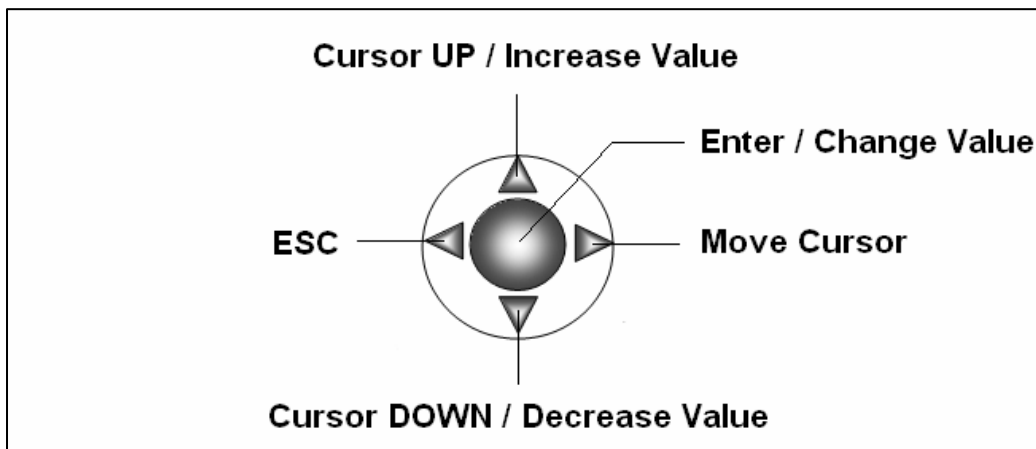
2. Menu Mode



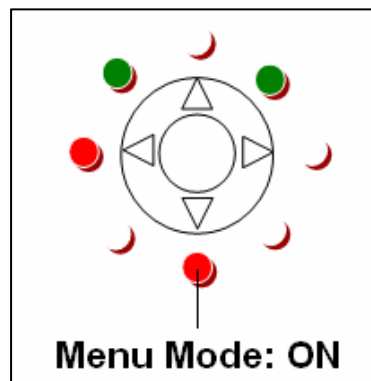
[Menu Mode] can be used only when CamBall is connected to a TV Monitor. In [Menu Mode], you can search or edit Video/Audio/Photo files and change/set up functions. Using the provided cable, connect the unit to a TV Monitor and press [▽] button for 2 seconds to enter into the [Menu Mode]. To go back to [Operating Mode], press [▽] button for 2 seconds again.

Press for 2 sec.

Functions of each button in the [Menu Mode]



Lamp Status when [Menu Mode] is ON



● Three Recording Types of CamBall

Recording Type can be changed by pressing [◀] button for 2 seconds in sequence.

[General Recording] ⇄ [Vehicle Recording] ⇄ [Security Recording] ⇄ [General Recording]

1. General Recording

In the [General Recording], the recording type lamp is Red.

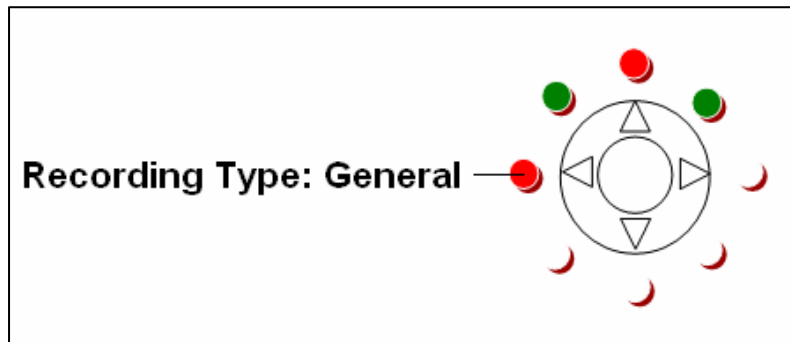
This type of recording is for using CamBall the same as you would with a Camcorder.

*Recording: When you press [△] button for 2 seconds, CamBall starts to record and it will end recording until the built-in battery is exhausted.

*Charging: Regardless of how much battery is left, it will start to charge whenever the power adaptor is connected to the unit.

When CamBall is in [General Recording], the recording type lamp is **Red**.

Lamp Status in [General Recording]



2. Vehicle Recording

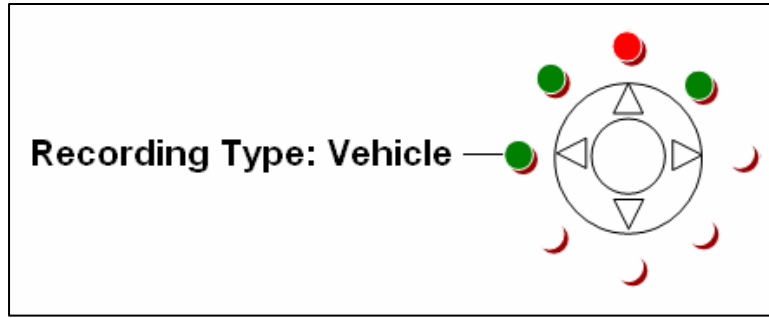
This type of recording is for using CamBall in vehicles.

*Recording: When the "Car adaptor with A/V Cable" is connected and the ignition is turned on, CamBall starts to record immediately. When you turn off the ignition, it will record for 1 minute using the built-in battery of the CamBall and then stop recording. You can change the battery recording time from 1 minute to 120 minutes, turn OFF (stop recording when the vehicle ignition is off) or ON (recording until the battery is exhausted) from the option menu, [Vehicle Battery Time]. When the car adaptor is not connected, press [△] for 2 seconds to make the unit start recording and stop recording until the battery is exhausted.

*Charging: To save the Battery life, it starts charging only when the battery is left less than 30% to prevent frequent charging/discharging from frequent turning on or off of car ignition.

When CamBall is in [Vehicle Recording], recording type lamp is **Green**.

Lamp Status in [Vehicle Recording]



3. Security Recording

This type of recording is for using CamBall for security purpose.

CamBall has an “automatic recovery function”, and it automatically turns on its power when it is provided with external power sources. If there is an electricity (a power) failure, CamBall automatically starts to use the power from its battery. As soon as the electricity is available to the CamBall, it automatically starts to charge the battery with electricity, and starts recording again.

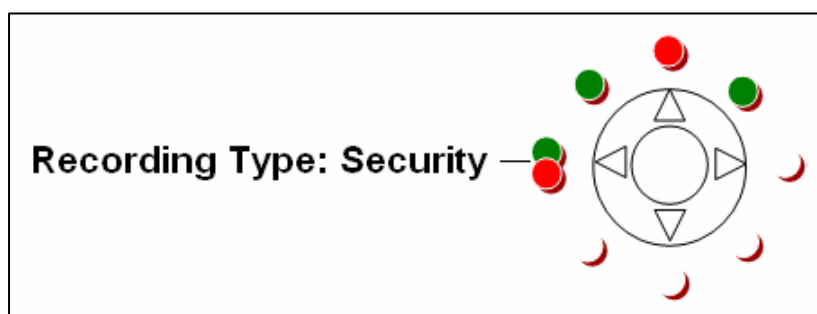
This function is very useful when you have installed the CamBall in remote places far away from you. In the case that you have installed the CamBall in a remote place, and there happens to be an electricity failure for some time and the electricity becomes available to the CamBall again, then you have to go to where the CamBall is placed to turn it on, and to set it to the “RECORD” mode. But CamBalls have an “automatic recovery function”, and free the users from the burden. When the power adaptor is not connected, press [Δ] for 2 seconds to make the unit start recording.

