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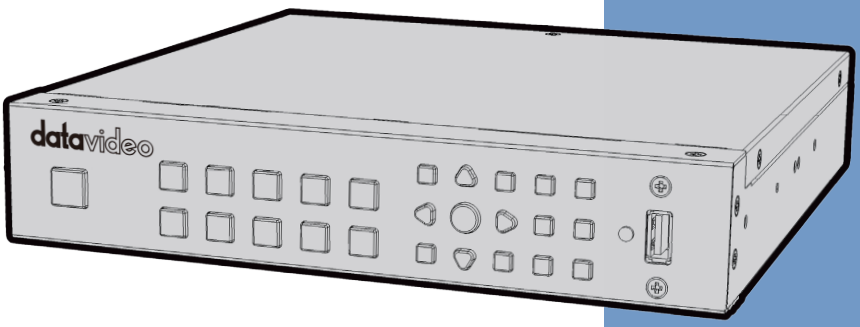

H.264 USB RECORDER

HDR-1

Instruction Manual

www.datavideo.com

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Disclaimer of Product & Services

The information offered in this instruction manual is intended as a guide only. At all times, Datavideo Technologies will try to give correct, complete and suitable information. However, Datavideo Technologies cannot exclude that some information in this manual, from time to time, may not be correct or may be incomplete. This manual may contain typing errors, omissions or incorrect information. Datavideo Technologies always recommend that you double check the information in this document for accuracy before making any purchase decision or using the product. Datavideo Technologies is not responsible for any omissions or errors, or for any subsequent loss or damage caused by using the information contained within this manual. Further advice on the content of this manual or on the product can be obtained by contacting your local Datavideo Office or dealer.

FCC Compliance Statement

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and

(2) This device must accept any interference received, including interference that may cause undesired operation.

Warnings and Precautions

1. Read all of these warnings and save them for later reference.
2. Follow all warnings and instructions marked on this unit.
3. Unplug this unit from the wall outlet before cleaning. Do not use liquid or aerosol cleaners. Use a damp cloth for cleaning.
4. Do not use this unit in or near water.
5. Do not place this unit on an unstable cart, stand, or table. The unit may fall, causing serious damage.
6. Slots and openings on the cabinet top, back, and bottom are provided for ventilation. To ensure safe and reliable operation of this unit, and to protect it from overheating, do not block or cover these openings. Do not place this unit on a bed, sofa, rug, or similar surface, as the ventilation openings on the bottom of the cabinet will be blocked. This unit should never be placed near or over a heat register or radiator. This unit should not be placed in a built-in installation unless proper ventilation is provided.
7. This product should only be operated from the type of power source indicated on the marking label of the AC adapter. If you are not sure of the type of power available, consult your Datavideo dealer or your local power company.
8. Do not allow anything to rest on the power cord. Do not locate this unit where the power cord will be walked on, rolled over, or otherwise stressed.
9. If an extension cord must be used with this unit, make sure that the total of the ampere ratings on the products plugged into the extension cord do not exceed the extension cord rating.
10. Make sure that the total amperes of all the units that are plugged into a single wall outlet do not exceed 15 amperes.
11. Never push objects of any kind into this unit through the cabinet ventilation slots, as they may touch dangerous voltage points or short out parts that could result in risk of fire or electric shock. Never spill liquid of any kind onto or into this unit.
12. Except as specifically explained elsewhere in this manual, do not attempt to service this product yourself. Opening or removing covers that are marked “Do Not Remove” may expose you to dangerous voltage points or other risks, and will void your warranty. Refer all service issues to qualified service personnel.
13. Unplug this product from the wall outlet and refer to qualified service personnel under the following conditions:

a. When the power cord is damaged or frayed;
b. When liquid has spilled into the unit;
c. When the product has been exposed to rain or water;
d. When the product does not operate normally under normal operating conditions. Adjust only those controls that are covered by the operating instructions in this manual; improper adjustment of other controls may result in damage to the unit and may often require extensive work by a qualified technician to restore the unit to normal operation;
e. When the product has been dropped or the cabinet has been damaged;
f. When the product exhibits a distinct change in performance, indicating a need for service.

Warranty

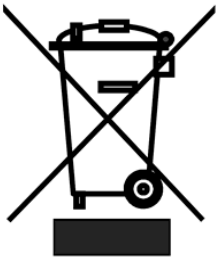
Standard Warranty

- Datavideo equipment are guaranteed against any manufacturing defects for one year from the date of purchase.
- The original purchase invoice or other documentary evidence should be supplied at the time of any request for repair under warranty.
- The product warranty period begins on the purchase date. If the purchase date is unknown, the product warranty period begins on the thirtieth day after shipment from a Datavideo office.
- All non-Datavideo manufactured products (product without Datavideo logo) have only one year warranty from the date of purchase.
- Damage caused by accident, misuse, unauthorized repairs, sand, grit or water is not covered under warranty.
- Viruses and malware infections on the computer systems are not covered under warranty.
- Any errors that are caused by unauthorized third-party software installations, which are not required by our computer systems, are not covered under warranty.
- All mail or transportation costs including insurance are at the expense of the owner.
- All other claims of any nature are not covered.
- All accessories including headphones, cables, and batteries are not covered under warranty.
- Warranty only valid in the country or region of purchase.
- Your statutory rights are not affected.

Three Year Warranty

- All Datavideo products purchased after July 1st, 2017 are qualified for a free two years extension to the standard warranty, providing the product is registered with Datavideo within 30 days of purchase.
- Certain parts with limited lifetime expectancy such as LCD panels, DVD drives, Hard Drive, Solid State Drive, SD Card, USB Thumb Drive, Lighting, Camera module, PCIe Card are covered for 1 year.
- The three-year warranty must be registered on Datavideo's official website or with your local Datavideo office or one of its authorized distributors within 30 days of purchase.

Disposal



For EU Customers only - WEEE Marking

This symbol on the product or on its packaging indicates that this product must not be disposed of with your other household waste. Instead, it is your responsibility to dispose of your waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

CE Marking is the symbol as shown on the left of this page. The letters "**CE**" are the abbreviation of French phrase "Conformité Européene" which literally means "European Conformity". The term initially used was "EC Mark" and it was officially replaced by "CE Marking" in the Directive 93/68/EEC in 1993. "CE Marking" is now used in all EU official documents.

Caution

Risk of explosion if battery is replaced by an incorrect type. Dispose of Used batteries according to the instructions.

Chapter 1 Product Overview

The HDR-1 is a standalone HD Recorder box which allows you to record and playback HD video without using any PC. The box is equipped with one HDMI Input and one HDMI Output with the video recorded in MP4 (H.264+AAC) file format.

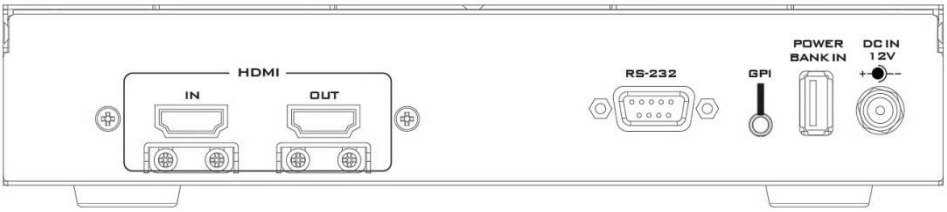
One major advantage of the HDR-1 is its ability to use it independently of a PC by simply connecting it to an HDMI video source. The HDR-1 records from a range of devices, including HDMI digital camcorder and camera, IP cam, game console, PC Game (720p recommended) and etc. It definitely makes video recording and viewing easier.

