Preface
This user's manual describes the operation of the product and application notices.
To fully appreciate and optimize the features of this product, we recommend that you read this entire manual before using the product. After reading, keep this manual handy for future reference.

Copyright
The use of copyrighted publications such as books, magazines, and music is limited to personal, family, or similar purposes. Duplication or modification of these publications is prohibited without expressed or written authorization.

Usage
This company is not liable for compensation for the recorded contents, in case problems with this product result in an inability to record or play.

Privacy
Do not use this product to shoot images that will violate other people's privacy or in places that prohibit the use of photographic equipment and materials.

Protection
Although the metal exterior of this product is solid, strong impacts or dropping the product may cause damage. Please protect this product properly. Repair in case of damage, only allow qualified repair personnel to repair this product. Disassembling or opening this product on your own will void the product warranty.
Unauthorized transfer of this manual in part or whole is strictly prohibited.
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It is recommended that you keep important data separately.
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This company is not liable for the content or information downloaded from networks or personal computers.
We have attempted to make the content of this manual as complete and comprehensive as possible, however should any information be erroneous or missing, we kindly request that you contact us.
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List of Accessories

DV Camcorder

Earphone

USB connection cable

Battery

A/V cable

User's manual

AC Adapter

Driver CD
Battery Installation / Removal
The battery release button is located on the upper side of the unit. Press the button and open the cover to install the battery. The metal contact end of the battery should face left, slide the battery into the bay with a 45° slant angle, then push the entire battery into the bay. When the battery is in the proper position, replace the cover.

Recharging the Battery
Charging with AC-Adapter
Plug the AC end of the adapter into the socket and plug the USB end of the adapter into the USB port of the unit. The red backlight will turn on when the battery is being charged; it will turn off when the unit is fully charged.

Charging with PC/Notebook
The battery can be charged by connecting the unit to a PC or a Notebook via the USB cable. Connect the USB end of the cable to the USB port of the computer and the mini USB end to the mini USB port of the unit. The red backlight will turn on when the battery is being charged; it will turn off when the unit is fully charged.
Charging the Battery
The property of each lithium-ion battery varies slightly. To optimize battery power, this product uses state-of-the-art intelligent battery management technology to achieve maximum power supply time.
When using a new battery for the first time, we suggest that you charge the battery for more than 4 hours and then fully deplete (the product will shut down automatically if there is no power) it before recharging. This product will automatically memorize the properties of this battery and save its relevant battery power information. By following these instructions you will obtain optimum battery usage conditions.

Installing/Removing the Memory Card
The memory card slot is located on the side of this product. Open the memory card slot and insert the memory card. Push the memory card into the slot with the IC side facing the keys and the notch facing down. If you insert the memory card in the wrong direction, the slot cover cannot be closed properly. To remove the memory card, just open the slot cover and press the memory card to eject it automatically.
Power On / Off

Power On: Press Power key for 1 second to turn on the unit, the screen will display start-up message.
Power Off: Press Power key for 1 second, the screen will turn off and the LED light will be turned off.
Caution! If the Power key is pressed for 1 second while data is being written to the memory card, the unit will shut down, but the memory writing will continue until it is finished. Under other conditions, pressing the Power key will stop all actions and turn off the unit.

Mode

When you press the Mode key, the DV Camcorder will display 7 options:
- DV
- DSC
- MP3
- VR
- PLAY
- SETUP
- LIGHT
- MEMORY / SD
- WEB CAM / USB DISK

Under normal conditions, when the Mode key is pressed, the Mode selection menu will appear on the screen. Use the directional buttons of Mode key to move the cursor to the desired function and press the Enter button to make your selection. While the unit is in Mode selection, the Menu key, Display key and Shutter key are all disabled. When data is being written (video shooting, picture taking, or voice recording), the Mode key is disabled.
Shutter Key
All recording functions of this unit, (video shooting, picture taking, or voice recording), are executed by pressing the Shutter key. Under DV and DSC mode, press the Shutter key to start shooting.

Display Key
The Display button has two uses.
1. In DV, DSC, MP3 and VR modes, the Display button turns the screen on or off. Turning off the screen can save power. For example, turning off the screen while playing MP3 files can prolong playing time.
2. In Play mode and Browse File (movie or picture), pressing the Display button will display the file information.

Rotating Lens
While in DV or DSC mode, the user can rotate the lens to shoot videos or take pictures.

How to Hold this Product
The stability of your hands while holding this product during video recording or photographing will affect image clarity. Shaking the camera will produce blurry images. Before using, practice holding the camera while taking test photographs to avoid shooting blurry images.

In DV preview mode (before recording or playing video), press the Menu button to enter the Basic menu. Press the 'down' button to enter the basic settings. Press the 'right' button or Enter button to enter the submenu. After selecting, press the Enter button to confirm the selection. To exit the Basic menu, simply press the Menu button.
DV Camcorder (DV)

Video Recording
After entering DV mode, rotate the lens to preview the scene. You can adjust the zoom on the LCD screen by using Up/Down button. Press the Shutter key once to start recording. The recording time is indicated on the screen. Press the Shutter key again to stop the video recording.
Zoom

During video recording, you may press the Up/Down button to adjust Digital Zoom. The Up button is for Zoom in, and the Down button is for Zoom Out. Under the 640 x 480 mode, the maximum digital zoom is 6x. Under the 320 x 240 mode, the maximum digital zoom is 12x. However, when video recording of the resolution 640 x 480 is done in the reverse photography screen, the maximum digital zoom is only 2x.

