



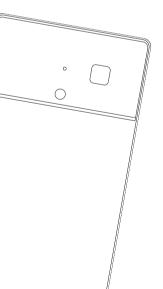
SV310FX1

EN Owner's Manual

ES Manual del Propietario



fun-Link



2 PRECAUTION

The model and serial numbers of this device may be found on the bottom of the device. You should record and retain those numbers for future reference.

Model No.:

Serial No.:

FCC Warning

This apparatus may generate or use radio frequency energy.

Changes or modifications to this apparatus may cause harmful interference unless the modifications are expressly approved in the instruction manual.

The user could lose the authority to operate this apparatus if an unauthorized change or modification is made.

This apparatus has been tested and found to comply with the limits for a Class B digital apparatus, pursuant to part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This apparatus 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 apparatus does cause harmful interference to radio or television reception, which can be determined by turning the apparatus off and on, the user is encouraged to try to correct the interference by one or more of the following measures;

- Re-orient or relocate the receiving antenna.
- Increase the separation between the apparatus and receiver;
- Connect the apparatus into an outlet on a circuit different from that to which the receiver is currently connected.

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

Declaration of Conformity

(1) This apparatus may not cause harmful interference, and (2) this apparatus must accept any interference received, including interference that may cause undesired operation.

Model Number: SV310FX1
Trade Name: FUNAI

Responsible Party: FUNAI CORPORATION,Inc.
Address: 19900 Van Ness Avenue.

dress: 19900 Van Ness Avenue, Torrance, CA 90501 U.S.A.

Telephone Number: 1-877-393-8624

Safety Instructions



Warning

To avoid the risk of fire, electric shock, or injury, please read the warnings listed below carefully.

- Do not leave this device in extreme high or low temperature or humidity.
- Do not disassemble or try to repair this device by yourself.
- Never charge this device when it is damaged or has gotten wet.
- Do not disassemble, repair or replace the battery.
- Do not attempt to incinerate or puncture the battery.
- To charge this device, connect it to a PC directly or using the USB cable. Never connect the device to an uncertified USB device.
- When disposing of the battery, make sure to follow the local / state / federal regulations.
- When disposing of this device, make sure to follow the local rules.
- Avoid touching the glass or liquid if the LCD screen is broken.
- Do not leave this device by the window or outdoors since it may lead to a malfunction of the LCD screen or the Lens when they are exposed to direct sun-light for a long period of time.
- Avoid giving an extreme stress to the LCD screen. This may cause discoloration and lead to a malfunction.
- Do not insert objects into the device. It may cause a malfunction of the device and may lead to an injury.
- Keep this device out of the reach of children since they may choke on small parts.

Caution

Dispose of used batteries according to instructions.

Risk of explosion if battery is replaced by an incorrect type.

Product Care

- Do not dispose of this device by throwing it into the trash. Please dispose of this device properly by taking it to a local recycler in your area and in accordance with local laws and rules in your area.
- Operating and storage temperatures 41°F (5°C) to + 104°F (40°C).
- Do not drop this device or subject it to excessive shock or vibration.
- After cleaning the unit with a soft, slightly damp cloth, wipe it thoroughly with a dry cloth.
 Never use the chemicals such as thinner, benzine, alcohol, chemical cleaner, etc. since it damages the surface, nor touch the unit with the hands smudged by those chemicals.

Do not leave the unit touched to the rubber or vinyl product for a long period of time.

· Keep these instructions for future reference.

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4 | Preparation

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Preface

☐ Symbols used in this manual

The following is description for the symbols used beside subtitles in this manual. Description refers to:



things applicable in common for both Video and Still camera operation.



things applicable to Video operation.



things applicable to Still camera operation.

In the item selection table, the icon used beside an item is the factory default.

Supplied accessories

Please check to make sure the following items are included with the main device in the carton.



Owner's Manual (1SM322003)



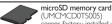
AV cables (WPU122SCP002)



Warranty (1SM423200)



Hand strap (1SM422120C)



(UMCMCD0TS005)
comes factory-installed with the device.

Note

 If you need to replace these accessories, please refer to the part No. with the illustrations and call our toll free customer support line found on the back cover of this manual.

Features

Recording

Full HD (1,920 x 1,080) recording

Enjoy high-definition recording everywhere.

High Speed Movie

This device is capable of recording in the high speed moving picture mode as 320×240p/120fps.

Night vision

You can record with Night vision even if there are no lights or in a dark place.

Low angle recording

Flipping display over vertically can be recorded the lower position.

Still camera (up to 5.0 Megapixel)

Choose from 3 resolution sizes.

Digital zoom* (up to 4x)

Get close to an object with up to 4 times magnification, *Except HiSpd (high speed) mode.

Digital image stabilizer*

Avoid blurriness caused by slight hand movements. *Except HiSpd (high speed) mode and pictures.

Playback

fun-Link compatible

Enjoying HDMI CEC function if your LCD TV is compatible with fun-Link,

Connectivity

Watch files on your TV by using HDMI cable (type A to type C), as well as AV cables.