1.1 Features

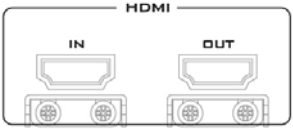
- Capture HD Video Up to 1080p30
- Instant & Timer Recording
- Video Pass Through Support
  - 480i/480P/576i/576P
  - 720P@50/60, 1080i@50/60
  - 1080P@50/60/24
- 1080P 30 frame recorder (Recording quality up to 1080p/30fps (Playback on TV show 1080i/60fps))
- Supported playback and record file formats：MP4 (H.264+AAC)
- Support GPI and RS-232 control
- USB Port for external power input from external Power Bank
- Support 3D video Recorder (Top-and-bottom, Side-by-side Half)
- Support 3D Pass through (BD 3D H.264-MVC 3D structures supported, Top-and-bottom, Side-by-side)
- Storage device auto detect & setup
- Recorder Bit rate: 3~20Mbps depend on resolution
- Record video to USB flash drive with NTFS file format
- Built-in video Editor
- Time zone & Date-time selection
- HDMI 1.4b Compatibility

Chapter 2 Connections and Controls

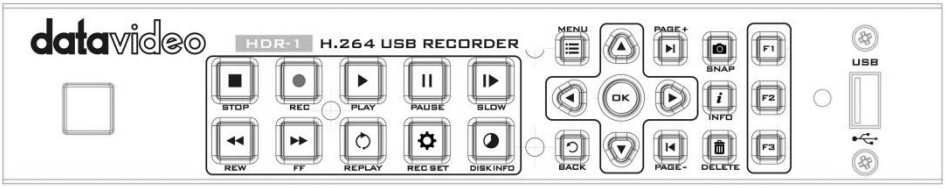
2.1 Rear Panel



	DC IN DC in socket connects the supplied 12V / 6W PSU. The connection can be secured by screwing the outer fastening ring of the DC In plug to the socket.
	Power Bank IN Connect an external portable USB power supply to **POWER BANK IN** port. The connected external portable USB power supply will start to provide power to the HDR-1 when the DC power supply fails. The HDR-1 with the USB thumb drive plugged in requires approximately 1000mA of current. Ideally, if the power bank capacity is 1000mAh, it should be able to last for 1 hour when the DC power is disconnected from the HDR-1. However, some of the charge is lost in the transfer of power so the real capacity is less than the listed capacity and the power bank should last less than an hour. When connecting the DC power and the power bank at the same time, the Power Bank IN port will drain the power bank at a rate of 100mAh. Ideally, if the power bank capacity is 1000mAh, the power bank should be able to sustain the device operation for 10 hours. However, some of the charge is lost in the transfer of power so the real capacity is less than the listed capacity and the power bank should last less than 10 hours.

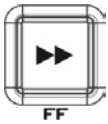
	Warning: The power bank is mainly used for emergency power supply and sustains the device operation in the event of unexpected DC power loss. The power bank, however, is not used for powering the HDR-1 recording. Hence, when the DC power is disconnected, the power button LED will then start flashing red and as the flashing gets faster, it means the Power Bank IN port starts to drain your power bank at a faster rate. You should either try to reconnect the DC power or stop recording to avoid file corruption before the power is cut unexpectedly. **Note**: Files will be corrupted if recording is interrupted due to unexpected power outage.
	GPI Input GPI input accepts external control signal to trigger Start/Stop recording. **Note:** Please use Pulse Trigger only.
	RS-232 Communication Port RS-232 communication port accepts external control signal.
	**HDMI Input and Output Port** HDMI digital video input and output port. **Note**: While the recording is in progress, if the HDMI input is disconnected, the recording will stop. After the input is reconnected and restored, the HDR-1 will start to record again, but the audio and video of the content recorded will become out of sync.

2.2 Front Panel



USB	**USB Port** Connects external USB storage device. **Note: it is recommended to use SD card or USB thumb drive.** If recording to a thumb drive, please use a USB 3.0 thumb drive and make sure the thumb drive's write speed is at least 45 MB/s. **Note:** The performance of "thumb drives" varies. Many of these devices are optimized for "read" operations, while the HDR-1 requires sustained "write" capabilities. For best results, especially at higher recording data rates, powered USB drives are recommended. If portable hard disk is used, we recommend hard drives with at least 500G capacity. **Note**: The max. output load of USB port is 5V/0.2A, which is only sufficient to power the "USB thumb drive (0.2A)," so an external power supply or adapter will be required to power the portable hard disk (HDD/SSD) in order to work with the HDR-1. The HDR-1 only supports MBR disk (GPT disk is not supported). Please format your disk to NTFS file system on your PC first and then connect the formatted disk to the HDR-1. We recommend "HP USB Disk Storage Format Tool" which can be downloaded from the link http://download.cnet.com/HP-USB-Disk-Storage-Format-Tool/3000-2094_4-10974082.html. Recommended hard drives are listed as follows: Toshiba V63700-B 750G USB 3.0 I-O DATA HDPC-CUT500S 500G USB3.0 WD WDBBEP0010BBK-01 1T USB3.0 WD WDBY8L0020BBK-01 2T USB3.0 **Note: The HDR-1 does NOT support USB Hubs, FAT format, NAS, and devices with more than 2TB capacity.**

	Power Button Press to power ON the device. **Note**: When the DC power is disconnected while the power bank is connected to the Power Bank IN port, the power button LED will start flashing red. The flashing will get faster, indicating that the Power Bank IN port is draining the power bank at a faster rate. LED will be OFF when the power bank is fully drained out.
	STOP Button Press to stop recording or playback. **Note**: Approximately 10 seconds of video file processing time is required after recording is stopped.
	RECORD Button Press to start video recording; press again to stop video recording.
	PLAY Button Press to start video playback. If the device is in fast forward or rewind mode, press to resume normal speed playback.
	PAUSE Button In record mode, press to pause recording. In playback mode, press to pause playback.
	SLOW PLAY Button Press to play the video in slow mode (1/2x); press again to enter frame-by-frame playback mode.
	REWIND Button Press to rewind at 2x/4x/8x/16x/32x speed.

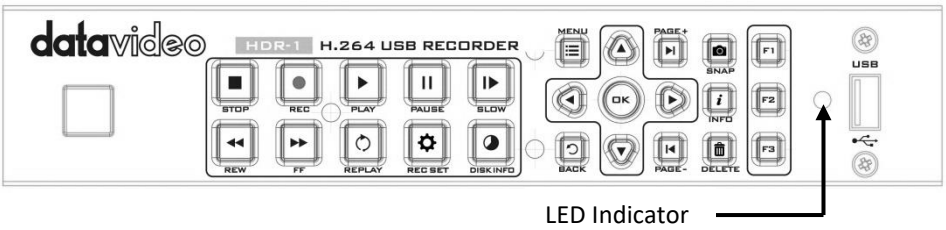
	**FAST FORWARD Button** Press to fast forward at 2x/4x/8x/16x/32x speed.
	REPLAY Button Press to play the latest recorded file or view the last captured image.
	RECORD SETTING Button Press to enter the record setting menu directly.
	DISK INFO Button Press to display the disk information. Press again to hide it.
	Navigation Buttons Press ◀ / ▶ / ▲ / ▼ buttons to move among options; press OK to confirm a selection.
	MENU Button Press to access the main menu. Press again to exit.
	BACK Button Press to exit the current page and return to the previous page, or go back to the video image.
	PAGE FORWARD Button On the video screen and file thumbnail view (OSD Menu), press to go to the next page.

	PAGE BACKWARD Button On the video screen and file thumbnail view (OSD Menu), press to return to the previous page.
	SNAPSHOT Button Press to take a snapshot during gameplay or video playback. Long press to activate continuous capture mode. Five snapshots will be taken at one time. **Note**: Each snapshot should be taken with an interval of 5 seconds otherwise snapshot will fail.
	INFO Button Press to display information. In record standby mode, pressing the **INFO** button will display system information. In playback mode, pressing the **INFO** button will display file playback information.
	F1 Button (FUNCTION 1) On the main page of the **MENU**, press **F1** to safely remove USB disk drive. While in the directory view of the **Media Studio** of the MENU, press **F1** to sort the files by file name, file size, file format and by modified date. Please refer to **Section 4.4 Media Studio** for details. On the **File Name Change** page, press **F1** to switch between characters, numerals and symbols. Please refer to the **Recorded Video Post-Edit** section for details. In the **Video Edit Mode**, press **F1** to switch between Scene Search and Segment Search. Please refer to the **Recorded Video Post-Edit** section for details.