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<tr>
<th>Icon</th>
<th>Function</th>
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<tr>
<td>📷</td>
<td>Zoom in</td>
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</table>

High Brightness LED

In dark or low lighting conditions, the user can press the Right button to turn on the LED spotlight. Press the Right button again to turn it off after recording.

<table>
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<tr>
<th>Icon</th>
<th>Function</th>
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<tbody>
<tr>
<td>☀</td>
<td>Spotlight</td>
</tr>
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</table>
Basic Settings ~

Adjust Exposure Value

Basic Setting ~ Exposure. In the case of insufficient light when taking photos, press the Right or Enter button to enter the submenu. Adjust the EV value upward to increase brightness. For example, change the value to +0.3 or +1.8. The screen is brighter when EV value is increased. In bright sunlight, lower the EV value to reduce the brightness. The adjustable range of EV value is -1.8 to +1.8.

Select Light meter method

Basic Setting ~ Light meter. Press the Right or Enter button to enter the submenu. This function is designed to give better light sensing during video shooting. For example, if the scene has backlight or high contrast, change the light meter method to "Center" to avoid insufficient reflection or "Dark Face" caused by the "Average" method. There are three light meter methods available in the submenu: Average Light meter, Central Light meter, and Center Light meter. Select the appropriate method for the scene in question.
Adjust Shutter Speed
Basic Setting – Shutter T. Press the Right or Enter button to enter the submenu. Shutter preferential mode is available with this unit. Users can set the shutter speed up manually: Auto, 1/2000, 1/1600, 1/1000, 1/500, 1/250, 1/125, 1/60, 1/30, 1/15, 1/8. Under Auto setup, the shutter speed will alter according to the environment's lighting conditions. For example, when the light is insufficient, the shutter speed will reduce automatically.

Adjust White Balance
Basic Setting – White Balance. Press the Right or Enter button to enter the submenu. Then use Up/Down button to select from the following six different white balance modes: Auto, Sunny, Cloudy, Tungsten, Sun lamp, Fluorescent (F-Light). Check the effect of the selected mode in the preview frame. This function is designed to improve the quality of the video under various lighting conditions. Adjust white balance according to the brightness and color temperature of the environment. For example, the color temperature from an indoor fluorescent lamp is different from that of an indoor incandescent lamp. Therefore, you need to adjust the white balance accordingly.

Color Temperature Reference:
<table>
<thead>
<tr>
<th>Mode</th>
<th>Sunny</th>
<th>Cloudy</th>
<th>Tungsten</th>
<th>Sun Lamp</th>
<th>Fluorescent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color Temp.</td>
<td>8500K</td>
<td>7000K</td>
<td>2800K</td>
<td>10000K</td>
<td>5500K</td>
</tr>
</tbody>
</table>
Audio Quality
Basic Setting – Audio Quality. Press the Right or Enter button to enter the submenu. For a better audio recording quality, select "48kHz", however, doing so will significantly reduce the length of available recording time because of the limited size of memory. It is suggested that you use "16kHz" setting if you are making a lot of recordings. Alternatively use a high capacity memory card. There are two audio quality settings available: 16KHz and 48KHz.

Video Quality
Basic Setting – Video Quality. Press the Right or Enter button to enter the submenu. For the best recording quality, select "Ebest", however, doing so will significantly reduce the length of available recording time because of the limited size of memory. It is suggested that you use "Normal" or "Economic" setting if you are taking a lot of footage. Alternatively use a high capacity memory card. There are five quality settings available: Best, Fine, Normal, Basic, and Economic.

Video Resolution
Basic Setting – Size. Press the Right or Enter button to enter the submenu. Use Up/Down button to select video resolution of 640 x 480 (VGA) or 320 x 240 (QVGA), press Enter button to select.
**Advanced Settings**

**Seven Filter Effects**

Advanced Setting - Effect. Filter of various colors is a standard accessory for professional photographers. In this unit, filter effects are achieved with digital technology. You can select the filter in accordance with your personal taste. You may need to experiment a few times to gain familiarity with the filter effects. Press the Right or Enter button to enter the submenu. Use Up/Down button to select from seven different filter effects: Text, Sepia, Invert, Decrease Color (Dec. color), R filter, G filter, and B filter. You can see the effect of each filter in the preview window.

**<Tip>:** In case of insufficient light during night shooting, use filters to increase brightness of the picture.

**Five Types of Image Shooting Modes**

Advanced Setting - Special, optional list. Press the Right or Enter button to enter the submenu. The color hue and shutter speed are different for each of the five shooting modes. For example, under the Night Shot Mode, the unit will switch to the highest EV value and slowest shutter speed to increase light exposure on the sensors. Under Sport Shooting Mode, the shutter speed is increased to capture fast moving objects. There are five predefined shooting modes: Normal, Sport, High Speed, Dusk, and Night Shot.
Sensitivity Value Setting
Advanced Setting - ISO optional
list. Press Right or Enter button to enter the submenu. Four different
ISO setup values are available: 100, 200, 400 and 800. The ISO setup is
to enhance the sensitivity of the sensor. The sensitivity is higher when
the ISO value setup is higher. In the case of low brightness, ISO
200 or 400 is recommended for recording video in order to get a
clear recording. Please note that this function works only if the
shutter speed is in manual mode.