Digest playback

Playing each file back for 2 seconds at the beginning of the video helps to find a particular video file on many stored data files.

and more...

Movie editing

Editing video files simply by using this device.

Supplemental software

Installing "MediaImpression2" on your PC developed by ArcSoft® to do easy editing.

Hosting website (facebook, flickr, etc.) uploading

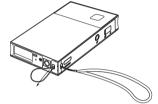
Simple and easy uploading videos and images on hosting websites (facebook, flickr, etc.) via your PC.

Getting Started

Attaching the hand strap

Before use, attaching the supplied hand strap is recommended to avoid dropping this device.

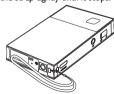
 Straighten the thinner strap loop and lace it through the holes at the bottom right corner of the device.



2 Push the end of the strap through the loop.



3 Pull the strap tightly until it stops.



Charging the battery

The battery can only be charged via a USB connector with bus-powered voltage provided by the PC.

1 Turn off the device, then open the USB connector cover at the top of the device.



Push and then slide up the USB lever located on the upper left side of the device.



- Attach the USB connector to your PC's USB terminal.
 - Hold the USB lever until the USB connector is inserted all the way into the PC's USB terminal.
 If this device cannot be on a solid surface after plugging in the USB connector then use a USB extension cable (not included) to connect the Carnera to the PC to avoid damage to the device's USB connector:
- 4 Your PC starts to supply the power to the battery automatically.
 - The CHARGE indicator lights up. If CHARGE indicator does not light up see Notes below.
- Wait for more than 3 and a half hours (approx. 200 minutes) until the battery is fully charged.
 - The CHARGE indicator light turns Off when completed.

Notes

- This device must be turned Off when you charge the battery. You can not charge and use it on your PC at the same time.
- Make sure the PC is turned On and is not in stand-by or sleep mode while charging the battery.
- The CHARGE indicator will be blinking if the battery could not charge properly due to the charging time exceeding 12 hours. Contact an authorized service center to solve the problem.

PREPARATION 7

☐ Inserting a microSD/microSDHC card.

The microSD/microSDHC card can store many more videos or images than the internal memory.

 Open card slot cover at the lower left side of the device. Make sure the device's Power is Off.



2 Insert the microSD/microSDHC card with label facing forward (lens side) into the center of the slot until it clicks in place.



3 Close the cover with ball of your finger.

Notes

- Make sure the device is turned Off before you insert or remove the microSD/microSDHC card to protect the files.
- If necessary, make a back up copy of the original files on your microSD/microSDHC card before you use them in the device and/or you accidentally delete them. We have no responsibilities for damage or loss of your stored data.

System requirements

Installing MediaImpression2 requires the following system.

OS: : Windows XP with SP3 32bit/64bit
Windows Vista 32bit/64bit

Windows 7 32bit/64bit

CPU : Pentium IV 1.6GHz or equivalent AMD

Athlon (Intel Core 2 Duo 2.0GHz or equivalent AMD Athlon X2 processor

recommended)

RAM : 512MB (1GB or higher recommended)

Hard disk : 300MB available hard disk space

Video card: Intel® Graphics Media Accelerator (GMA) 900 (GMA X3100 or higher

recommended)

NVIDIA MX440 (NVIDIA GeForce 7300 or higher recommended)

ATI Radeon 9200 (ATI Radeon 9800 or

higher recommended)

Resolution: 1,024 x 768 pixels, 32bit or higher

recommended

About microSD/microSDHC card

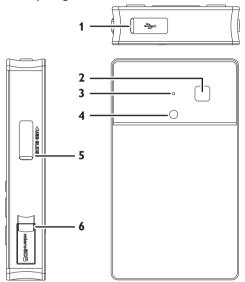
We recommend that the microSD/microSDHC card should be higher than a class 2 level if you purchased at your local store.

About Exif on JPEG files

The JPEG file comes with an Exif (version 2.21) metadata. You can check all this information about the file such as the date and time you made file, manufacturer, model number, X and Y resolutions, FNumber, color space, etc. when you display the properties screen for each JPEG files on your PC.

Functional Overview

Front / Top / Right-side View



1 USB connector cover

Slide cover to the right, then slide the USB lever (5) upward to connect this device to your PC.

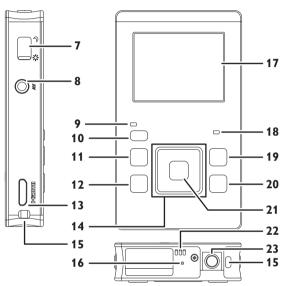
- 2 Lens
- 3 Microphone
- 4 IR (infrared rays) LED sensor Invisible IR LED's light up when the "Night vision" is active.

5 USB lever

Make sure the USB connector cover (1) is opened before you slide this lever. Push in and slide the lever (5) upward to expose the USB connector:

6 microSD/microSDHC card slot cover Insert the microSD/microSDHC card into the center of this slot after it is opened. Make sure the card's label is toward the front (lens side) of the unit.