*Recording: When the power adaptor is connected or the CamBall is turned on, it begins recording immediately.

*Charging: Regardless of how much battery is left, it will start to charge whenever the power adaptor is connected to the unit.

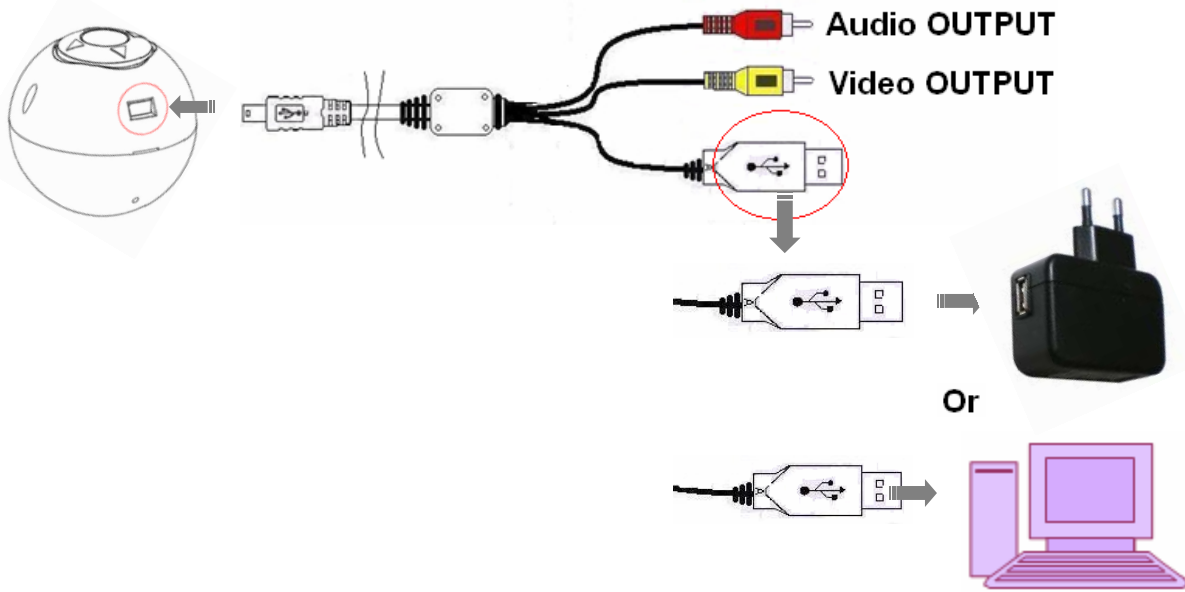
When CamBall is in [Security Recording] mode, the recording type lamp is **Red & Green**.

Lamp Status in [Security Recording]



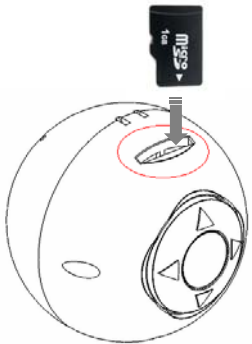
*CONNECTING WITH OTHER DEVICES

Charging the battery



To charge the battery, connect the unit to the USB adaptor or USB port in the PC using the provided cable. The USB adaptor is available for both 110V and 220V. Total battery recharging time is 1 hour.

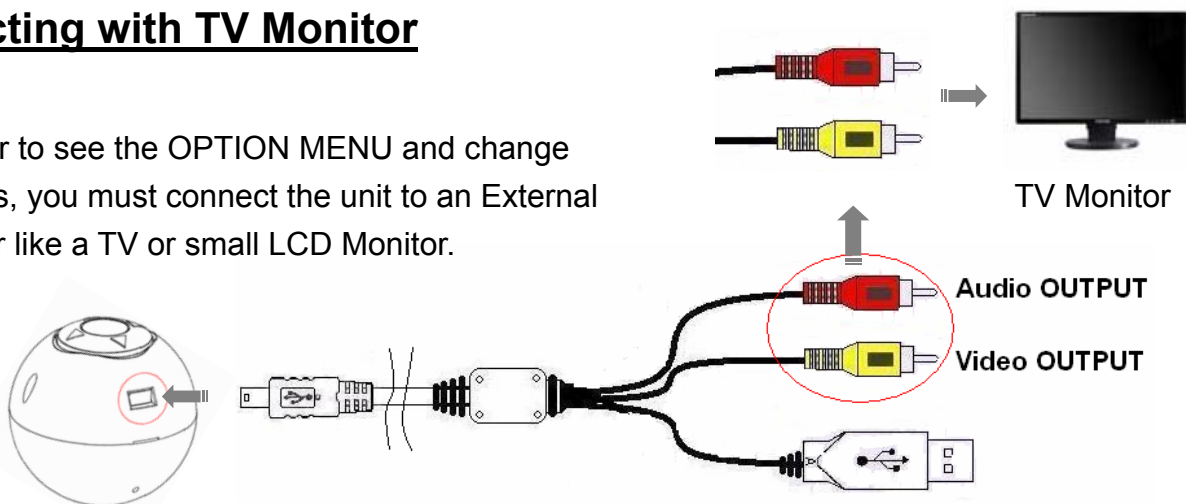
Inserting Micro SD Card into CamBall



- ※ Before inserting the Micro SD Card, please format it with your PC. If you do not format the Micro SD card before using, it may cause an error in the unit.
- ※ When inserting or removing the Micro SD Card, please make sure CamBall is not Recording.

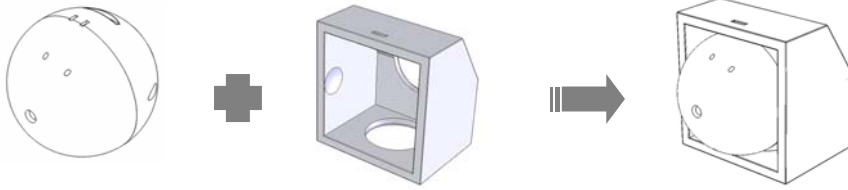
Connecting with TV Monitor

- ※ In order to see the OPTION MENU and change settings, you must connect the unit to an External Monitor like a TV or small LCD Monitor.



Connecting with Accessories

<Attachable Case>



<Water-proof Band>



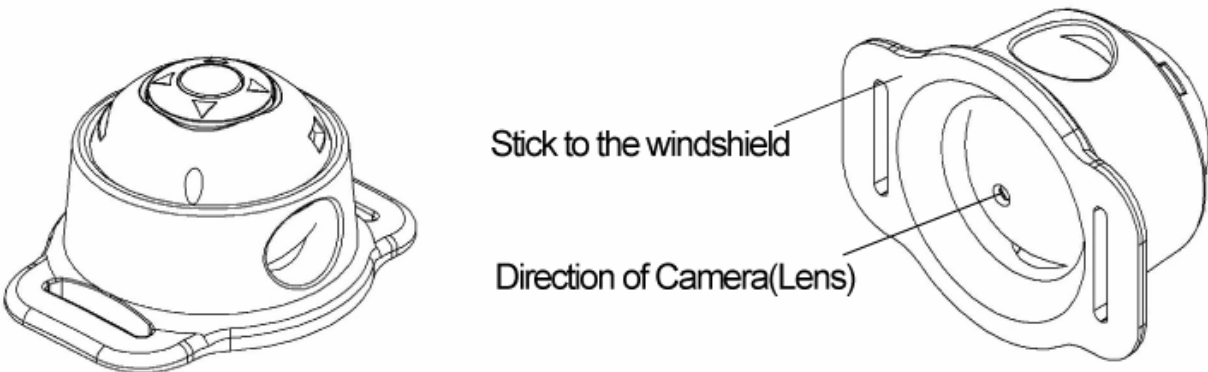
<Extreme Sports Band>



<Neck Strap Type Holder>



<Sports Pack for Vehicle>



*HOW TO USE CAMBALL

Recording

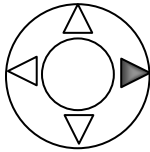
<Before Recording>

Before you start recording, please check and select the [Recording Type] and turn ON or OFF [Power Saving].