Video Playback
Press the Enter button to preview the recorded video.

Fast-Forward/Rewind
You can fast forward or rewind when playing video files.
While playing a video file, press the ‘right’ button once to fast
forward the video at double the normal speed and “2X” appears on
screen. Press the ‘right’ button twice to fast forward the video at 4X
the normal speed and “4X” appears on screen. Press the ‘right’
button three times to fast forward the video at 8X the normal speed.
and "8X" appears on screen.

Press the "left" button to rewind while playing video files. Press the "left" button once to rewind at double speed and "2X" appears on the screen. Press the "Left" button twice to rewind even faster and "4X" appears on the screen. Press the "Left" button three times to increase the rewind speed to 8 times and "8X" appears on the screen until the play time returns to 00m:00s and stops.

To stop fast-forwarding or rewinding the file, just press the Enter button and the video file starts playing at normal speed immediately. Press the Enter button again to pause.

Press the Enter button during play (to pause playing video file) or wait until the video play ends, then press the "Left" or "Right" button to skip to the previous or next video file.

Fast-forward or rewind can be offset. For example, press the "Left" button once while performing fast forward at 4X to reduce the speed to 2X. To slow rewinding, press the "Right" button once while rewinding at 4X to reduce the speed to 2X. Press the "Right" button second time to return to normal speed and start playing.

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<th>Icon</th>
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<tr>
<td></td>
<td>Fast-Forward</td>
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<tr>
<td></td>
<td>Rewind</td>
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</table>

**Playback Menu**

**Delete**

1. Menu Setting ~ Delete
2. Option: No, Yes

You can select and delete a video file if desired.
Delete All
1. Menu Setting - Delete All
2. Option: No, Yes
You can choose to delete all existing video files if needed.

File Lock
1. Menu Setting - Lock
2. Option: No, Yes
This function can lock selected video files and avoid accidental deletion. To delete the multimedia file under "File lock" you need to remove file lock first.

Continuous Playing of Image
Files (Slides)
This function is to automatically play image files one after the other like a slide show:
1. Menu - Slide
2. Auto slide show
3. Press Enter button to stop slide show.

Startup Set
You can record a video segment and set it as your startup video clip:
1. Menu Setting - Startup Set
2. Option: No, Yes
After confirming the setup, this video clip will be played the next time you switch this product on.
File Copy

1. If you wish to copy a file, please select the file you wish to copy. The file copy process will be executed after the confirmation. You can only copy one file at a time.

2. During the copying process, do not remove the memory card since it will cause the file copy process to fail.

3. The system will first determine the file size that is to be copied. If the memory space is not sufficient, the system will automatically determine that the copy cannot proceed and show the error message, as shown in the figure.

4. The file copy process will take several seconds, depending on the file size to be copied. The copy process is shown in the figure.
Digital Still Camera (DSC)

Shooting photos
Please rotate the lens under DSC mode, and adjust the shooting range from the LCD screen. Press Shutter key to capture the image. Press Enter button to view the last image shot. Press Shutter key again to go back into film shooting mode. Move the Left and Right button to switch among different pictures that have been taken before.
Self-Photography

Turn the lens to face yourself and press Left button to reverse the photography screen and start the photography.

Note: The closest shooting distance for this unit is 80cm. Any distance shorter than this will result in an unclear picture.

Flashlight Setup

Before taking pictures, use Right button to setup the flashlight. The default is to detect automatically if flashlight is necessary. Press Right button once to force the flashlight to turn-on, press again to force the flashlight not to turn-on.

There are three modes: Auto, Force to light, and Force not to light. The default setup of the digital camera is Auto mode. In Auto mode, when illumination is lower than 750 Lux, the flashlight will be activated automatically. Under Force to light mode, the flashlight will be activated for every shot. Under Force not to light mode, the flashlight will not be activated when a picture is taken. The unit will indicate on the screen when you are about to run out of power. In this case, the flashlight is not available.

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<tr>
<th>Icon</th>
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<td>🗡️</td>
<td>Auto</td>
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<tr>
<td>🔒</td>
<td>Force to light</td>
</tr>
<tr>
<td>🗡️</td>
<td>Force not to light</td>
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</table>

Digital Zoom

When taking pictures, you can use the Up/Down button to adjust the Zoom ratio. Press the Up button to Zoom In and the Down button to Zoom Out. Maximum Digital Zoom is 4x.
Basic Settings ~

Adjust Exposure value
Basic Setting ~ Exposure. Press Right or Enter button to enter the submenu. As in DV mode, a total of 13 levels of exposure values from -1.8 to +1.8 are available in this camera: +1.8, +1.5, +1.2, +0.9, +0.6, +0.3, 0, -0.3, -0.6, -0.9, -1.2, -1.5, -1.8. You can setup the value according to your need.

Light-Meter Mode Setup
Basic Setting ~ Light-meter. Press Right or Enter button to enter submenu. As in DV mode, three light meter methods are available in DSC mode: Average light meter, Central light meter and Center light meter. Use the Up/Down button to select the required light meter method.