	F2 Button (FUNCTION 2) While in the directory view of the **Media Studio** of the MENU, press **F2** to switch between list mode and thumbnail mode. Please refer to **Section 4.4 Media Studio** for details. In the **Video Edit Mode**, press **F2** to clear all marks made on the video. Please refer to the **Recorded Video Post-Edit** section for details.
	F3 Button (FUNCTION 3) While in the directory view of the **Media Studio** of the MENU, press **F3** to edit or change the selected video. Please refer to the **Recorded Video Post-Edit** section for details. In the **Video Edit Mode**, press **F3** to export the video. Please refer to the **Recorded Video Post-Edit** section for details.
	DELETE Button Press to delete the selected files. On the File Name Change view, press to clear all texts. Please refer to the **Post-Edit** section for file name change procedure.

2.3 LED Indicator

The LED indicator on the front panel shows the device status.



Status	Indication
Powered ON	Flashing green
Ready to record / snapshot	Solid green
Recording	Flashing red in breathing pace
Take a snapshot	Flashes red once
Unable to record /snapshot	Flashes red twice
No source	Flashes red twice
Source is available	Solid green
Power off in progress	Flashing green
Record pause	Solid red
Record finishing in progress	Red flashing rapidly
Lower power	Red and green flashing alternately
Powered off with A/V pass through ON	Solid orange

Chapter 3 OSD Menu

Under the menu, you can check and manage both your recorded files and snapshots, and customize your preferences. Upon pressing the **MENU** button, you will be able to see the main page as depicted in the diagram below. After that, press ◀ / ▶ buttons to select **Settings**. Press **OK** to enter **Settings** option.

Remaining Time for Recording

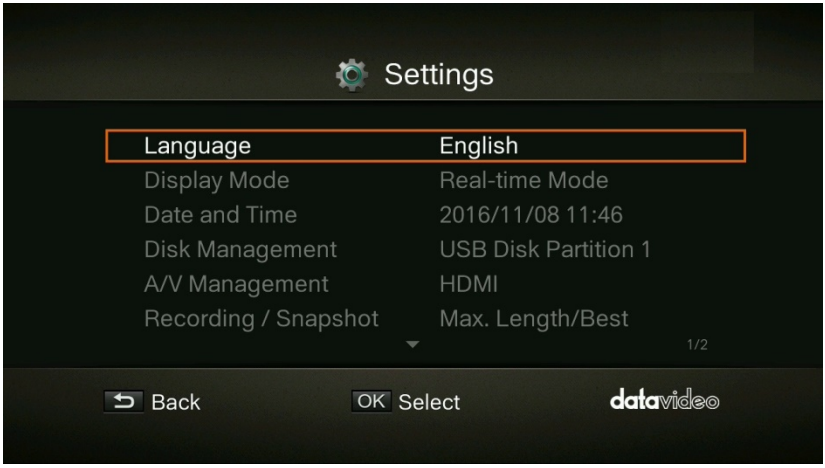
Current Time

Press **BACK** button to return to the video screen

Press **F1** to safely remove the storage device.

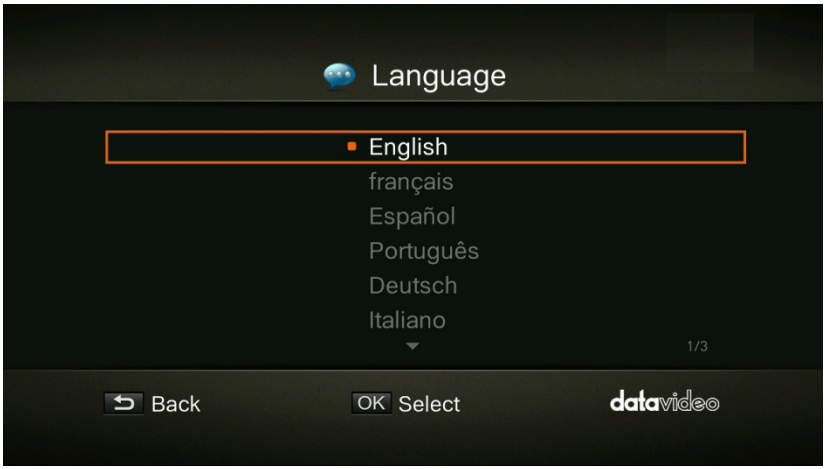
Note: If the thumb drive is not safely removed from the HDR-1, your PC might fail to read files from your thumb drive.

After entering **Settings** menu, you will be able to see the page as shown below. Use ▲ / ▼ buttons to select menu items and press **OK** to enter the selected option. Press **BACK** to return to the previous page.



3.1 Language

Use ▲ / ▼ buttons to select your preferred language. Press **OK** to confirm.



3.2 Display Mode

The default mode is set as real-time mode. Use ▲ / ▼ buttons to switch between real-time and standard mode.

Real-Time Mode

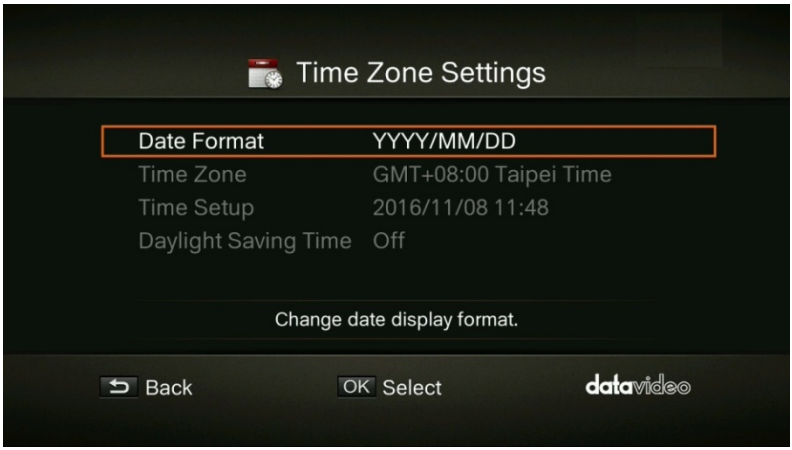
Real-time mode lets you play games with zero delay. No recording or snapshot status will be shown on screen. All capture work will run in the background. However, if any problem occurs during the capturing process, OSD will automatically jumps out. Press the **MENU** button to check OSD and track capture status.

Standard Mode

In standard mode, on-going recordings will be shown in the upper right corner of the screen for approximately five seconds. As there will be slight delay in game, standard mode is recommended for set-top box.

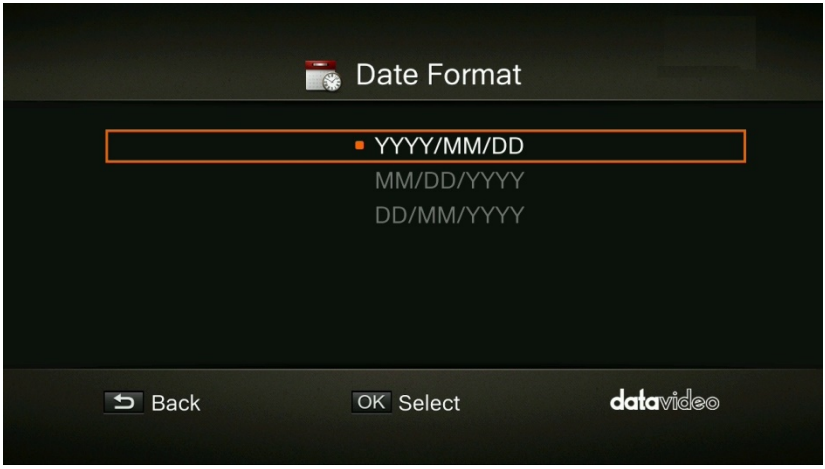
3.3 Date and Time

As shown in the diagram below, once in the **Date and Time** option, use ▲ / ▼ buttons to select an item for configuration. Press **OK** to confirm.