Power Saving function can be turned on or off by pressing the [▷] button for 2 seconds.

Recording Type can be selected by pressing the [◁] button for 2 seconds.

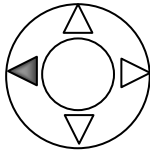
<Power Saving>
(Motion Detection)





Press for 2 sec.

[ON]  [OFF]

<Recording Type>



Press for 2 sec.

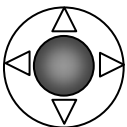
[General]  [Vehicle]  [Security]



Before you start recording, please check Memory, Battery and Overwrite Status.

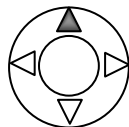
<Start/Stop Recording>

1



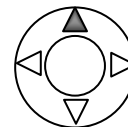
Power ON
Press for 2 sec.

2



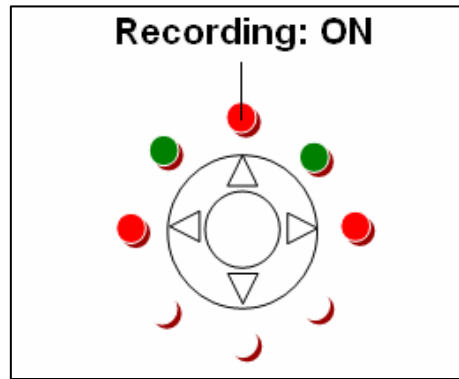
Start Recording
Press for 2 sec.

3



Stop Recording
Press for 2 sec.

Lamp Status when Recording



It's also possible to start recording in [Menu Mode] but in this case, the [Power Saving] feature is turned off automatically.



Video/Audio File name is created by [Year/Month/Day/Time-Number].

Example) B07122514-001: File is recorded on December 25, 2007 at 2:00 P.M.

M07122515-002: File is recorded on December 25, 2007 at 3:00 P.M.

'B' stands for 'Built-in Memory' and 'M' stands for Micro SD Card'

File extension names are as below:

Video/Audio File: xxx.AVI / Audio File: xxx.WMA / Photo File: xxx.JPG

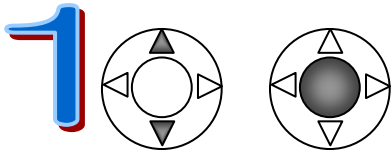
***** If you turn off the overwrite function and the memory is full when recording, the unit will stop from recording. If you try to record video on this occasion, then the memory status lamp will blink for 5 times to indicate that the memory is full.**

***** If you are recording onto the built-in flash memory, then a file gets created for every hour or 20MB of file size while recording images. In the Power Saving Mode, a file gets created for every 20MB. If the unit is recording onto the micro SD card, then a file gets created by every hour or 300MB of file size. Creating a file by 20MB, 300MB or by the hour will prevent you from deleting large sized files when you turn on the [OVERWRITE] feature.**

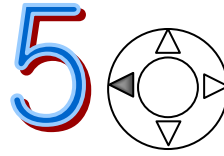
***** Please make sure that your PC has MPEG4 codec to playback the video files. You may also playback the video files with Divx.**

Searching / Editing Video Files

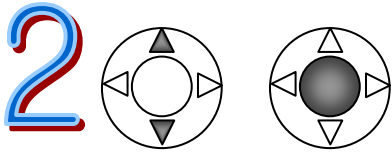
To search or edit Video/Audio files, please connect an External Monitor to the unit.



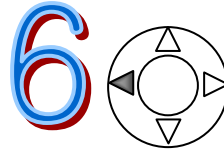
1 Move the cursor to [Search/Edit]
Press center button



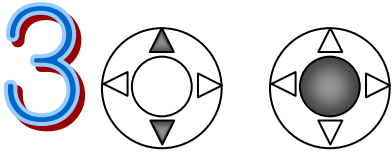
5 To exit from Playback
Press for 2 sec.



2 Select [Built-in] or [Micro SD]
Press the center button



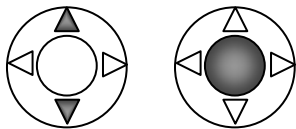
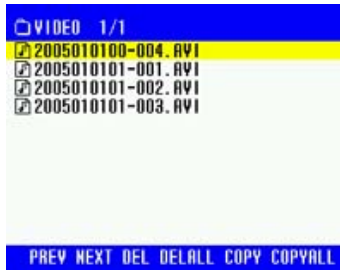
6 Go back to Previous Screen



3 Move to [Video]
Press the center button

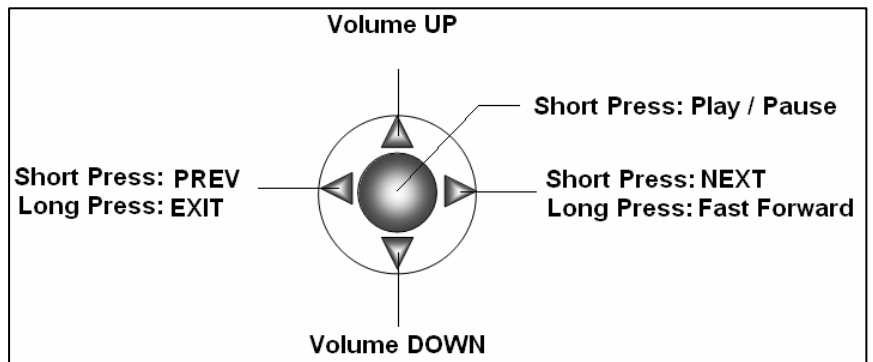


4



4 Move to the file to search
Press the center button

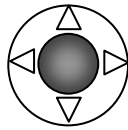
Button Inputs when playback on Menu Mode



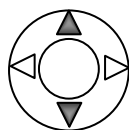
Editing



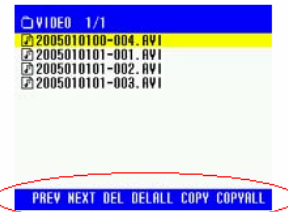
Go to [Edit]



Select Edit Function



go back to [Search]



PREV/NEXT: Moving to Previous / Next List

DEL/DELALL: Deleting Selected file / All files

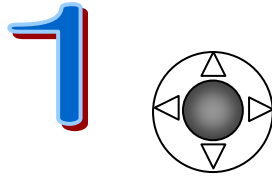
COPY/COPYALL: Copying Selected file / All files

from Built-in Memory to Micro SD Card or from Micro SD Card to Built-in Memory

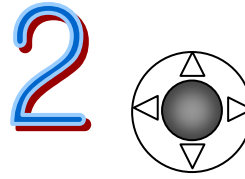
Taking Photos (Snapshot)

After turning on CamBall, you can take pictures by pressing the middle button.

Each lamp blinks fast in order to make it go round to show that the unit's just taken a snapshot.



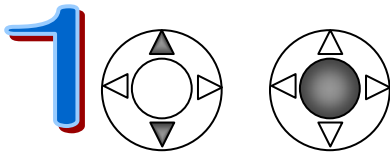
Power ON
Press for 2 sec.