Shutter Speed adjustment
Basic Setting ~ Shutter. Press the Right or Enter button to enter the submenu. Different Shutter modes are available in this unit. Users can set the shutter speed from: Auto, 1/2000, 1/1600, 1/1000, 1/500, 1/250, 1/125, 1/60, 1/30, 1/15, 1/8, 1/4, 1/2. Under Auto setup, the shutter speed will alter according to the environment’s lighting conditions. For example, when the light is insufficient, the shutter speed will reduce automatically.
White Balance Adjustment

Basic Setting – White Balance. Press Right or Enter button to enter the submenu. As in DV mode, DSC mode provides six white balance setups: Auto, Sunny, Cloudy, Tungsten, Sun lamp and Fluorescent. You can see the effects of the selected mode in the preview frame.

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<th>Color Temperature Reference:</th>
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<tr>
<td>Mode</td>
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<tr>
<td>Color Temp.</td>
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Set Picture Resolution

Basic Setting – Picture size

There are 8 resolutions: 6M, 5M, 4M, 3M, 2M, 1M, SGA and VGA. The respective picture sizes are 2816x1992(6M), 2592x1944(5M), 2304x1728(4M), 2048x1536(3M), 1600x1200(2M), 1280x960(1M), 800x600(SGA) and 640x480(VGA). When the value is higher, the picture resolution is better. This means that the more pixels the picture has, the more memory card space is required. Use Up/Down button to select the required picture size, and press Enter button to confirm your setup. For a 3 x 5 inch photo, use at least 1800 x 1200 resolution for best pictures.
Recording Quality change
Basic Setting - Quality Press Right or Enter button to enter the submenu. There are three types of JPEG compression quality: Fine, Normal, and Basic.

Spotlight
Basic Setting - Spotlight Press Right or Enter button to enter the submenu. There are 3 resolutions: Min, Mid and Max.

Advanced Settings-

Seven Filter Effects
Advanced Setting - Effect Press Right or Enter button to enter the submenu. As in DV mode, seven different filter effects are available in DSC mode: Text, Sepia Invert, Decrease Color (Dec. color), R filter, G filter, and B filter. You can preview the effect on the picture created by the selecting the mode from the preview frame.

Sensitivity Value Setting
Advanced Setting - ISO Press Right or Enter button to enter submenu. Three different ISO setup values are
available 100, 200 and 400. The ISO setup is to enhance the
sensitivity of the sensor. The sensitivity is higher when the ISO
value setup is higher. In the case of low brightness, ISO 200 or 400
is recommended for taking clear pictures. Please note that this
function only works if the shutter speed is under manual condition.

**Burst setup**
Advanced Setting - Burst. Press
Right or Enter button to enter the
submenu. Select turn “Off” or “2”
burst. A Maximum of two burst shots
is available from this device.

**Timer setup**
Advanced Setting - Timer. Press
Right or Enter button and press Up/
Down button to select On/Off.

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<td>Self-Photography</td>
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</table>

**Add the Date on a Picture**
Advanced Setting - Date stamp
Press Right or Enter button to enter
the submenu. Use Up/Down button
to turn On/Off, then press Enter
button to confirm selection.
Zoom in and out

When viewing a picture, press the Up button to perform the zoom-in (enlarge) function.
The picture will be zoomed in from the center point. The maximum zoom-in ratio is 4 times.
The zoom-in ratio is displayed on the upper left corner. Press the Down button to zoom out (reduce) until the picture is restored to its original size and then return to the browse picture state.

During picture zoom-in, press the Left or Right button to exit the zoomed-in picture screen and go to the next or previous picture. If there is only one file, press the Left or Right Button to return to the last picture screen.

Move Picture Location

After picture is zoomed, press the Enter button to stop zooming.
Press the Up, Down, Left or Right buttons to move in these directions.
Press the Enter button to return to the zoom function. The screen will start zooming in or out from the center of the new location.
Press the Left or Right buttons to exit and return to the browse picture state.

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<td>![Icon]</td>
<td>Move Picture Location</td>
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</table>
Save Zoom-in Picture

You can save the zoomed in picture as a new file. Press the Menu button and enter "Cut" function. Press the Right button or Enter button to enter the submenu. Use Up/Down button to select the picture size you wish to save. After selecting, press the Enter button to complete the setting. To exit the menu, press the Menu button.

1. Menu - Cut
2. Options: 6M, 3M, 4M, 3M, 2M, 1M, SVGA and VGA
3. Press Enter button to save as new file.
4. Press Menu button to exit the menu screen. The screen displays the saved cut picture.

Playback Menu

Delete

1. Menu Setting - Delete
2. Option: No, Yes
   You can select and delete a picture file if desired.
Delete All
1. Menu Setting ~ Delete All
2. Option: No, Yes.
You can choose to delete all existing picture files if need.

File Lock
1. Menu Setting ~ Lock
2. Option: No, Yes
This function can lock selected video files and avoid accidental deletion.
To delete the multimedia file under “File lock!” you need to remove file lock first.

Slides
This function is to automatically play picture files one after the other like a slide show.
1. Menu Setting ~ Slide
2. Auto-slide show
3. Press Enter button to stop slide show

Startup Set
Select a picture under Browse mode and set it as the startup picture.
1. Menu Setting ~ Startup Set
2. Option: No, Yes
After confirming the setup, this picture will be displayed the next time you switch on this product.
Resize
1. Menu Setting ~ Resize
2. Options: 6M, 5M, 4M, 3M, 2M, 1M, SVGA and VGA
3. Press Enter button to save as new file.