Date Format

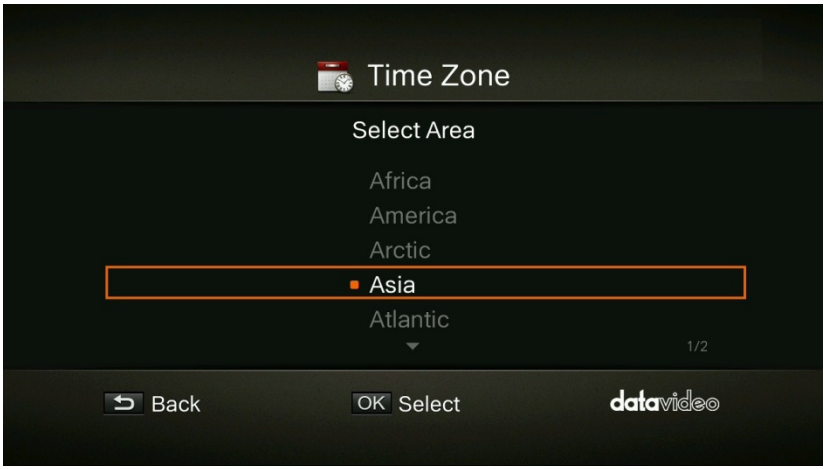
Use ▲ / ▼ buttons to select a preferred date format. Press **OK** to confirm.



Time Zone

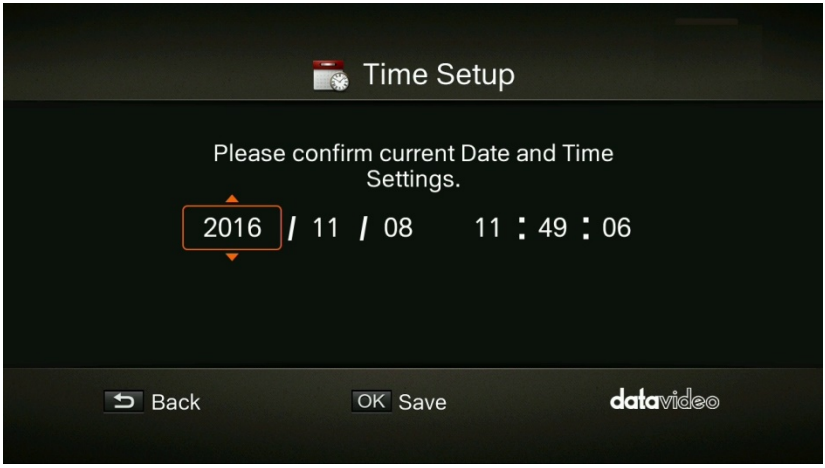
Use ▲ / ▼ buttons to move among options and select your area. Press **OK** to confirm.

Use ▲ / ▼ buttons to move among options and select your time zone. Press **OK** to confirm.



Time Setup

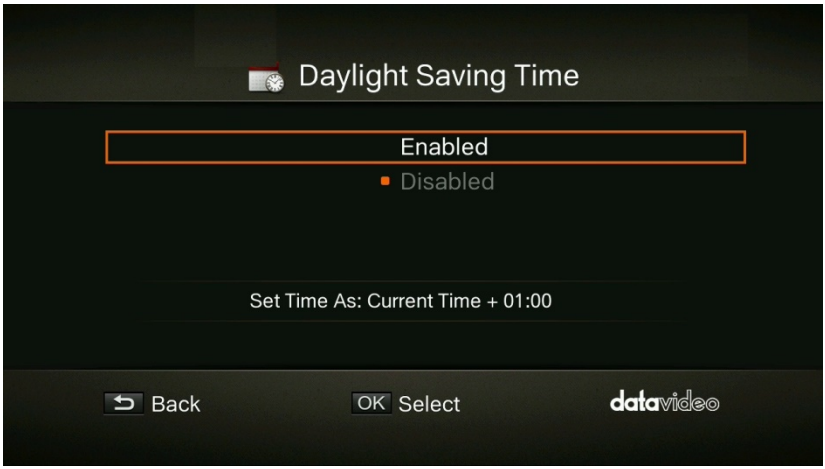
Use ◀ / ▶ buttons to move among options and ▲ / ▼ buttons to adjust date and time. Press **OK** to confirm.



Daylight Saving Time

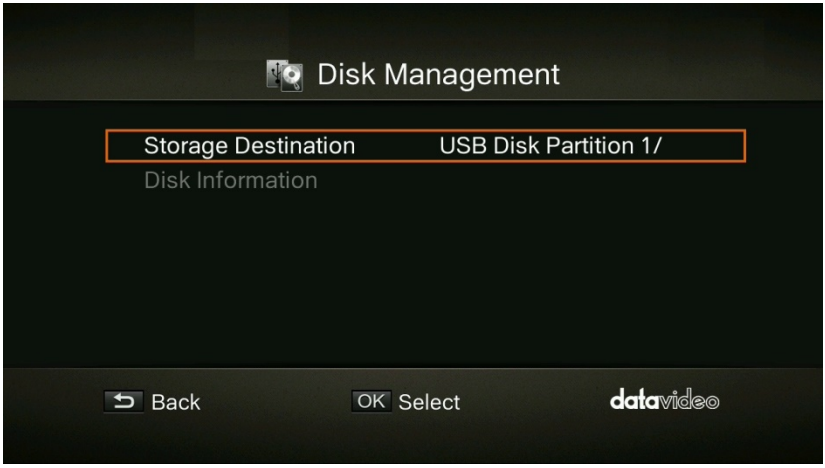
Use ▲ / ▼ buttons to enable/disable Daylight Saving Time. Press **OK** to confirm.

Note: To use this function, a network connection is required.



3.4 Disk Management

Step 1: Use ▲ / ▼ buttons to select **Storage Destination** and press OK to change your current desired default storage device for both recorded files and snapshots.



indicates normal write speed of selected partition.

indicates low write speed of selected partition.

To Make sure recording functions properly, be sure to select partition with normal write speed.

Step 2: Use ▲ / ▼ buttons to select the preferred default storage device and press **OK** to confirm.

Step 3: Use ▲ / ▼ buttons to select a folder and press **OK** to confirm.

Step 4: Press **F1** to save the setting.

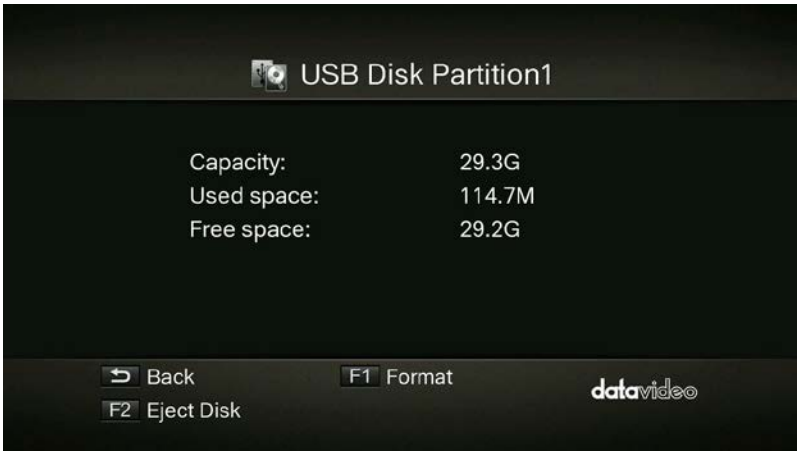
USB Disk Formatting

After entering **Settings** menu, you will be able to see the page as shown below. Use ▲ / ▼ buttons to select **Disk Management** and press **OK** to enter the highlighted option. Press **BACK** to return to the previous page.

Step 1: Use ▲ / ▼ buttons to select **Disk Information** and press OK to enter.

Step 2: Use ▲ / ▼ buttons to select **USB Disk Partition1** and press OK to enter.