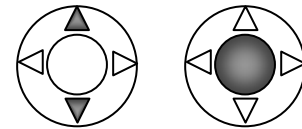
Take Snapshots

Searching / Editing Photo Files

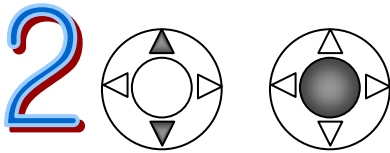
Before searching or editing photo files, please connect a TV Monitor to the unit.



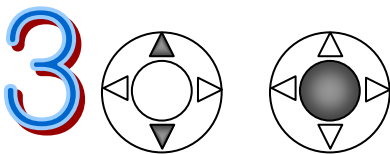
Move the cursor to
[Search/Edit]
Press center button



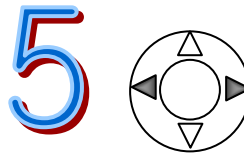
Move the Cursor to a file
for Playback
and Press center button



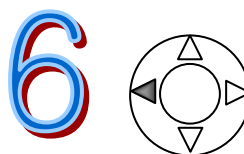
Select [Built-in] or [Micro SD]
Press the center button



Move to [Photo]
Press the center button



Search
Photo Files



Go back to
Previous Screen
Press for 2 sec.

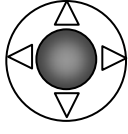




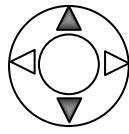
Editing



Go to [Edit]



Select
Edit Function



go back to
[Search]

PREV/NEXT: Moving to Previous / Next List
DEL/DELALL: Deleting Selected file / All files
COPY/COPYALL: Copying Selected file / All files
 from Built-in Memory to Micro SD Card or
 from Micro SD Card to Built-in Memory

** If you turn off the overwrite function and the memory is full when taking pictures, the unit will not take pictures.

If you try to take pictures on this occasion, then the memory status lamp will blink 5 times to indicate that the memory is full.

*OPTIONS

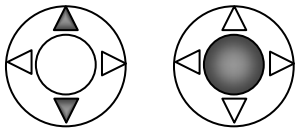
Camera Set

You can adjust the values of [Brightness] and [Contrast], and turn on or off [Night Mode] and [Flip Vertical] when recording video or taking photos.

<Brightness>

The range of adjustment is from 1 to 20.

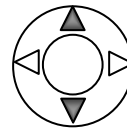
1



Move to [Option]
Press the center button



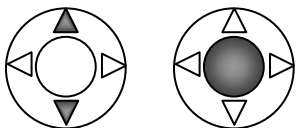
4



Using the buttons
Change the value



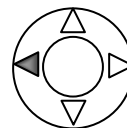
2



Move to [Camera Set]
Press the center button



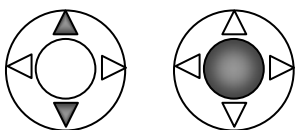
5



Go back to
Previous Screen



3



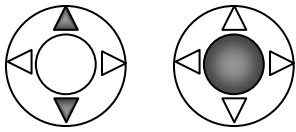
Move to [Brightness]
Press the center button



<Contrast>

The range of adjustment is from 1 to 20.

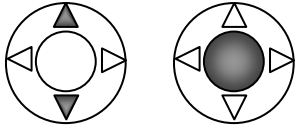
1



Move to [Option]

Press the center button

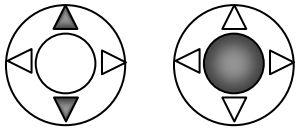
2



Move to [Camera Set]

Press the center button

3

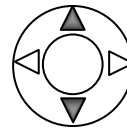


Move to [Contrast]

Press the center button



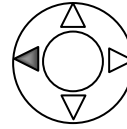
4



Using the buttons

Change the value

5



Go back to

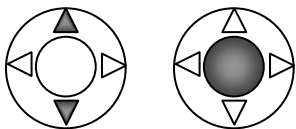
Previous Screen



<Night Mode>

Turn [Night Mode] to ON when recording at night or in a dark place to realize a brighter image. In [Night Mode], the recording speed will decrease by 25%.

1

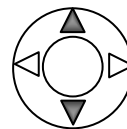


Move to [Option]

Press the center button



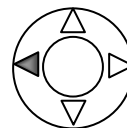
4



Using the buttons

Change to [ON] or [OFF]

5

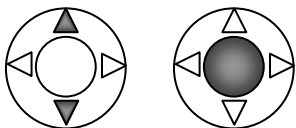


Go back to

Previous Screen



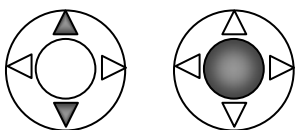
2



Move to [Camera Set]

Press the center button

3

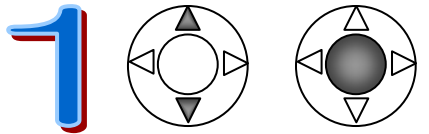


Move to [Night Mode]

Press the center button

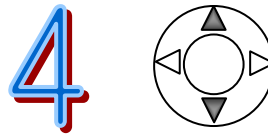
<Flip Vertical>

The [Flip Vertical] function flips the video upside-down (vertically-top over bottom). Turn it off to return back to the original.



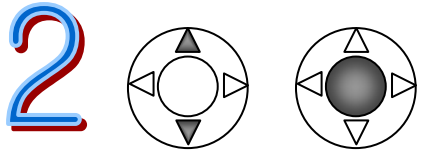
Move to [Option]

Press the center button



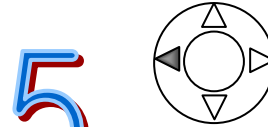
Using the buttons

Change to [ON] or [OFF]

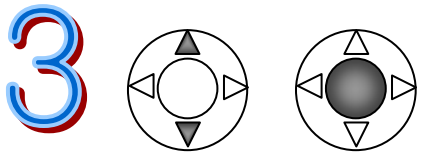


Move to [Camera Set]

Press the center button



Go back to
Previous Screen



Move to [Flip Vertical]

Press the center button

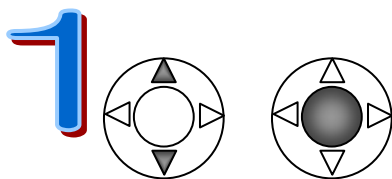


Record Set

You can set up [Video], [Audio], [Overwrite], [Recording Speed], [Recording Quality], [Size (Resolution)], [Zoom In] and [Timestamp].

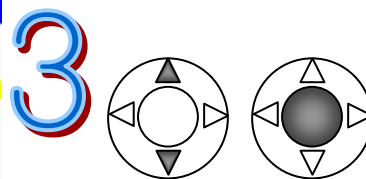
<Video Set>

You can turn off the video. If you would like to save only audio data, turn off this function.
(SG-20, 30 only)



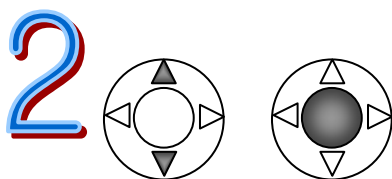
Move to [Option]

Press the center button



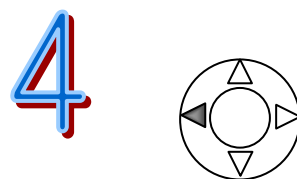
Move to [Video]

Change to [ON] or [OFF]



Move to [Record Set]