File Copy
Menu Setting ~ File Copy.

Picture Rotation
1. Menu Setting ~ Rotate
2. Option: 0°, 90°, 180°, and 270°.
The rotated picture will be automatically saved as a new picture and will not replace the original one.

Picture Printing Setup
1. Menu Setting ~ Print Set
2. Option: No, Yes.
This unit supports the direct printing function of DPOF (digital print order format) type printer.
Music player (MP3)

Saving Music to Memory Card or Internal Memory

Use the card recorder or USB connection function to save MP3 files into the memory card or internal memory. Please note that it should be saved in the following path directory: Portable Disk \DCIM\100A0H101.
Music Format Support

This unit supports music files under *.MP3* and *.WMA* format. Note: WMA format does not support DRM (Digital Rights Management).

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<thead>
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<th>Icon</th>
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<td>MP3</td>
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<tr>
<td>[WMA]</td>
<td>WMA</td>
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</table>

Music Playing

1. This device supports music files with the MP3 and WMA formats. Please respect and purchase legitimate music products in order to protect the copyright.
2. An MP3 Tag is displayed on the top of the screen. The Tag will show the information of the song name, artist and album.
3. If there is no MP3 or WMA file in the memory card or internal memory (depending on the current storage type), the screen will show "NO FILE!"
4. You can use the Up and Down buttons to adjust the volume. From mute to maximum level, the volume is divided into 21 levels.
5. If there is a MP3 file (or WMA) in the memory card or internal memory, the screen will show File number/Total number of file. The system will automatically search the proper file format under the subdirectory within the memory, and will do an automatic sorting. If there is only one song, there is no response if the Left and Right button is pressed.
6. After entering MP3 mode, press the Left/Right button to select songs. Press Enter button to play selected songs, press Enter button again to pause. When MP3 files (or WMA) are available in the memory card or internal memory, the screen will display the sequential file name FILE0001 or FILE0002.
A-B Automatic memory and repeat playing functions
This equipment provides automatic memory and repeat playing functions as in a language learning machine. It will automatically memorize from the moment the A-B repeat button is pressed till it is pressed again and repeat playing the memorized segment. To cancel automatic A-B repeat, press the button again and it will go back to normal playing.

Basic Settings
Playing Mode Selection
Basic Setting ~ Play Mode. Press Right or Enter button to enter the submenu. Four playing modes are available: Normal, Shuffle, Repeat One, and Repeat All.

<table>
<thead>
<tr>
<th>Icon</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>abella</td>
<td>Repeat One</td>
</tr>
<tr>
<td>abella</td>
<td>Repeat All</td>
</tr>
<tr>
<td>abella</td>
<td>Shuffle</td>
</tr>
</tbody>
</table>

EQ Mode
1. Basic Setting ~ EQ Mode
2. Options: Normal, Rock, Pop, Jazz, Classical, Dance, Heavy, Disco, Soft, 3D Stereo, and Hall
3. Press Menu button to return to MP3 main menu and complete the setting.
MP3 Display Languages
Select the correct language for a song so that the main menu can display the name of the song correctly.
1. Basic Setting ~ MP3 Lang
2. Select a language.

Deleting a Music File
Basic Setting ~ Delete. Press the Right or Enter button to enter the submenu. Delete the selected MP3 file (or WMA) in the memory card or internal memory if needed.

Deleting All Music Files
Basic Setting ~ Delete All. Press the Right or Enter button to enter the submenu. Delete all MP3 files (or WMA) in the memory card or internal memory if needed.

File Copy
Basic Setting ~ File Copy.
File Lock
Basic Setting ~ Lock Press Right or Enter button to enter the submenu. This is to prevent a music file from being deleted accidentally. To delete a locked file, unlock the file first.

Sort Songs
Sorts songs in the memory for convenient quick searching and listening.
1. Basic Setting ~ Sort By
2. Options are Normal, Artist, Title, and Album.

Music Play List
The order in which the songs are sorted is according to the setting set in "Sort By".
1. Press Menu button ~ Basic
2. Press Right button ~ Play List
3. Press Up or Down buttons to select the desired songs and press the Enter button to play.
The music play order is based on the "Play mode" setting.
Voice Recorder (VR)

Voice Recording
After entering the Voice Recording function, the system will check automatically if any pre-recorded voice file is available. Under the Voice Recording function, press the Shutter key to start recording, press again to stop recording. Adjust the volume by using the Up/Down button.
Playing Recorded Files
1. Press the Enter button to switch to playing mode, press it again to play. Press it again to pause.
2. If there is no voice file in the memory card or internal memory (depending on the current storage type), the screen will show "NO FILE!".
3. You can use the Up and Down buttons to adjust the volume. From mute to maximum level, the volume is divided into 21 levels.

Basic Settings:

Deleting a File
Basic Settings – Delete File. Press the Right or Enter button to enter the submenu. You can delete the specified voice file in the memory card or internal memory.