Step 3: As shown in the diagram below, you will be able to view the USB Disk Partition 1 information and press **F1** to start formatting the disk.



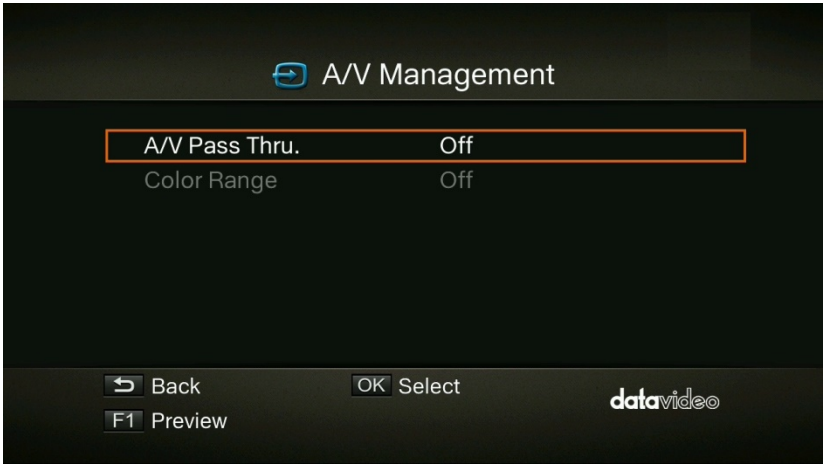
Step 4: You will be warned that all data on the disk will be erased after formatting. Press **OK** if you are sure to continue.

Step 5: Do not disconnect the power or remove the USB storage device as the disk is being formatted.

Step 6: The disk formatting is complete when you see the prompt as illustrated in the diagram below. Press **OK** to confirm.

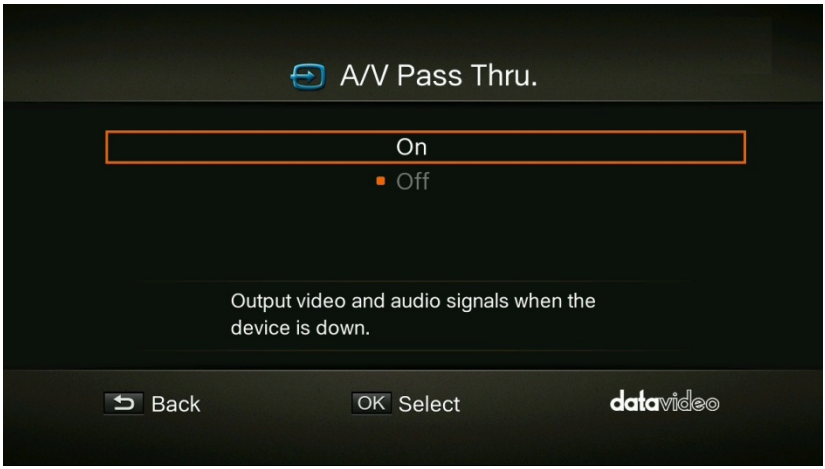
3.5 A/V Management

Use ▲ / ▼ buttons to move among options. Press **OK** to confirm.



A/V Pass Through

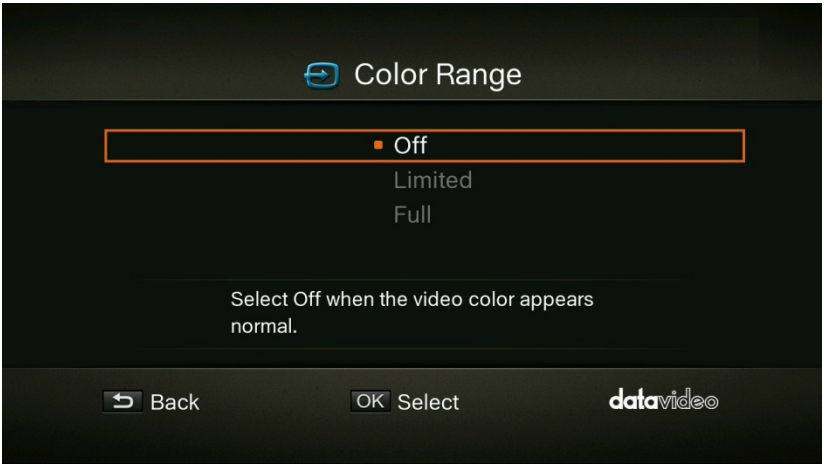
Use ▲ / ▼ buttons to enable/disable A/V Pass Through. Press **OK** to confirm.



Note: The default setting is Off to comply to the power-saving regulation. If this function is enabled, the *HDR-1* still outputs signal when the *HDR-1* is off. If this function is disabled, the *HDR-1* does not output signal when the *HDR-1* is off.

Color Range

Use ▲ / ▼ buttons to toggle between off, limited and full. Press **OK** to confirm.

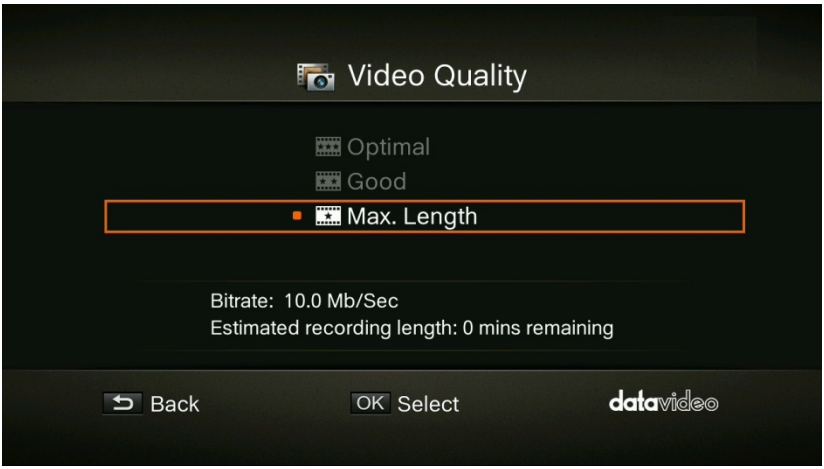


3.6 Recording / Snapshot

Video Quality

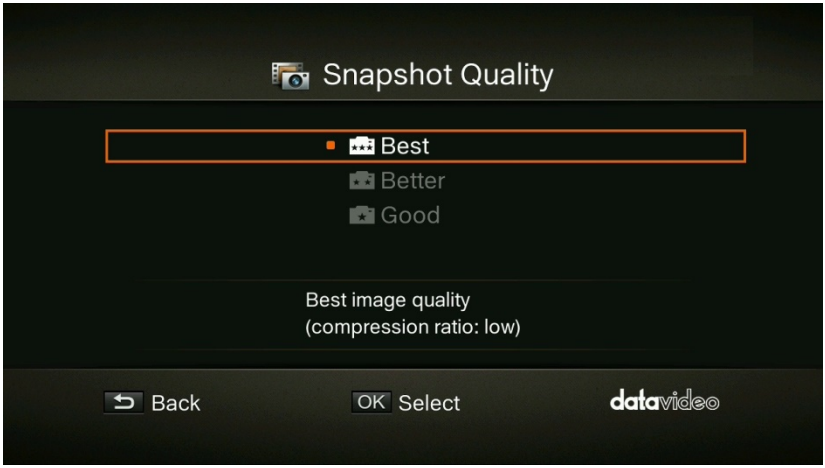
Use ▲ / ▼ buttons to toggle among various video quality options (Optimal / Good / Maximum recording length). Press **OK** to confirm.

Note: In order to ensure that there is sufficient storage space on the external storage, the HDR-1 provides a record protection mechanism that stops recording automatically when the disk space is only 1GB left. The record protection is to prevent possible disk storage shortage when the video format is changed to HD. Please refer to Appendix 3 for details of the Record Protection.