Press the center button

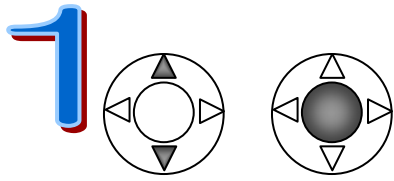


Go back to
Previous Screen

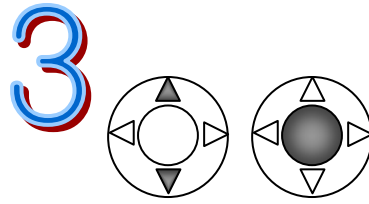
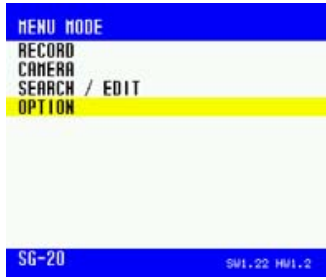


<Audio Set>

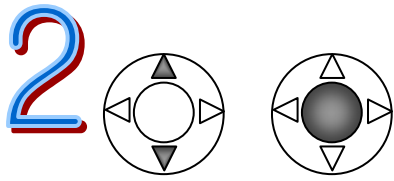
You can turn off the audio. If you would like to record video without the audio, turn off this function.
(SG-20, 30 only)



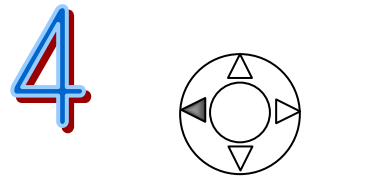
Move to [Option]
Press the center button



Move to [Audio]
Change to [ON] or [OFF]



Move to [Record Set]
Press the center button

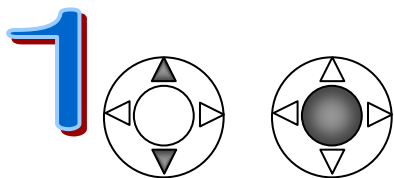


Go back to
Previous Screen

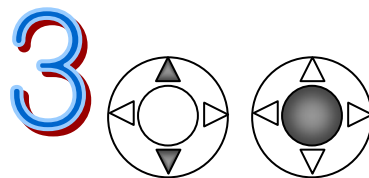


<Overwrite ON / OFF>

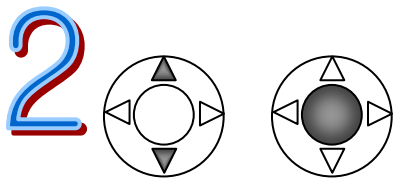
If you set this Overwrite function to on, then the oldest file in dates gets replaced by the new file being recorded, enabling the CamBall to continue to record when the memory is full. If this function is off, and the memory is full with the existing files, then the CamBall stops from recording video. If Overwrite function is ON and both the built-in memory and Micro SD card are full, then it will overwrite on the Micro SD card only.



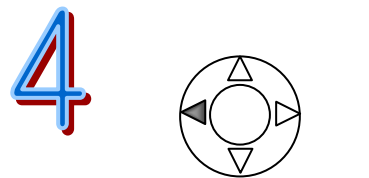
Move to [Option]
Press the center button



Move to [Overwrite]
Change to [ON] or [OFF]



Move to [Record Set]
Press the center button



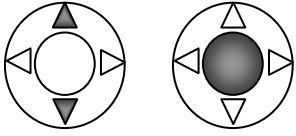
Go back to
Previous Screen



<Recording Speed (FPS: frames per second)>

This function is to set [Recording Speed] in frames per second. Available Recording Speeds (fps) are 1, 3, 7, 15, and 30.

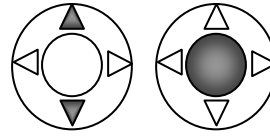
1



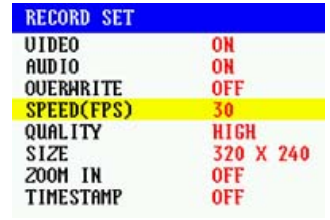
Move to [Option]
Press the center button



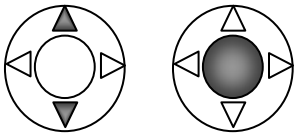
3



Move to [Speed]
Change the value



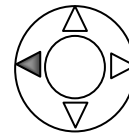
2



Move to [Record Set]
Press the center button



4



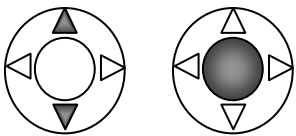
Go back to
Previous Screen



<Recording Quality>

There are 4 image quality levels (Low, Medium, High and Ultra High). If you set this level to “Ultra High”, then you get more clear images than in other levels, but a larger file size will result. On the other hand, if you set the level to “Low”, then it requires smaller file sizes, but you get less clear images compared to the images in “Ultra High”. If you set it to “Medium”, then the file size gets 40% smaller than “High”. If you set it to “Low”, then the file size gets 45% smaller than “High”.

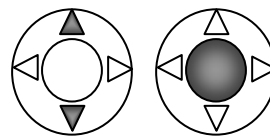
1



Move to [Option]
Press the center button



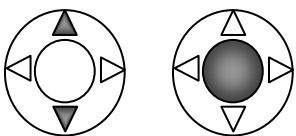
3



Move to [Quality]
Change the value



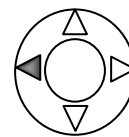
2



Move to [Record Set]
Press the center button



4



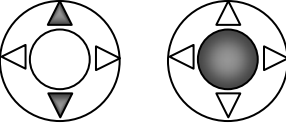
Go back to
Previous Screen



<Size (Image Resolution for Recording)>

This is to set Image Resolution (recording size). This function is available for the next version, and it now fixed at 320x240 pixels.

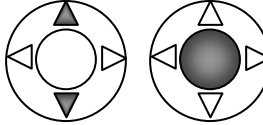
1



Move to [Option]
Press the center button



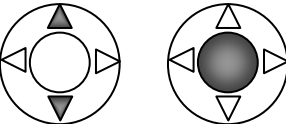
3



Move to [Size]
Change the value

RECORD SET	
VIDEO	ON
AUDIO	ON
OVERWRITE	OFF
SPEED(FPS)	30
QUALITY	HIGH
SIZE	320 X 240
ZOOM IN	OFF
TIMESTAMP	OFF

2



Move to [Record Set]
Press the center button



4



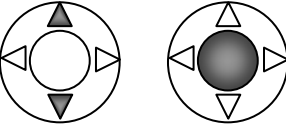
Go back to
Previous Screen



<Zoom In>

This is to magnify the images up to 4 times while recording video. This function applies for recording video only as photos are taken with 640x480 pixels.

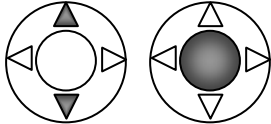
1



Move to [Option]
Press the center button



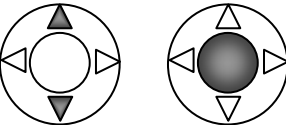
3



Move to [Zoom In]
Change to [ON] or [OFF]

RECORD SET	
VIDEO	ON
AUDIO	ON
OVERWRITE	OFF
SPEED(FPS)	30
QUALITY	HIGH
SIZE	320 X 240
ZOOM IN	OFF
TIMESTAMP	OFF

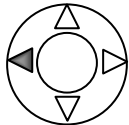
2



Move to [Record Set]
Press the center button



4

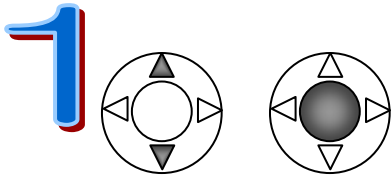


Go back to
Previous Screen

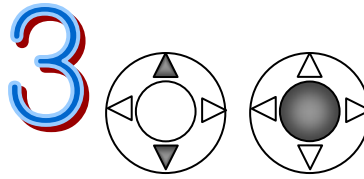


<Timestamp Set>

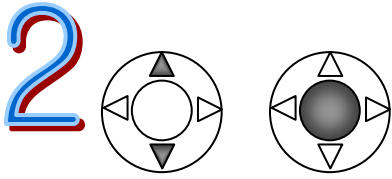
Set [Timestamp] to display date and time when you playback video. You can choose to place this information either on Top or Bottom of the playback screen. If you don't want to use this function, set it [OFF].