- Back / Bottom / Left-side View



7 Night vision/Live view picture switch lever

Slide lever upward or downward to switch between "Night vision "and "Live view "" and "Live view ""."

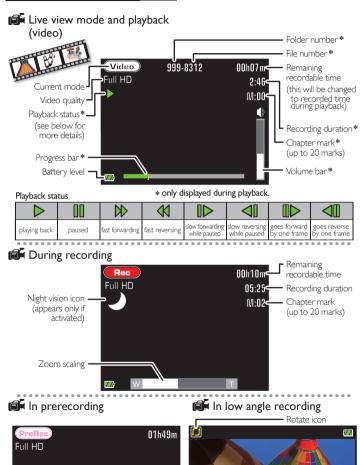
- 8 AV output jack
 - Connect the supplied AV cables to this jack.
- **9** Power indicator
- 10 (power) button
- 11 (review) button
- 12 m (delete) button
- 13 HDMI output jack
- **14 △**/**▼**/**⋖**/**▶** (cursor) buttons

- 15 Strap hole
- 16 Reset button

Press this button to initialize the reset function.

- 17 LCD screen
- 18 CHARGE indicator
- 19 ≅ | □ (video/picture) button
- 20 (menu/index) button
- 21 RECORD/OK button
- 22 Speaker
- 23 Tripod mounting threaded hole

Displays







й When taking a picture



Battery indicator

//	Battery is fully charged.
	Battery level is medium.
	Battery level is getting low.

If there is no battery power, the following message displays on the LCD screen and the device will be turned off in 5 seconds.



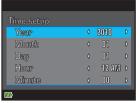
Notes

- · All indicators (except current mode) can be hidden temporarily if you press 🔄 and hold it either in recording mode or live view mode. To call up the indicators, press 🛃 and hold it again.
- · Zoom does not work when you record video in "HiSpd" (High speed) mode.
- · Zoom can only be adjusted in live view mode or during recording.

Settings Before Use

Setting date and time

- 1 Press () for more than 1 second to turn on the device.
 - Power indicator lights up, and the following setting menu will be displayed for the first time.



- 2 Use **◄/▶** to set [Year].
- 3 Move to the next item by using ▲/▼, then use ◀/▶ to set all contents to suit your preference.

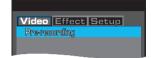


4 Press RECORD/OK to exit.

Notes

- If you turn off the device unless you press RECORD/OK during [Time setup], this menu shows up all over again until this setting has been completed.
- This setting menu also displays automatically when you turn on this device after you pressed Reset button.
- To change the date and/or time later, press to call up the menu and then use ▲/▼/◄/▶ to select [Time setup] in [Setup].

- 1 In live view mode, press ♣, then use ◄/► to select [Setup].
 - The setting menu will be displayed.



2 Use ▲/▼ to select [Video out], then press RECORD/OK.



3 Use ▲/▼ to set the content to suit your preference, then press RECORD/OK.



NTSC	Sets to NTSC for your TV NTSC Video/ Audio.(USA, Japan, etc.)
PAL	Sets to PAL for yourTV PAL Video/Audio system.(Europe, China, Australia, etc.)

4 Press to exit.

Note

 This setting will be kept even if you press the Reset button.

PREPARATION 13

Tips for Videos/Pictures

Connecting to a PC

If you connect the device to your PC the following folders will be displayed.

FUNAI SD : Contents in the microSD/ microSDHC card

FUNAL INT: Contents in the internal memory

FUNAL FRM: PC applications



Naming convention

Files in microSD/microSDHC card or internal memory will be named by the following files with an extension.

Video file · FNVC**** MOV Picture file: FNVC****.IPG

Note

**** will be increased values from 0001 to 9999.

Storing files on your PC

- Press (1) for more than 1 second to turn on the device.
 - Power indicator lights up and the device goes to the live view mode.
- In live view mode, connect the device to
 - The LCD screen goes off and your PC detects the device automatically.

Open the desired folder.

 IDCIMI will be displayed and then click the folder: [**FUNAI] will also be generated in it. In [***FUNAI], the following files will be listed.

Notes

- *** will be increased values from 100 to 999.
- Using Medialmpression2 is much easier to store the files into your PC. For easy installation of the software, refer to [Installing the MediaImpression2] on page 25.



Copy the file you want to make a back up on your local folder.

Note

[MISC] will be generated automatically and it has nothing you can read.

Selecting resolutions

The following resolution can be chosen.

For video

I	Full HD	Suitable for full HD media.		
I	Sports HD	Suitable for moving objects.		
	HD	Suitable for a night view or firework.		
I	VGA	Suitable for videos watched on a PC.		
Ī	QVGA	Suitable for mobile, PDA contents.		
Ī	HiSpd	Suitable for mobile, PDA contents with moving objects.		

For Picture

5M	Suitable for printing in poster sizes.
1.9M	Suitable for UXGA display of PC.
0.3M	Suitable for mobile, PDA contents.

Note

· Recordable time and images are dependent on the memory you are using in the device. For more details, refer to [Memory capacities] on page 27.