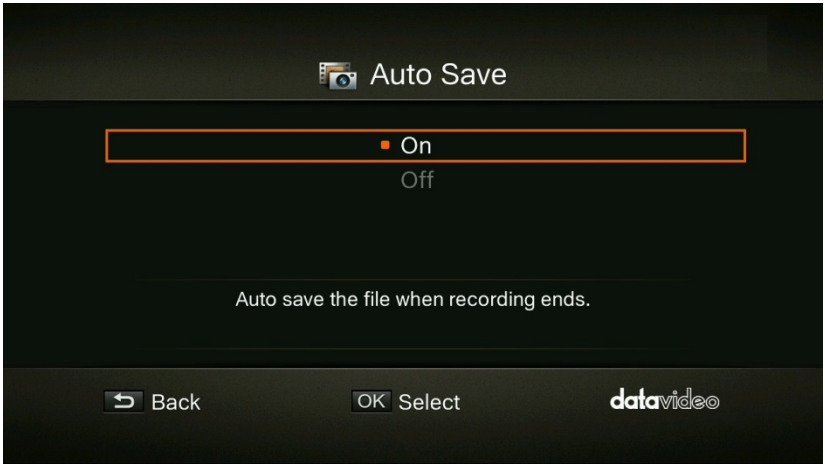
Snapshot Quality

Use ▲ / ▼ buttons to toggle among various snapshot quality options (Best / Better / Good). Press **OK** to confirm.



Auto Save

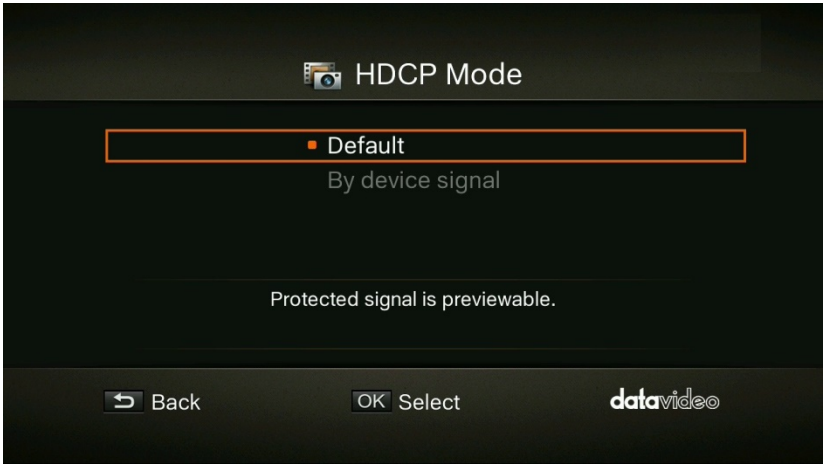
Use ▲ / ▼ buttons to switch between Auto Save function ON/OFF.



HDCP Mode

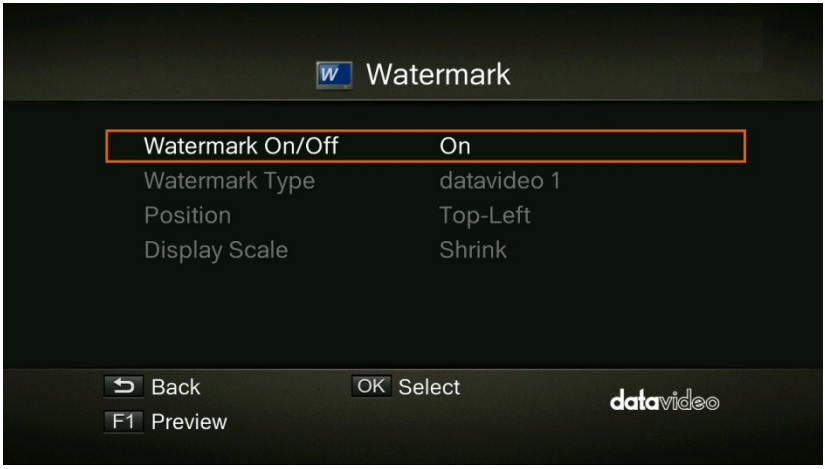
Use ▲ / ▼ buttons to select Default option (HDCP Mode ON) or By Device Signal (HDCP Mode OFF).

Note: If video source is HDCP-protected, images will NOT be shown properly.



3.7 Watermark

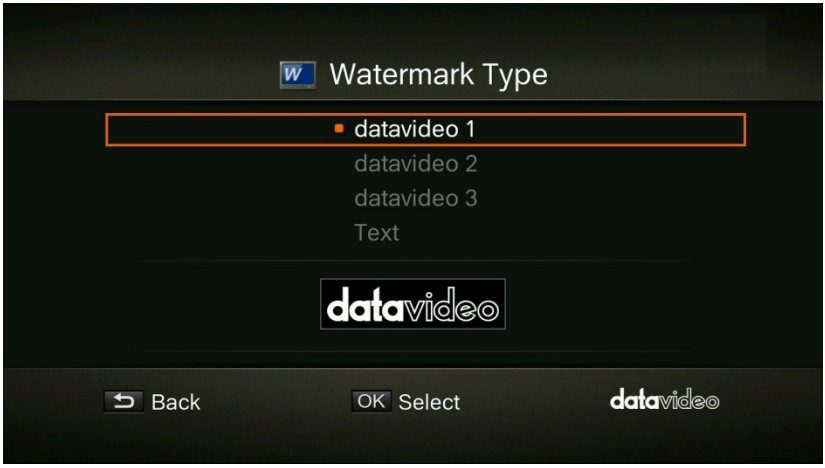
Add your selected watermark to your videos. You can customize the display of the watermark by setting up the type, position and also scale.



- Press **BACK** button to go back to the previous level.
- Press **OK** to enter the next level.
- Press **F1** to preview the watermark.

Watermark Type

Use ▲ / ▼ buttons to select from the listed watermark types. Press **OK** to confirm the selection. Press **BACK** button to return to the previous page.

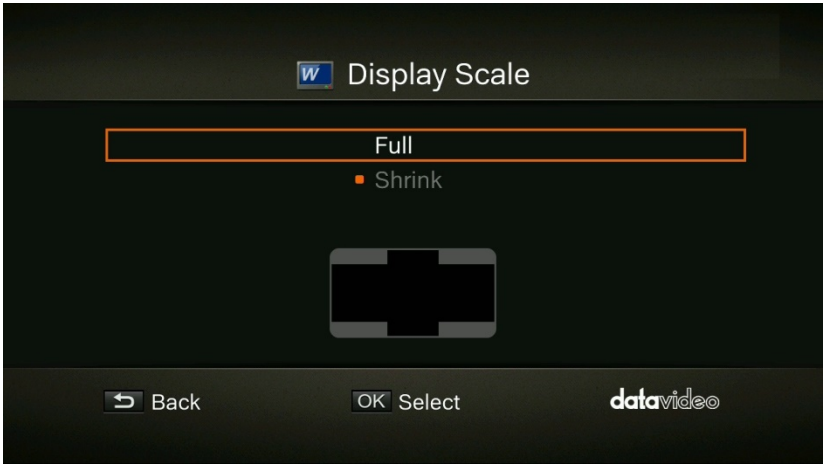


Position

Use ▲ / ▼ buttons to select from the listed watermark positions. Press **OK** to save the change. Press the **BACK** button to return to the previous page.

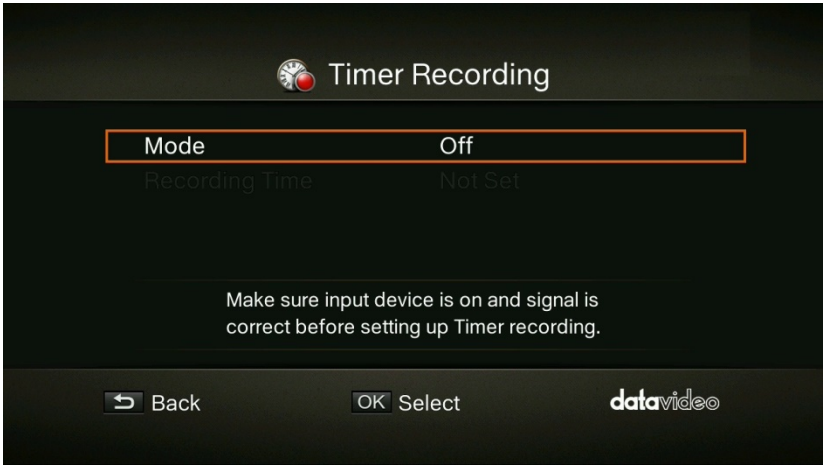
Display Scale

Use ▲ / ▼ buttons to select the display scale. You can either select **Full** or **Shrink**. Press OK to save the change. Press the **BACK** button to return to the previous page.