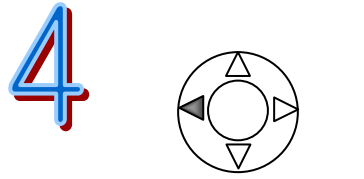
1 Move to [Option]
Press the center button



3 Move to [Timestamp]
Change the position or
Turn [OFF]



2 Move to [Record Set]
Press the center button



4 Go back to
Previous Screen

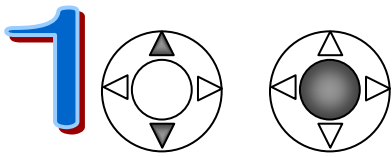


Playback Set

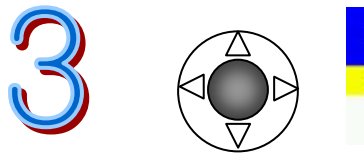
Set functions for Playback.

<Video Playback Set>

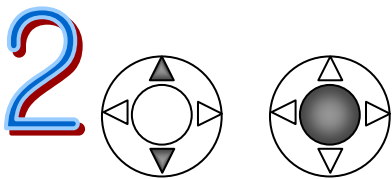
You can select different video playback types: [Normal] is to playback the current file to the last file of the list. [Repeat] is to playback the current file continuously. [Repeat All] is to playback all the files in the list and repeat playing the list continuously.



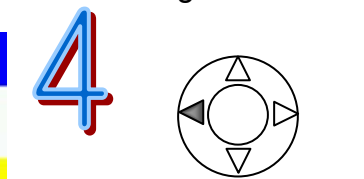
1 Move to [Option]
Press the center button



3 Using the center button
Change the value



2 Move to [Playback Set]
Press the center button

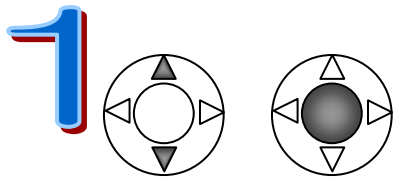


4 Go back to
Previous Screen

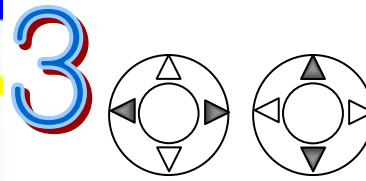


Date/Time Set

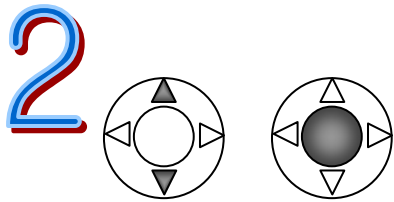
Before using CamBall, you must set [Date/Time Set] to display the correct date and time on the Playback screen.



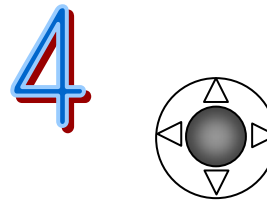
1 Move to [Option]
Press the center button



3 Using the buttons
Change [Date / Time]
and Choose[Date Type]



2 Move to [Date/Time Set]
Press the center button



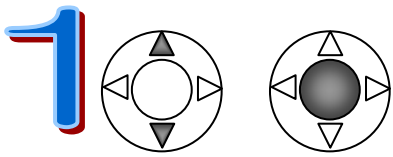
4 Apply this change
and Confirm



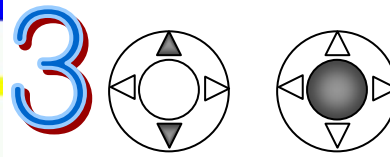
Memory Set

<Capacity>

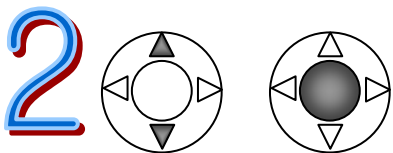
Check memory capacity for both built-in and external memory (Micro SD card), how much memory you have used and how much memory is left.



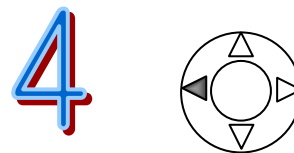
1 Move to [Option]
Press the center button



3 Move to [Capacity]
Press the center button



2 Move to [Memory Set]
Press the center button



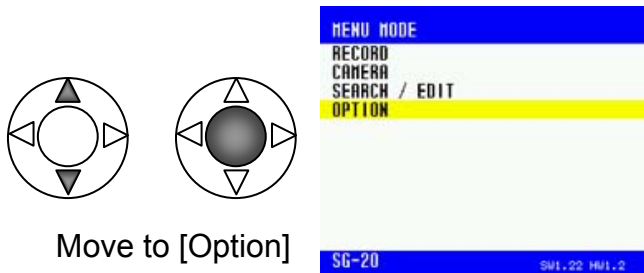
4 Go back to
Previous Screen



<Built-in Memory ON / OFF>

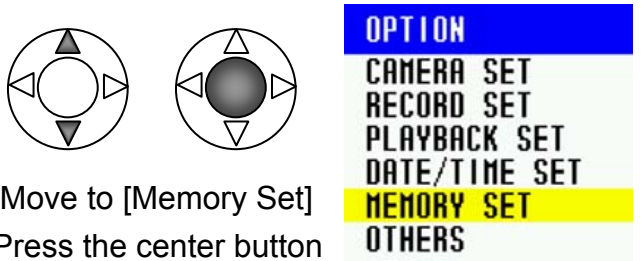
CamBall has Built-in flash memory of 128MB and you can also use Micro SD Card for up to 2 GB for memory extension. When you want to record onto the Micro SD card only, then turn the Built-in memory OFF.

1



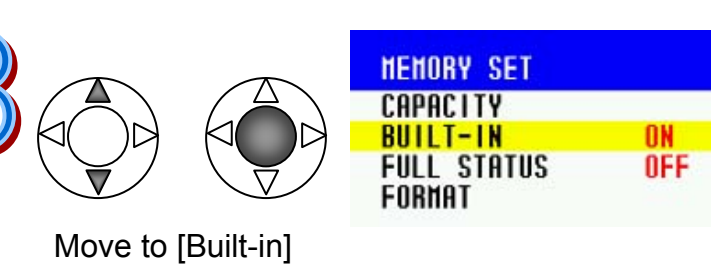
Move to [Option]
Press the center button

2



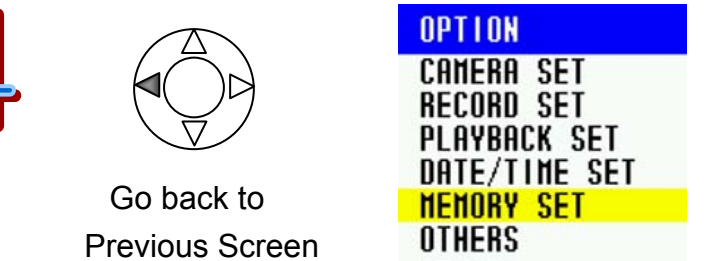
Move to [Memory Set]
Press the center button