Deleting All Files
Basic Settings – Delete All. Press the Right or Enter button to enter the submenu. You can delete all of the voice files in the memory card or internal memory.
File Lock (Unlock)
Basic Settings – Lock (File Lock). Press the Right or Enter button to enter the submenu. This is to prevent a voice file from being deleted accidentally. To delete a locked file, remove the file lock.

Audio Quality
Basic Settings – Audio Quality. Press the Right or Enter button to enter the submenu. 2 types of recording qualities are available: 16kHz and 48kHz. The default setting is 48kHz.

Startup VR
Basic Settings – Startup VR. Press the Right or Enter button to enter the submenu. You can create a voice recording and set it as your startup VR.
After confirming the setup, the voice recording will be played the next time you switch on this product.

File Copy
Basic Settings – File Copy.
PLAY Mode

PLAY All Kinds of Recorded Media Files

Under this integrated function, browsing of the following three file formats are available: voice file, video file, and picture file. Press the Left and Right button to switch between different files. To play any kind of file format, press the Enter button and press it again to pause. You can also change to a 9-files display format by pressing the Down key.

Note: Selecting Movie, Picture, or Voice files will show different menus for the files. For example, selecting Movie, the menu will display the function that has the Rotate, Print Set, and Slide options, but selecting Movie and Voice, the menu will not show these functions.
Display File Information
Press Display key once to display file information.
Press Display key twice to clear the screen (file information disappears).
Press Display key to return to normal display.
Pressing the Display key while viewing videos or pictures will display the relevant file information. Operation is the same as described above.

Menu Settings
Deleting a File
Menu Setting - Delete. You can select and delete a specific multimedia file if desired.

Deleting All Files
Menu Setting - Delete all. You can choose to delete all existing multimedia files if needed.
**File Lock**
Menu Setting ~ Lock. Press the Right or Enter button to enter the submenu. This function can lock selected multimedia files and avoid accidental deletion. To delete the multimedia file under "File Lock," you need to remove file lock first.

**Slide Show**
Menu Setting ~ Slide. This product allows you to play video slides or pictures automatically. Auto plays pictures or video slides continuously. Video files are played one after another. Picture files are displayed one after another.

**Startup DV/DSC/VR**
Sets the startup DV, DSC or VR file.

**Resize**
Menu Setting ~ Resize. The system provides: 6M, 5M, 4M, 3M, 2M, 1M, SVGA and VGA.
File Copy
Menu Setting ~ File Copy.

Picture Rotation
This function is available for pictures taken in DSC mode. It provides 4 types of rotating angles, including 0°, 90°, 180°, and 90°. Select picture browsing mode then press MENU button to perform this setup. The rotated picture will be automatically saved as a new picture and will not replace the original one.

Picture Printing Setup
This unit supports the direct printing function of DPOF (digital print order format) type printer. Press Right or Enter button to confirm “Print setup” from Menu to print with this type of printer. If you want to cancel the printing, please select No. To access this function, please enter picture browsing mode, then press Menu button to perform this setup.

Playing File Category
Menu Setting ~ Category. Press Right or Enter button to enter the submenu. With this function, you can select the type of files you want to play. The system provides: All, Movie, Picture and Voice.
SETUP

Key Sound
The options include On/Off. (Default is On)

Key Tone Setup
Setup – Key Tones.
Options: Normal, Alert, Champagne, Click, Beat and Fire.

Startup File Setup.
You can turn off or delete the startup video, image or voice file.
Setup – Start File.
Options: Off, Delete DW. The options will change according to the previously set startup file (video, image or voice).

Language Selection
Different language interfaces are available in this unit.
Adjust System Date
Use Up/Down button to select your preferred date format: dd/mm/yy, y/m/d, mm/dd/yy (The default is mm/dd/yy). You can use Right button and use Up/Down button to adjust the date. Press Enter button to complete and save the setup. Or press the Left button continuously to quit from the submenu. The setup value won’t be saved.

Adjust System Time
Use Up/Down button to select AM or PM. Use Right button to select the hour and minutes and Up/Down button to adjust the time.

Memory Storage Option
The options include SD Card and internal memory.

TV Signal Output Type
NTSC and PAL TV outputs are available from this unit.
Flicker Frequency

To overcome the flicker seen on the image taken in DV and DSC modes due to indoor fluorescent lamp flashing frequency, this unit provides two options to counter the light source frequencies: 50Hz, 60Hz.

**Note:** The flicker caused by direct shooting against light source cannot be eliminated.

If flicker wave appears on the display when you are taking pictures indoors, please adjust the following settings.
- Environment Light Frequency: 60Hz, Shutter Speed should be equal to or smaller than 1/125 second.
- Environment Light Frequency: 50Hz, Shutter Speed should be equal to or smaller than 1/100 second.

**Dwelling time for Slide show**

This unit provides five choices of dwelling time for slide show: 1 sec, 2 sec, 4 sec, 10 sec and 30 sec.

**Automatic Turn-Off Time**

This unit offers five automatic turn-off options: Off, 1 minute, 2 minutes, 3 minutes, and 5 minutes; the system default value is 3 minutes.
Formatting Memory Card
To ensure that your memory card or internal memory function correctly, we suggest that you format them the first time you use them. The following window will appear under the SD card or internal memory status, respectively (as shown in the figure). Simply select “Yes” to format SD card or internal memory.