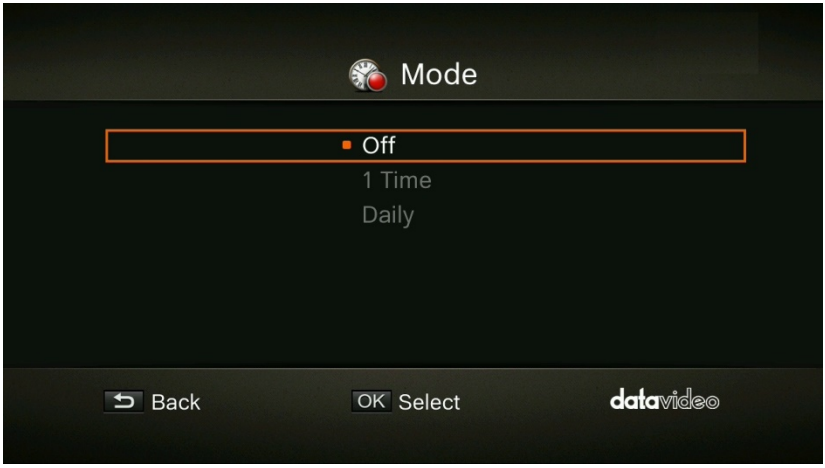
3.8 Timer Recording

Allows you to schedule the *HDR-1* to start recording at a particular time and record only a certain length of time.



Mode

Use ▲ / ▼ buttons to select from the listed recording type. Press **OK** to confirm the selection. The options are **Off** (timer recording OFF), **1 Time** (timer recording once) and **Daily** (repeat timer recording everyday).



Recording Time

Use ◀ / ▶ buttons to move among options and ▲ / ▼ buttons to adjust start time and recording length. Press **OK** to save changes. Press **BACK** button to return to the previous page.

3.9 Firmware Upgrade

Follow the steps below to upgrade the firmware via USB storage device.

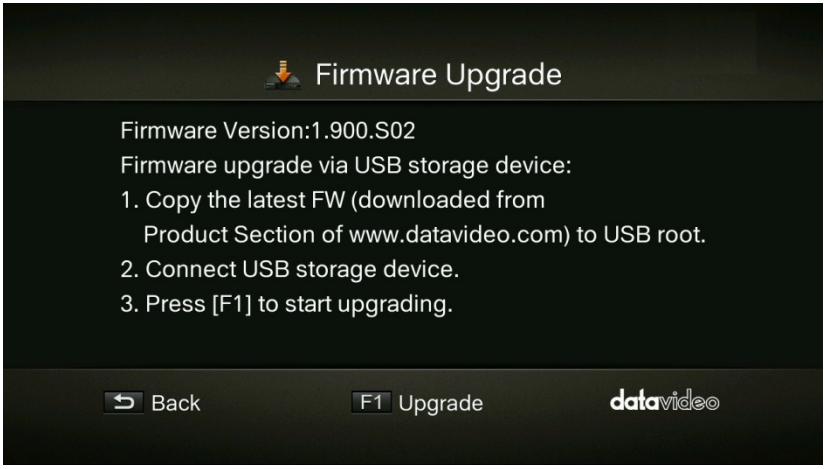
Step 1: Please visit the Datavideo official website www.datavideo.com to download the latest version of firmware. Firmware file is usually available on the product page.

Step 2: Extract the files by unzipping the package. Copy the firmware files to the root directory of your USB storage device, and then connect it to the *HDR-1*.

Step 3: Press **F1** to start the firmware upgrade process. Press the **BACK** button to abort the operation and return to the previous page.

Step 4: Once the firmware upgrade process has completed, press **OK** to restart the *HDR-1*.

Note: The *HDR-1* automatically detects whether a different version of firmware is available for upgrade or rollback.

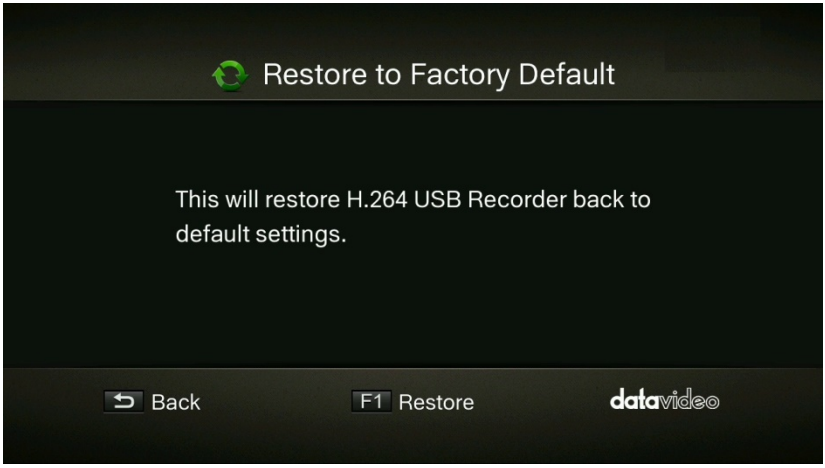


A few things to note before the upgrade:

- The firmware upgrade process takes approximately 10-14 minutes to complete.
- Firmware upgrade requires at least 256MB free space on the USB 3.0 flash drive.
- If any problems are encountered during the firmware upgrade, please clear all the data stored on your USB storage device and repeat the above procedure.
- NEVER power off the device or unplug the power supply or remove the USB storage device during the firmware upgrade process. If the firmware upgrade is interrupted for any reason, the device may crash.

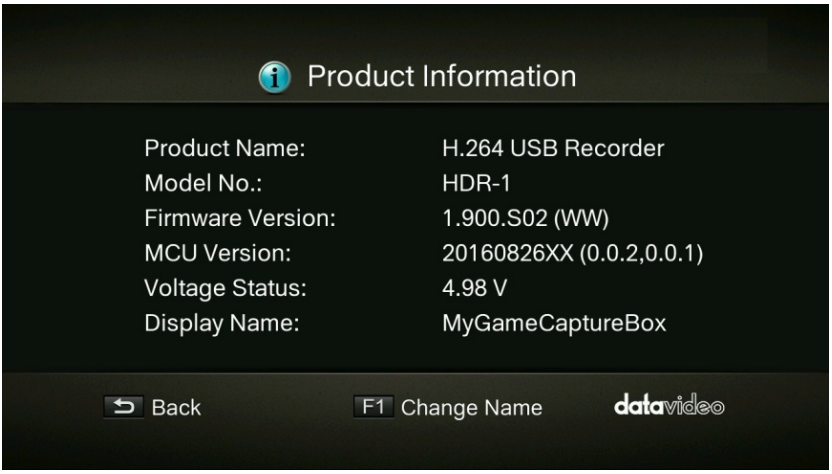
3.10 Restore to Factory Default

Press **F1** to restore default factory settings. Press the **BACK** button to abort the operation.



3.11 Product Information

This page provides product information, including product name, model number and firmware version. Press **F1** to edit the displayed name.