Recording

Recording a video

- 1 Press () for more than 1 second to turn on the device.
 - Power indicator lights up and the device goes to the live view mode.



- 2 Use ▲ to select the video quality.
- 3 Press RECORD/OK to start recording.
 - To adjust zoom, press



- The current mode changes to "Rec" from "Video" and the recording duration starts to count.
- 4 To stop recording, press RECORD/OK.



Notes

- You can record a video up to 29 minutes maximum.
- You cannot change the video quality during recording.
- Objects should be 28 inches (70 cm) away from the device when you record. It may cause a blur when the device is too close to the object.

Taking a picture

- 1 Press (b) for more than 1 second to turn on the device.
 - Power indicator lights up and the device goes to the live view mode.
- 2 Press in to switch to the still mode.



- The current mode changes to "Still" from "Video".
- 3 Use ▲ to select the desired image size.
 - To adjust zoom, press ◀/▶ during live view mode.



4 Press RECORD/OK to take a picture.



 The current mode changes to "Shoot" from "Still" and the LCD screen will be blacked out, then the device goes to the live view mode after remaining shots count.

Advanced Recording

Night vision

You can record a video when you are in a dark place where there are no lights.

1 In live view mode, slide the Night vision switch lever upward to set "Night vision" on



- The "" icon appears at the upper left of the screen.
- 2 Use ▲ to select the video quality or image size.
- 3 Press RECORD/OK to shoot.
 - In video mode, press RECORD/OK to stop recording.



4 To return to the normal mode, slide the Night vision switch lever downward to set "Night vision" off.

Note

 In Night vision, the picture may goes whitish when you record in a bright place. This is not a malfunction.

Pre-recording for 5 seconds can be set right before you start an actual recording.

- 1 In live view mode, press .
 - The setting menu will be displayed.



- 2 Select [Pre-recording], then press RECORD/OK.
- 3 Use ▲/▼ to select [On], then press RECORD/OK.



4 Press to go back to the live view mode.



- The current mode changes to "PreRec" from "Video".
- 5 Press RECORD/OK to shoot.



- The current mode changes to "Rec" from "PreRec" and the recording duration starts to count.

Note

 If you press RECORD/OK within 5 seconds since you have set [On], the recording duration counts those seconds that are added from the beginning.

Low angle recording

You can rotate the device 180 degrees if objects to be recorded are in a lower location.

- 6 In live view mode, press m quickly twice to set "Low angle recording" on.
 - The display rotates 180 degrees and the icon appears at the upper left of the screen.



- 7 Turn the device upside down.
- 8 Use ▲ to select the video quality or image size.
- 9 Press RECORD/OK to shoot.



- In video mode, press RECORD/OK to stop recording.
- 10 To return to the normal direction, press monce.



Various portraits

You can choose various colors when you record a video or take a picture.

- 1 In live view mode, press
 - The setting menu will be displayed.



- 2 Use ◀/▶ to select [Effect], then press RECORD/OK.
- 3 Use ▲/▼ to select the color, then press RECORD/OK.

Normal	Normal recording.
Sepia	Recording as sepia tone.
Black & White	Recording as monochrome.
Negative	Recording as negative.



- The background display changes to the color that was selected.
- 4 Press to go back to the live view mode

Playback

Playing back videos

- In live view mode, press to switch to the index menu.
 - The recorded files are listed as thumbnails.



- 2 Use **△/▼/⋖/▶** to select the file, then press RECORD/OK to start playback.
 - The video goes fast reverse or fast forward by 2x, 4x. 8x and 16x each time
 √► is pressed and held for more than 3 seconds during the playback.
 - Release ◀/▶ when the speed you want is displayed.
- 3 Press RECORD/OK again to pause the playback.
 - Playback will be paused and sound will be muted.



- The video goes reverse or forward by one frame each time **◄/▶** is pressed during the pause mode.
- The video goes slow reverse or slow forward by 1/64x, 1/32x, 1/16x, 1/8x, 1/4x and 1/2x each time **◄/▶** is pressed and held for more than 3 seconds during the pause mode.
- Release **◄/▶** when the speed you want is displayed.
- To continue playback, press RECORD/OK again.

Note

 If you press
 If you press
 If you press playback is being paused, sound will be muted.

Viewing pictures

- In live view mode, press to switch the index menu
 - The recorded files are listed as thumbnails.



2 Press il a to switch to still mode.



3 Use A/▼/◄/▶ to select the desired. picture, then press RECORD/OK to display.

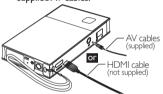




Playing back files on your TV

Connecting the device to the TV lets you enjoy viewing the file on your preferred TV size. In addition, if your TV is our brand TV that is compatible with fun-Link the TV will be turned on automatically if you are turning on the device when using an HDMI cable.

 Connect the device to your TV through an HDMI (type A to type C) cable or supplied AV cables.



- If you play back videos that were recorded on "Full HD", "Sports HD" and "HD", use an HDMI connection on the TV that has a 169 wide screen.
- 2 Press (b) for more than 1 second to turn on the device.
 - Power indicator lights up and the LCD screen goes off.
- **3** Your TV displays the index menu.
 - The recorded files are listed as thumbnails.