LCD Brightness Tuning
Setup ~ Brightness
Options are: 100%, 80%, 60%, 40% and 20%
100% is high brightness while 20% is low brightness.

LCD Contrast Tuning
Setup ~ Contrast
Options are: 100%, 80%, 60%, 40% and 20%
Set to default values

If the system is in a state of disorder due to personal setup, you can use the Set Default function to restore all setup to default values.

System version

After Right or Enter button is pressed, the current software version will be displayed. This function is to provide service information for the distributor for after sale tracking.
Spotlight
The Flashlight function provides three intensities. The default brightness is weakest. Press the Up button to increase the brightness. Press the Enter button to turn the Flashlight off.

PC Web Camera
The web camera is another convenient feature of this product:
1. Install the driver on the CD first.
2. Plug the USB cable to the computer, and select Web Cam in the menu as shown in the figure.
3. You can use any software that supports the web cam function with this unit. We also provide the software of Web Cam function on the CD-ROM. In addition, you can also use this device as the Web Camera.
4. When you unplug the USB cable, this device will automatically turn off.

USB Mass Storage
1. If you wish to charge the battery or use this device as a portable disk, you can plug the USB cable to the computer.
2. You can plug the USB end of the
USB cable to the computer and plug the mini USB end to the device. Select USB DISK as shown in the figure.

3. When a SD Card is in the device, you will find two Portable Disk in your computer, one is for internal memory and another is for SD card. Click the mouse to enter the selected item and you will see DCIM file folder and (DCIM\100XXXXH10) sub directory in these two Portable Disk. This file folder stores all the files used by the user, and it can include video, picture, voice, or music files.

4. If you see another folder, named "MISC", it is generated by this device DSC mode. The MISC folder is created after you take a picture, review the pictures, or select the Print Set option in the menu. This function allows the user to use a printer that supports "DPOF", i.e., when you insert the memory card to this printer, the picture files that are set print within the memory can directly print out from the printer.

**Note:**

1. If you have not set the Print Set function under the DSC review mode, the "MISC" folder will not be created.

2. Do not add any new directory under the DCIM directory. Otherwise, you will not be able to review the files you recorded on the device. In addition, the system will also automatically add many invalid directories, such as \(100XXXXXH10\) and \(102AXXH10\). These empty directories can be deleted if you want.

**TV OUT Display Operation**

When connecting this device to a TV set via AV cable, you can use the TV screen as the display to operate all the functions in the device.
PC System Requirement

Video Studio 7
- Intel® Pentium® III 800 MHz or higher
- Microsoft® Windows® 98SE, 2000, ME, XP
- 128MB RAM
- 600 MB of available hard drive space for program installation
- 4 GB+ hard drive space for video capture and editing (Note: 1 hour of DV video requires 130GB of hard disk space)
- Windows-compatible display with at least 1024x768 resolution
- Windows-compatible mouse or pointing device
- Windows-compatible sound card

Photo Explorer 8
- Intel® Pentium® III processor or above
- Microsoft® Windows® 98SE, 2000, ME, XP
- 64MB RAM (128MB recommended)
- 35MB of available hard drive space for program installation
- True Color or HiColor display adapter and monitor; 800x600 display resolution
- Windows® compatible pointing device
- 16-bit or better sound card and speakers (recommended)
- CD-ROM drive or CD/DVD Burner (for slideshow CD)
- DirectX 8.1 or above

File Transfer
- Intel® Pentium® III 800 MHz or higher
- Microsoft® Windows® 98SE, 2000, ME, XP
- 128MB RAM
- 500 MB of available hard drive space for program installation
- Windows-compatible display with at least 800x600 resolution
# Product Specification and Function list