3



Move to [Built-in]
Press the center button

4

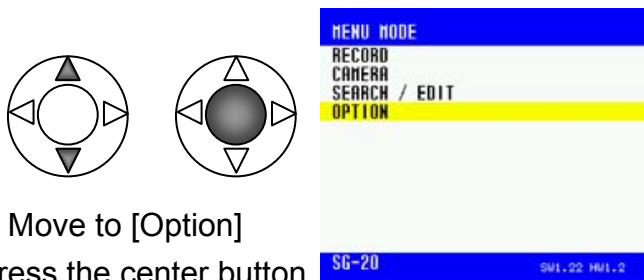


Go back to
Previous Screen

<Memory Full Status Indicator>

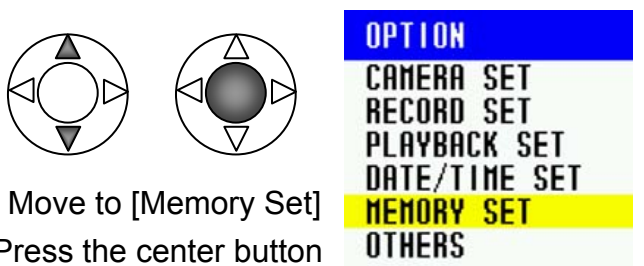
When the memory is full, CamBall can no longer record (when Overwrite is OFF). Then, you can use this function to recognize when the memory is full.

1



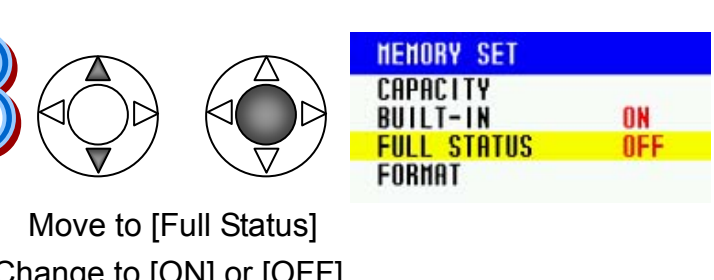
Move to [Option]
Press the center button

2



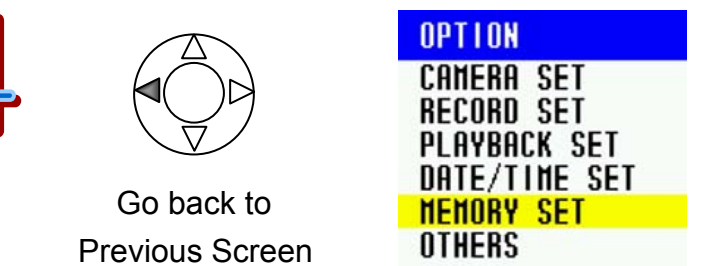
Move to [Memory Set]
Press the center button

3



Move to [Full Status]
Change to [ON] or [OFF]

4

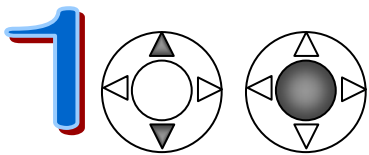


Go back to
Previous Screen

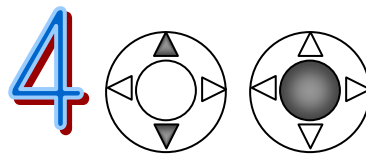
<Format>

This is to format and erase all data in the Built-in memory or the Micro SD card. Double check if all files are downloaded to your PC or you don't need those files before you format.

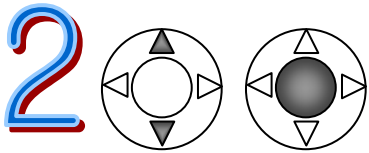
***Important: It is strongly recommended that you format both Internal and External Memory regularly once in 2-3 months as a way of properly managing the memory.



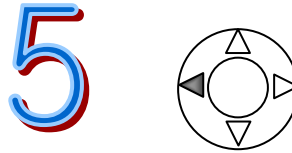
Move to [Option]
Press the center button



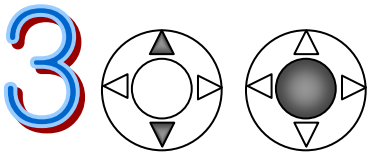
Choose the memory
and Confirm



Move to [Memory Set]
Press the center button



Go back to
Previous Screen



Move to [Format]
Press the center button

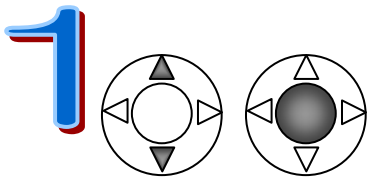


Others

Configuring other settings such as [External Monitor Type], [Auto Power OFF Time], [Vehicle Battery Time], and [Default]

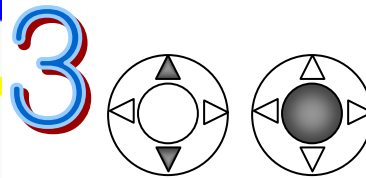
<External Monitor Type>

There are two types of Monitor: NTSC and PAL. Choose the correct monitor type before connecting it to the CamBall unit. For example, in the USA and Korea, the external monitor type is NTSC and for most countries in Europe, they use PAL type monitors.



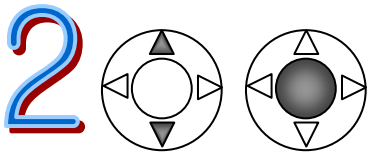
Move to [Option]

Press the center button



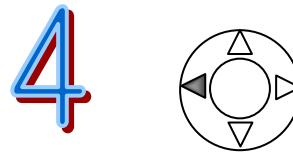
Move to [Monitor Type]

Change to [NTSC] or [PAL]



Move to [Others]

Press the center button



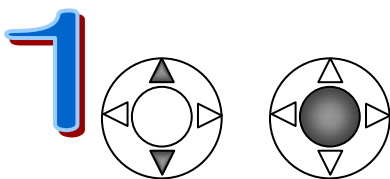
Go back to

Previous Screen



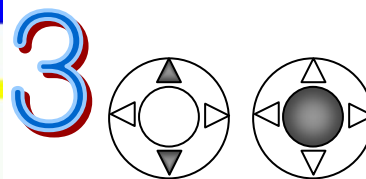
<Auto Power OFF Time>

The CamBall automatically turns off the power if you don't press any button for a certain amount of time you set between 1-9 minutes. This power off does not indicate malfunction of the system. If you don't want to use this function, set this to [OFF]. You can't activate this function in [Record] mode or playback. Even if you set this to on, it will not turn off the power in while recording or playback.



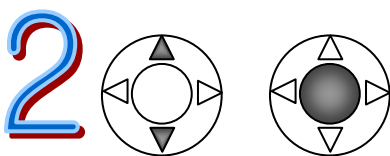
Move to [Option]

Press the center button



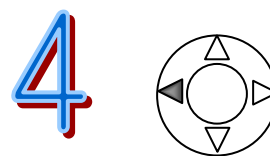
Move to [Auto Power Off]

Change the value



Move to [Others]

Press the center button



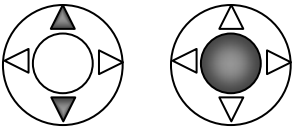

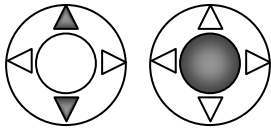
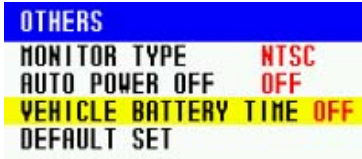
Go back to

Previous Screen



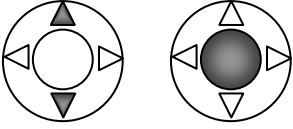

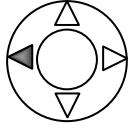

<Vehicle Battery Time>

When you set Recording Type to Vehicle Recording, you can change the battery recording time from 1 minute to 120 minutes. Turn it OFF to stop recording when the vehicle ignition is off. Or turn ON to record until the battery is exhausted. The default set value is 1 minute.