- 4 Use ▲/▼/◄/▶ to select the file, then press RECORD/OK to start playback.
- 5 To return to the index menu, press .

Notes

- Please purchase an HDMI cable that has type A male to type C male connectors at your local store.
- Use an HDMI cable with the HDMI logo (a certified HDMI cable).
- High Speed HDMI cable (also known as HDMI category 2 cable) is recommended for the better compatibility.
- If you connect to an AV input jack and an HDMI jack at the same time, the HDMI connection will have priority.
- You cannot record while the device is connected to the TV.

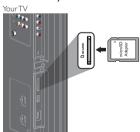
If your TV has an SD card slot

You may enjoy viewing pictures on the TV directly.

 Insert the microSD/microSDHC card into the microSD card adapter until it stops.



Insert the microSD card adapter to the SD card slot on your TV.



3 Turn the TV on and switch to the appropriate external input jack.

Notes

 Only the JPEG files can be accepted for play back on the TV. Videos on the SD card never plays back on any TVs.

■ Digest playback

You can check the contents of files for 2 seconds at either chapter mark points and the beginning of the all recorded video files.

- 1 In live view mode, press ▶ to switch the index menu.
 - The recorded files are listed as thumbnails.



- 2 Use ▲/▼/◄/▶ to select the desired video, then press ■.
- 3 Use ◀/► to select [Play], then press RECORD/OK.
- 4 Device starts digest playback.



- All recorded video files are playing back for 2 seconds until you press RECORD/OK or ...
- 5 To cancel the digest playback and return to the normal playback, press RECORD/OK.
- **6** To return to the index menu, press **5**.

Adding chapter marks in video

Chapter marks can be added at specific points when recording or playing back. You can recall them later when the file plays back and these marks are effective when using digest playback.

- Press ▼ during recording or playback.
 - The number beside "M:" shows the number of marks.



- When the video plays back, use **◄/▶** to select the desired chapter mark.
 - The video goes to the next chapter if you press ►.
 You can also go back to a previous chapter if you press ◄.



3 To return to the index menu, press .

Notes

- Chapter marks may have up to 20 in one file.
- If you press
 when the video is paused during playback, all marks can be deleted at one time.

Editing Videos

Deleting files

- 1 In live view mode, press

 to switch the index menu.
 - The recorded files are listed as thumbnails.



2 Press ≅| □ to switch the video or still mode you want to delete the file.



3 Use **△**/**▼**/**⋖**/**▶** to select the desired file, then press **Ⅲ** to delete.



4 To return to the index menu, press .

Editing a recorded video

You can easily edit the recorded videos on this device.

- 1 In live view mode, press to switch to the index menu.
 - The recorded files are listed as thumbnails.



- 2 Press then use **◄/▶** to select [Edit].
 - The setting menu will be displayed.



3 Use ▲/▼ to select the desired editing, then press RECORD/OK.



4 Follow the procedures from step 5 for each editing functions.

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Crop

- 5 Use ▲/▼/◀/▶ to select the desired video, then press RECORD/OK.
 - The following message will be displayed.



- 6 Press RECORD/OK at the desired starting point, then press ▼.
 - The following message will be displayed.



- 7 Press RECORD/OK at the desired ending point, then press ▼.
 - The following message will be displayed.



- 8 Use ◀/▶ to select [Yes], then press RECORD/OK to crop the video.
- 9 Press to exit.

Partial delete

- 5 Use ▲/▼/◄/► to select the desired video, then press RECORD/OK.
 - The following message will be displayed.



- 6 Press RECORD/OK at the desired starting point, then press ▼.
 - The following message will be displayed.



- 7 Press RECORD/OK at the desired ending point, then press ▼.
 - The following message will be displayed.



- 3 Use ◀/► to select [Yes], then press RECORD/OK to crop a part of this video.
- 9 Press to exit.

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Divide

- 5 Use ▲/▼/◄/▶ to select the desired video, then press RECORD/OK.
 - The following message will be displayed.



- 6 Press RECORD/OK at the desired dividing point, then press ▼.
 - The following message will be displayed.



- 7 Use ◀/▶ to select [Yes], then press RECORD/OK to divide this video.
- 8 Press to exit.

Merge

- 5 Use ▲/▼/◄/► to select the first video, then press RECORD/OK.
 - The selected file with "1" in a red square will be displayed.



6 Use ▲/▼/◄/▶ to select the second video to be merged.



- 7 Press RECORD/OK to merge these files.
 - The following message will be displayed.



- The device reorders the file number and the merged file will be the last file.
- **9** Press to exit.

Notes

- You cannot merge 2 files that are different video types into one file.
- Merge may not work if the total time of the merging files exceeds the following limits.

Video types	Total time
Full HD	approx, 50 minutes
Sports HD	approx, 45 minutes
HD	approx, 60 minutes
VGA	approx, 125 minutes
QVGA	approx, 395 minutes
HiSpd	approx, 110 minutes

Create picture

- 5 Use **▲**/**▼**/**◄**/**▶** to select the desired video, then press RECORD/OK.
 - The following message will be displayed.