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<tbody>
<tr>
<td>Resolution</td>
<td>6 Mega Pixel (Using image enhancing technology)</td>
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<td>Lens</td>
<td>5G / fixed focus lens</td>
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<tr>
<td>Focus Range</td>
<td>F=4.8mm, 0.8m ~ Infinity</td>
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<td>Aperture Range</td>
<td>f=1:3.5</td>
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<tr>
<td>Rotating Lens</td>
<td>230° rotatable</td>
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<tr>
<td>Image Resolution</td>
<td>5M(2816x2112) / 5M(2592x1944) / 4M(2304x1728) (Hardware interpolation) 3M(2048x1536) / 2M(1600x1200) / 1M(1280x960) / SVGA(800x600) / VGA(640x480)</td>
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<td>Video Resolution</td>
<td>640 x 480 (VGA) / Max 15 fps 320 x 240 (QVGA) / Max 30 fps</td>
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<tr>
<td>Zoom</td>
<td>Still image : 4X Digital zoom Video : VGA, 6X SO - Zoom QVGA : 12X SO - Zoom</td>
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<tr>
<td>LCD Display</td>
<td>2” LTPS (Low Temperature Poly Silicon) TFT LCD 262K pixel (598 x 240 pixel)</td>
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<tr>
<td>Spotlight/Flash Light</td>
<td>Build-in high brightness LED (10 bulbs)</td>
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<tr>
<td>White Balance</td>
<td>8 Modes for DV &amp; DSC (Auto / Sunny / Cloudy / Tungsten / Sun Lamp / Fluorescent )</td>
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<tr>
<td>Light-meter</td>
<td>3 Modes for DV &amp; DSC (Average / Central / Center)</td>
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<td>Exposure</td>
<td>EV -1.8 ~ +1.8 (0.3 EV/step)</td>
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<td>DSC Quality</td>
<td>JPEG : Fine, Normal, Basic</td>
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<tr>
<td>Feature</td>
<td>Description</td>
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<td>DV Quality</td>
<td>MPEG4 : Best, Fine, Normal, Basic, Economic</td>
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<tr>
<td>DV Special</td>
<td>5 Modes for DV(Normal / Sport / High Speed / Dusk / Night Shot)</td>
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<tr>
<td>ISO</td>
<td>3 Modes for DSC ISO 100 / 200 / 400 , 4 Modes for DSC 100 / 200 / 400 / 800</td>
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<tr>
<td>Shutter Speed</td>
<td>2 Modes for DV &amp; DSC AUTO / MANUAL &gt; DV Mode (1/2000 to 1/2 second)</td>
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<td></td>
<td>DSC mode (1/2000 to 1/8 second)</td>
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<tr>
<td>Effect</td>
<td>5 Modes for DV &amp; DSC (None, Test, Sepia, Invert, Decrease Color, R filter, G filter, B filter)</td>
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<tr>
<td>Self Timer</td>
<td>10 Seconds</td>
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<tr>
<td>Interface</td>
<td>Mini USB, Video Out, Ear Phone Jack, Speaker, Microphone</td>
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<td>Video out</td>
<td>TV Out (NTSC / PAL)</td>
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<tr>
<td>Print out</td>
<td>Supports DPOF (Digital Print Order Format)</td>
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<tr>
<td>Storage Media</td>
<td>SD/MMC Card (32MB ~ 1GB)</td>
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<tr>
<td>File Format</td>
<td>Photo : JPEG (EXIF 2.2), Video Recording : ASF (MPEG4) / Voice Recording : WAV</td>
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<tr>
<td>Power Specification</td>
<td>Battery : Rechargeable Li-ion Battery (3.7V)</td>
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<td>Charger : 5V DC Charger (USB port) / USB Cable</td>
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<tr>
<td>Product Dimension</td>
<td>Weight (g) : 64 g without battery</td>
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<td></td>
<td>L(mm) : 105 mm</td>
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<td>W(mm) : 65 mm</td>
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<td>H(mm) : 166 mm (Body) / 23 mm (Lens)</td>
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**Troubleshooting**

You can troubleshoot the following problems that may occur while using this product:

Cannot turn on this product.
Make sure that the battery is fully charged and inserted properly.

**Battery Charging**
1. When charging, the battery is fully charged when the red LED light blinks for one second and then turns off.
2. If you cannot charge the battery the first time you use this unit, please check whether or not you have installed the battery properly.
We recommend charging the battery for at least 2 hours to make sure that the battery is fully charged.
3. After you have charged the battery or used this unit continuously for 30 minutes, the machine will produce some heat, which is a normal charge or discharge phenomenon.
4. If the LCD image blinks when the machine is on, it means that the battery is low. Please recharge the battery or replace with another one.
5. This unit is bundled with a high-quality battery. If you purchase a new battery, we recommend buying a battery with the same quality to maintain good operation of this unit. We also do not recommend using a low-priced handset charger to charge this battery. Some electric appliances are not protected by an overload design and will shorten the battery life.

Cannot use the inserted SD/MMC card.
If you cannot use the SD/MMC card after inserting the card, please check the following:
1. If the SD/MMC card is damaged, please replace with a new one. Usually it is due to a bad controller chip inside the SD card.
2. If the file in the SD/MMC card is damaged, please enter into Setup mode, select Format, and reformat the SD/MMC as FAT16.

Cannot play the createdASF(Mpeg4) on the PC.
The version of Media Player (version 8 or older) on your PC may be too old. Open your old Media Player while the PC is linked to the Internet and this
software will automatically install the decoding program module that supports ASF MPEG4. Or, download the latest version of Media Player from the Microsoft website.

Video file or picture file is blurry or unclear.
The lens may be dirty. Use a lens-cleaning cloth to wipe the lens clean. Also, ensure that you click the shutter softly to prevent your hands from shaking.

The machine gets hot while using.
When you charge the battery or use the machine continuously for 30 minutes, a slight warming is normal.

Mosaic appears on the screen while shooting.
Please use a high-speed SD card and increase the image resolution.

Cannot connect to the PC, cannot use USB flash disk.
Check if the USB cable is properly connected. We recommend that you use the USB cable that comes with the product. If your PC uses the Windows 98 operating system, it is necessary to install the Windows 98 driver from the CD.

What can I do if the system freezes during use?
Improper operation may cause this product to freeze. If you cannot restart or shut down, remove the battery slot cover and re-install the battery. Restart to eliminate this problem.

Taking picture with better quality.
In an environment with strong sunlight or indoor Fluorescent light, you can manually change the shutter speed, the EV value and white balance setting to obtain a better picture quality.

Appearance issue
Disassembling the housing of this unit on your own is prohibited. No free warranty service will be provided once the housing is disassembled. Do not apply too much force to rotate the lens to a position exceeding the stop point; otherwise the product will be damaged.
MobiBOX

DV
Voice Recorder
Web Cam

DSC
Play Mode
USB Disk

MP3 Player
Spotlight
Card Reader

790-0037-100