1   **3**  

Move to [Option]
Press the center button

Move to [Vehicle Battery Time]
Change the value

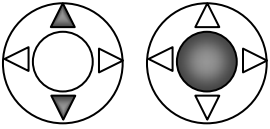

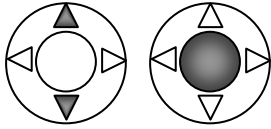
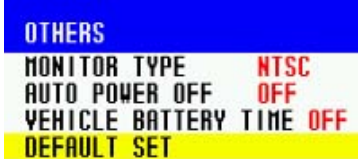
2   **4**  

Move to [Others]
Press the center button

Go back to
Previous Screen

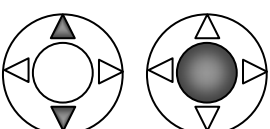

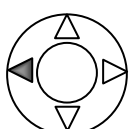

<Default>

This function is to change the values set in all the menus back to its default state. Note that all the values changed by the user will be deleted once you apply this function.

1   **3**  

Move to [Option]
Press the center button

Move to [Default Set]
and Confirm

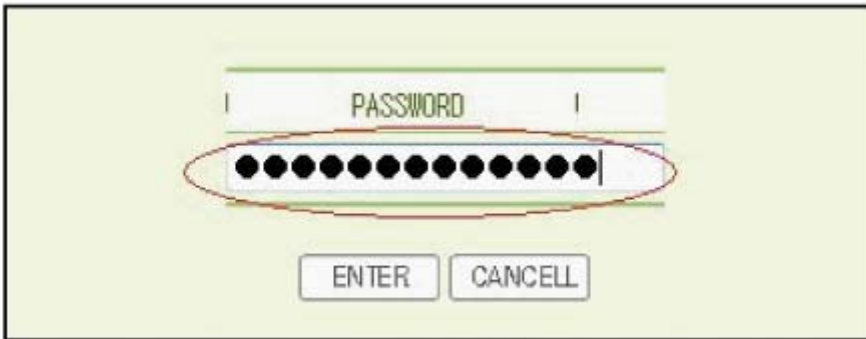
2   **4**  

Move to [Others]
Press the center button

Go back to
Previous Screen

How to Upgrade CamBall

Visit STARTEX Website, www.STARTEXinternational.com to download the file for Upgrade.

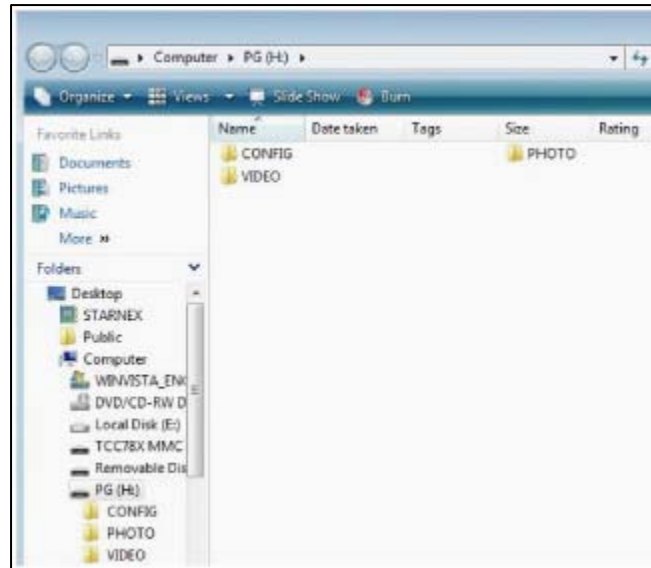


Input the product serial number.

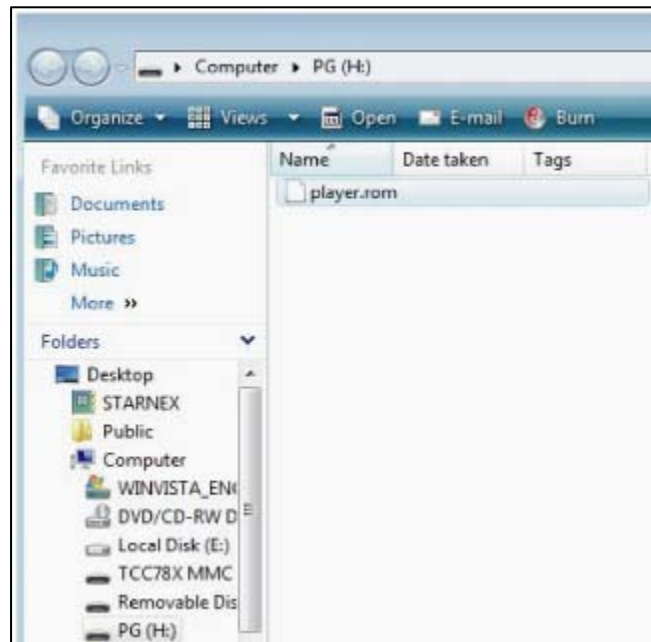
No	Subject	Name	Date
4	Self-Guard SG-3000 Software	ADMIN	08/05/21
3	SG-20 Upgrade Software 08.05.19	ADMIN	08/05/19
2	Vehicle-Guard, software, February 26, 2008	ADMIN	08/03/28
1	Play-Guard, March 21, 2008-SG-20, software	ADMIN	08/03/28



1. When CamBall is connected to PC, regardless of existence of Micro SD Card, 2 disks will be created. The disk name for the Built-in memory is [PG] and the name for the micro SD card is [PG SD]. In the [PG] drive, there are 3 folders of CONFIG, PHOTO, and VIDEO. You must delete the CONFIG folder from the Drive. Please note that you have to format the Micro SD card at least once in the menu mode to see the disk name to read [PG SD], otherwise it will display a different disk name.



2. Copy the upgrade file into this Drive and disconnect CamBall from PC. In about 5 seconds, the unit turns off the power for you to turn on again for upgrade.



3. You can find the new version number from the [Menu Mode] to check for the successful upgrading.

Warranty Guide

This product has passed through quality control and testing. If this product shows any manufacturer's defects during normal use, then there is a 12 months warranty service period from the date of purchase. Check this warranty sheet first. Please contact the distributor or dealer after checking out any problems with the product. The standard for repairing, replacement or reimbursement follows Customer.

Warranty Content

Any defects under normal use within the warranty service period guarantee you free repair service according to the warranty sheet.

In the event of one or more of the following, the service fee and parts will be paid by the owner.

1. Any breakage resulting from negligence.
2. Breakage or problems caused by natural disaster.
3. Breakage or trouble made by breaking the product guide or manual.
4. Breakage or trouble made by wrong power voltage or frequency.
5. When you want to resemble for full system or replace parts within warranty service period.
6. When an unauthorized engineer modified or damaged the product trying to repair it, we may charge you with the fees.

We don't support the breakage after the warranty service period. If the customer wants to get it repaired, we charge them with the fee.

Product Warranty Service Registration

Product & Model name		
Product serial number		
Distributor or Agency		
Date you purchased		
Warranty period		12 months
Customer	Name	
	Address	

* This warranty registration will not be provided again.

* Please fill out the warranty as soon as you purchase the product.

* You should show this warranty service sheet when you get any type of warranty service.

FCC NOTICE

- The device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
- 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.

Cautions

Modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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.



www.STARNEXinternational.com