- 6 Use ◀/▶ to select [Yes], then press RECORD/OK to create the picture.
 - The created picture is shown as a thumbnail.



7 Press to exit.

Notes

- Picture can be created at the point you added all marks at a time.
- If no chapter marks exist on the file, "No marking in this file." will be displayed.
- The picture resolution will be the same as the original video resolution.
 For example, if the video was recorded in "Full HD", the created picture resolution will be 1,920 x 1,080.

Settings for the Device

Firmware updating

You need to insert the microSD/microSDHC card to the device and format it before your update. To format the microSD/microSDHC card, refer to [Formatting device/microSD/microSDHC card] on the next page.

Note

- The device's internal memory doesn't support the firmware updating.
- 1 To confirm what version of firmware is used in the device press in any mode except during recording.
 - The setting menu will be displayed.



2 Use

↑ to select [Setup], then use

▲/▼ to select [Firmware version].



- 3 Press RECORD/OK to display the current firmware version.
 - Write down the version for your record.



- 4 Press to exit.
- Visit our web site at www.funaiamerica.com to check for the latest firmware version.

Latest firmware available for download

- Format the microSD/microSDHC card using the device.
 - Refer to [Formatting device/microSD/microSDHC card] on the next page.
- Download the firmware from our web site and save it on the desktop of the PC.
 Insert the formatted microSD/microSDHC
- card with SD Adaptor into the PC.

 Make a copy of the firmware onto the microSD/microSDHC card's Root Directory.



- 5 Remove the microSD/microSDHC card with SD adaptor from the PC, then insert the card into the device.
- 6 Press () for more than 1 second to turn on the device.
 - [Firmware update?] will be displayed when the
- [Firmware update?] will be displayed when the device detects the latest firmware.
- 7 Use ◀/▶ to select [Yes] then press RECORD/OK.
 - [Processing...] will appear on the LCD screen and the device automatically updates the firmware.The LCD screen displays [Update successful. Please shut off the power, remove memory card and delete update file from memory card using a PC.1.
- **8** Press 0 to turn off the device.
 - Updating will be completed.
 - Remove microSD/microSDHC card from the unit and erase the update file from the microSD/microSDHC card using a PC.

Formatting device/ microSD/microSDHC card

When the device needs to update or the memory needs to initialize, you can format memory in a simple way. If the microSD/microSDHC card is inserted, the device formats the card. If the microSD/microSDHC card isn't loaded on the device, formatting will be done on the internal memory.

- Press in any modes except during recording then use

 ▼/> to select [Setup].
 - The setting menu will be displayed.



2 Use ▲/▼ to select [Format], then press



- 3 Use ◀/▶ to select [Yes], then press RECORD/OK.
 - The device starts to format the microSD/microS-DHC card or the internal memory.



4 Press to exit.

Note

 If necessary, make a back up copy of the original files before you format the microSD/microSDHC card.

☐ Installing the MediaImpression2

The MediaImpression2 provides you a lot of functions for video or picture files, It is a very easy way to edit in the menus. You can make your own movies using this software.

- 1 Press (b) for more than 1 second to turn on the device.
 - Power indicator lights up and the device goes to the live view mode.
- In live view mode, connect the device directly to the PC or using the USB extension cable (not supplied).
 - The LCD screen goes Off.
 Your PC detects the device and the following screen will be displayed automatically.
 - If the following window does not display, open [FUNAI_FRM], then click [Setup.exe].



- 3 Click [OK].
 - Language selection menu will be displayed.



- 4 Select the desired language, then click [OK].
 - The setup wizard will be displayed.



Procedure continues on the next page.

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5 Click [Next].

- The license agreement screen will be displayed.



- 6 Read the license agreement, then click [Yes].
 - The destination location screen will be displayed.



- 7 Click [Next] if okay to install the software in the [Program Files].
 - If not, click "Browse..." and choose the location where you want to install the software.
- 8 Click [Next] twice.
 - Installing will be started and progress bar goes to the end



9 Associated File Formats window will appear, then click [Next].



10 Click [Finish].

- Installation has been completed. Restart your PC.



Uploading the file to video/ picture hosting websites

You can share the video or picture files all over the world! It is a simple way to upload the files.

- 1 Click on your PC's desktop.
 - The following start page will be displayed.



- 2 Follow the desired procedure shown in the start page.
- **3** Using the software, refer to the help menu in this software.
 - Help menu is located in [Extras] at the upper right side of the start page.



Summaries

_	1							
	Internal memory	microSD card		microSDHC card				
Capacities	32MB							
Video								
Full HD	20 s.	12m 34s.	25m 40s.	51m 43s.	1h 17m 23s.	1h 46m 47s.	3h 30m 19s.	6h 57m 50s.
Sports HD	20 s.	12m 34s.	25m 40s.	51m 43s.	1h 17m 23s.	1h 46m 47s.	3h 30m 19s.	6h 57m 50s.
HD	26 s.	15m 40s.	31m 58s.	1h 04m 23s.	1h 36m 21s.	2h 12m 55s.	4h 21m 47s.	8h 40m 02s.
VGA	56 s.	30m 45s.	1h 02m 40s.	2h 06m 08s.	3h 08m 48s.	4h 20m 15s.	8h 32m 30s.	16h 58m 01s.
QVGA	3m 32s.	1h 49m 18s.	3h 42m 31s.	7h 27m 34s.	11h 10m 05s.	15h 23m 16s.	30h 17m 54s.	60h 10m 48s.
HiSpd	56 s.	30m 45s.	1h 02m 40s.	2h 06m 08s.	3h 08m 48s.	4h 20m 15s.	8h 32m 30s.	16h 58m 01s.
Picture								
5M	19	663	1352	2723	4075	5619	11067	21983
1.9M	54	1722	3508	7058	10566	14561	28673	56952
0.3M	312	9719	19790	39808	59598	82119	161696	321171

Note

Viewing angles

For video

	Horizontal	Vertical	Focal length	Aspect
Full HD	1,920	1,080	46 mm	
Sports HD	1,280	720	35 mm	16:9
HD	1,280	720	33 11111	
VGA	640	480	32 mm	
QVGA	320	240	32 111111	4:3
HiSpd	320	240	38 mm	

For Picture

	Horizontal	Vertical	Focal length	Aspect
5M	2,592	1,944		
1.9M	1,600	1,200	30 mm	4:3
0.3M	640	480		

The above numbers are approximate. The numbers may differ depending on the microSD/microSDHC card.

Useful Tips

☐ Troubleshooting

Symptom	Remedy
The power will not stay on.	Make sure the battery is fully charged.
The device turns off by itself while in	The battery is not charged enough. Charging batteries may take
operation.	a while on some PCs.
	Charge the battery until the battery indicator shows full "
	If this device is left with no activity for more than 3 minutes,
	it will be turned off automatically (except when the device is
	connected to a PC) to prevent the battery drain.
Cannot charge the battery.	Turn the device off first, then charge the battery.
	• We recommend to keep the temperature around the device at 50°F (10°C) to 86°F (30°C) when charging the battery.
	 If you charge the battery through the USB terminal on your PC, make sure the PC is active and not in the sleep mode.
	The battery may not be charged properly when charging through a USB hub. Make sure to connect the device directly to the PC using the supplied USB connector:
Cannot record.	You cannot record continuously for more than 29 minutes.
	Check the microSD/microSDHC card or internal memory has
	sufficient space.
	Faulty microSD/microSDHC card may be inserted.
	Try other microSD/microSDHC card.
	 Use the microSD/microSDHC card which is higher than class 2.
Cannot playback.	Folder/file names may have been changed. If name
	remembered, rename to the original name.
	We do not guarantee the playback of the files which has been edited on a PC or the images were recorded with another
	device.
	Faulty microSD/microSDHC card may be inserted.
	Try another microSD/microSDHC card.
Picture poor:	Check if the "Night vision" is off. With "Night vision", the colors
	of the object cannot be reproduced properly.
The distorted picture has been	This device is equipped with the CMOS sensor. A characteristic
recorded (or played back).	of a CMOS sensor, fast moving objects may appear distorted
	while shooting. This is not a malfunction.
The device doesn't recognize the	The card formatted on the personal computer may not be
microSD/microSDHC card.	recognized. When formatting a microSD/microSDHC card,
re:	make sure to format on this device.
[Firmware update?] is always on the ICD screen when device is turned	 Remove microSD/microSDHC card from the device. Place card in SD Adaptor and install it on a PC. Use the PC to erase
On.	the firmware update file from the microSD/microSDHC card.
O11,	Reinstall the microSD/microSDHC card into the device.
L	

Symptom	Remedy
Neither the picture nor the sound signal outputs from the TV.	Be sure the video signal output matches to yourTV color system (NTSC).
	Make sure the cables are correctly connected to your TV.
Unstable behavior occurs when the device is connected to the USB hub.	If you make a connection through the USB hub, it may cause an unstable behavior of the device. Make sure to connect directly to the PC when using the USB connector:
The picture crops out from the top, bottom, left and right when the device is connected to the TV to play it back.	 Since the display of this device is FULL HD compatible and designed to display the entire recorded range, the picture will be cropped out on the 4 sides (top, bottom, left and right) when viewed on a non-FULL HD-compatible device.
Black bars appear on the top and bottom of the TV display when the device is connected to the TV	This happens when a video recorded in HD is viewed on 4:3 TV. This is not a malfunction.
through an A/V cables.	 If you use only a 4:3 TV, then record in the 4:3 modes (VGA, QVGA and HiSpd).
Recorded picture with High-definition (HD) cannot display right on my HDTV.	Set the aspect ratio of your HDTV to 16.9 (Wide).
No operation. The device cannot be turned off. The picture doesn't move and it freezes forever:	 This device employs precision equipment which is susceptible to static, environmental noise or interference. Sometimes those factors cause the suspension of operation. If this happens, reset the device to the factory default by pressing the Reset button with a sharp pointed object such as ballpoint pen.
The device heats up when using this device for many hours.	 This device may get hot when it is used over an extended period of hours. This is not a malfunction. However, if the device gets extremely hot or the temperature rises too rapidly, it may be a malfunction of the device. Contact your dealer in such case.
Pixelation drops out in the device's display.	 This device is manufactured on the basis of super-hi-technology offering the effective pixels of over 99.99%. Occasionally a few non active pixels may appear as a fixed point of black, white, red, blue or green. This is not a malfunction, and those pixels will never be recorded on the file.
"Medialmpression2" cannot be installed on my PC.	Please visit at www.arcsoft.com/support to solve the problem.
Desktop icon for picture files have changed after I installed "Medialmpression2".	The software chooses its own icon to be opened once you install the Medialmpression2. To change to the original icon, click with the right button and select "Properties (B)", then choose "Change" right on the "Opens with." in the "General" tab. Choose the program you want to use to open the file from the "Recommended Programs:" or "Other Programs:" lists, then click "OK".

The following message will be displayed on the LCD screen when there is something to inform you.

Message	Remedy	
Format failed. Please retry formatting.	Try formatting again. If the same message appears, it may be a malfunction of the card. Try other microSD/microSDHC card.	
Update failed. Please shut off the power	 Turn the device off and try updating again. If this does not solve the problem, reformat the card, then retry updating, If this still does not solve the problem, it may be malfunction of the card. Try another microSD/microSDHC card. 	
Battery is low. Please charge.	Turn the device off and charge the battery.	
The file number reached maximum. Please delete all files or exchange memory card.	Delete all unnecessary files, or use another microSD/ microSDHC card. If necessary, make a back up copy of the original files before	
Memory is full.	you delete them.	
Memory is insufficient for pre-recording	We have no responsibilities for damage or loss of your dat	
Memory is insufficient for editing.		
Memory card is too low a speed.	Use the microSD/microSDHC card which is higher than class 2.	
This file is protected.	Deactivate the read-only attribute of the file on your PC.	
Delete failed.	Try deleting again. If the same message appears, it may be a malfunction of the card. Try another microSD/microSDHC card.	
Crop failed.	Try editing again. If the same message appears, it may be a malfunction of the card. Try another microSD/microSDHC card. If necessary, make a back up copy of the orginal files before you edit them. We have no responsibilities for damage or loss of your data.	
Partial delete failed.		
Divide failed.		
Merge failed.		
Create picture failed.		

Specifications

Image sensor		For Video	
Туре	BSI CMOS image sensor	File format	MOV (QuickTime®)
Effective pixel	5.0 Mpixel (2,952×1,944)	Video codec	MPEG-4 AVC/H.264 (MOV)
		Audio codec	MPEG AAC
Lens		Resolutions	Full HD 1,920 × 1,080p (16:9)
Focal length	35mm film camera equivalent		Sport HD 1,280 x 720p (16:9)
	1,080p 46mm		HD 1,280 x 720p (16:9)
	720p 35mm		VGA 640 × 480p (4:3)
	VGA/QVGA 32mm		QVGA 320 x 240p (4:3)
	Still image 30mm		HiSpd 320 x 240p (4:3)
-	HiSpd 38mm		
FNo.	F2.8	For Picture	
Shutter	Auto	File format	JPEG (Exif ver. 2.21)
Focus	Fixed focus 70cm - ∞		DCF ver. 2.0
Digital zoom	Up to 4x (except HiSpd mode)		ISO/IEC 10918-1 baseline
			Component YCbCr 4:2:2
LCD screen		Resolutions	5.0M 2,592 × 1,944
TFT color LCD	2.0 inches		1.9M 1,600 × 1,200
	153,600 dots (640×240)		0.3M 640 × 480
Terminal		C	*:
HDMI output	Type C (mini)	General specification Power consumption	
Audio Video output			re 41°F (5°C) to 104°F (40°C)
(ø3.5mm)	Audio 300m V rms (monaural)		e 5°F (-15°C) to 131°F (55°C)
USB 2.0	Type A (High-Speed USB)	Humidity	30% to 80%
O3D 2.0	Type / (Tight speed OSB)	Dimensions	Width 3.83 inches (97.4mm)
Battery		Diricisions	Height 2.21 inches (56.1mm)
Lithium-ion	740mAh (built-in)		Depth 0.67 inches (16.9mm)
Life	Live view mode 100 minutes	Weight	0.205 lb. (93.0g)
	Recording 80 minutes	- 6	*without microSD memory card
	Night vision 60 minutes		,
	Playback 150 minutes		
Charging time	Approximately 200 minutes		

FS

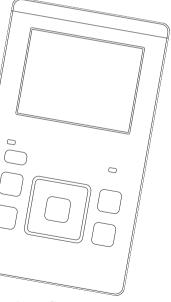
¿Necesita ayuda? Llame por favor sin costo o visite nuestro sitio web en



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