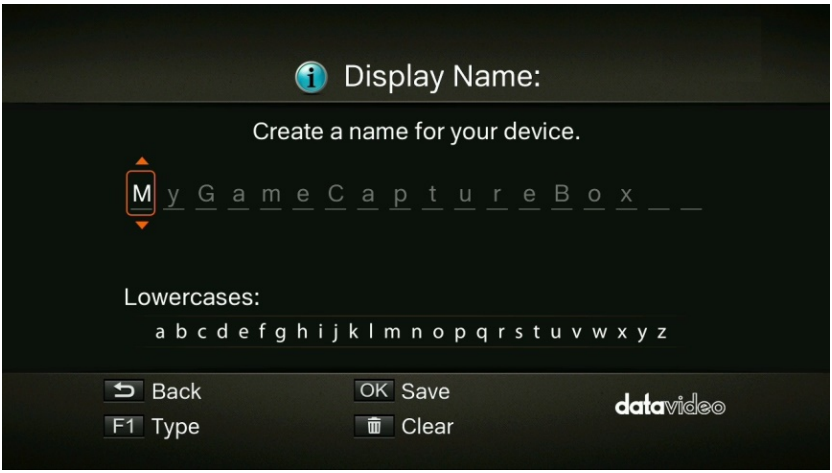
Name your own HDR-1

Press ▲ / ▼ buttons to select characters. Press ◀ / ▶ buttons to move between character fields. Press **F1** to switch between different input modes (capital letter, small letter and symbols). Press **DELETE** button to delete the character.

After confirming the name entered, press **OK** to save the change.

To change the product name, go to **Menu** → **Product Name**.

The display name will show up when you enable watermark function (When a specific type of watermark is selected).



Chapter 4 Basic Operation

This chapter guides you to record video, capture images and instantly play files.

4.1 Record

The HDR-1 displays video in real-time and standard modes. If you prefer to display record status at the top right corner of the screen, you can change the default real-time mode to the standard mode before recording. Go to Menu → Settings → Display Mode (refer to section 3.2 for details).

Instant Recording

Press to activate instant recording. Press again or to stop recording.

Pause and Resume Recording

You can skip unwanted footages and resume recording. Only the footages you recorded will be saved and those skipped clips will be deleted automatically.

Press to pause recording. Press again or to continue recording.

4.2 Capture

Image capture function on the HDR-1 is described as follows.

Quick Snapshot

Press to capture current image. Long press to activate continuous capture mode. The HDR-1 will take 5 snapshots at one time.

4.3 Instant Playback

Press to play the latest recorded file or view the last captured image.

Press to stop the playback. Press ▶ to skip forward 30 seconds. Press ◀ to skip backward 10 seconds.

Image Capture during Video Playback

You can activate screen snapshot during video playback. The three methods described below will guide you how you can use this function.

Method 1:

- Press to capture current image.

Method 2:

- Press SLOW to play the video in slow motion (1/2x). Press SLOW again to view the video frame by frame.
- Press to capture your desired image.

Method 3:

- Press to pause the playback.
- Press PAGE- to go to previous frames.
- Press PAGE+ to go to next frames.
- Press to capture your desired image.

4.4 Media Studio

You can check both recordings and snapshots captured by the HDR-1 in “Media Studio”.

Video: MP4 (Codec: H.264 format with AAC audio)
Image: JPEG

Press OK to enter Media Studio as shown below. Use the navigation buttons ◀ / ▶ / ▲ / ▼ to select among items.

- Press F1 to sort the files by file name, file size, file format and by modified date.
- Press F2 to switch between list mode and thumbnail mode.
- Press PAGE+ to go to the next page. Press PAGE- to return to the previous page.
- Press MENU to directly access the main menu.

- **Video Playback**
  - Press ▶ or OK to start playing the selected video.
  - Press ⏸ or OK to pause the playback. Press ▶ or OK to resume playback.
  - Press SLOW to play the video in slow motion (1/2X).
  - Press REW to rewind at 2X, 4X, 8X, 16X and 32X speed.
  - Press FF to fast forward at 2X, 4X, 8X, 16X and 32X speed.
  - Press ▶ to play the file at normal speed (1X) when slow motion, rewind, or fast forward is active. Press STOP ■ to stop the playback.
  - Press INFO to display the file playback information.

  Note: Only video files captured by the HDR-1 are supported.

- **Snapshots Viewing**
  - Press ▶ or **OK** to view the selected image.
  - Press STOP ■ or BACK ↩ to return.

  Note: Only image files captured by the HDR-1 are supported.

Recorded Video Post-Edit

This section shows you how to cut and recombine video recorded by the HDR-1.

- **Select a Video**

Use the navigation buttons ◀ / ▶ / ▲ / ▼ to select the file you would like to edit.

- **Change File Name / Edit**

Press F3 to edit or change the selected video.

- **Change File Name**

  Input the file name by pressing ▲ / ▼ buttons to select characters, numerals or symbols. Press ◀ / ▶ buttons to move between character fields.

  Press **F1** to switch between different input modes (capital letter, small letter and symbols).

  Press BACK to go back to cancel the change you make.

  Press **OK** to save the name change.

  Press DELETE button to clear all texts.

- **How to edit**

An instruction on how to edit a video will be displayed, press **OK** to start editing.

In **Edit Mode**, you can cut and recombine your selected video. To cut the video, you will need to create one or more segments within the video.

Step 1

To locate a scene, use the navigation buttons ◀ / ▶ / ▲ / ▼ or ▶ to search the scene. You can also use ▲ / ▼ on the left of the screen to search the scene by specific hour, minute, and second.

Press **OK** to mark or unmark the scene.

Step 2

Repeat Step 1 to create a segment.
Press **OK** to keep or delete the segment.
Press **F1** to switch between search scene and segment search.
Press **F2** to clear all marks you made on the video.
Press **F3** to export the video.

Note: The HDR-1 automatically recombines the segments you choose to keep during editing.

Recorded Video Export

After editing of the recorded video is complete, press **F3** to export the video. The estimated export time varies by different storage disks. Calculate your export time based on the actual disk size.

Press **OK** to export the video.

Press BACK ↩ to continue editing.

While the export is in progress, the bar in the middle of the prompt window shows the progress of the video export and the estimated complete time required.

Press BACK to cancel video export.

Press **F1** to hide the export information.

After the recorded video is successfully exported, press **OK** to exit the **Edit Mode**. Press BACK to exit or **F1** to continue editing.

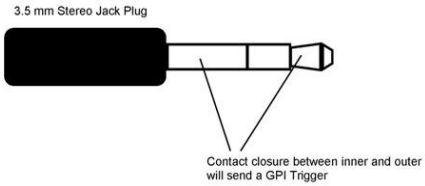
Export Complete
Press [OK] to close the window or press
[F1] to continue editing file.
140306-1343(Edit-2)
100%
OK Close
F1 Edit
datavideo

Chapter 5 Appendices

Appendix 1 GPI Input

The HDR-1 can be connected to external control devices (SE-700 or SE-1200 MU) via a simple contact closure GPI switch.

The GPI interface is a 3.5mm Jack Socket which is situated on the rear panel of the HDR-1. Contact closure between the Outer and Inner contacts on the jack plug will trigger a user selected event.



SAFETY FIRST The cabling required needs to be designed specifically to connect the HDR-1 to the chosen external control devices as they are not all the same. The cabling required can be made by yourself or a competent technician. Please speak with your Dealer or local Datavideo office to get further help and advice.

Appendix 2 RS-232 Command Set

Communication format:

Mode: no synchronization

Character Length:

Data Rate: 38400 BAUD

Parity: Odd parity

Command Format:

CMD1, CMD2, DATA bytes, Checksum

Summary List of Commands:

Command	Name	Response	Response data
00h, 11h, 11h	Device Type Request	12h, 11h, 00h, 00h, 23h	
20h, 00h, 20h	Stop	10h, 01h, 11h	ACK
20h, 01h, 21h	Play	10h, 01h, 11h	ACK
20h, 02h, 22h	Record	10h, 01h, 11h	ACK
20h, 10h, 30h	Fast Forward	10h, 01h, 11h	ACK
20h, 20h, 40h	Fast Rewind	10h, 01h, 11h	ACK
21h, 11h, 00h, 32h	Pause	10h, 01h, 11h	ACK

Appendix 3 Record Protection

In order to ensure that there is sufficient storage space on the external storage, the HDR-1 provides a record protection mechanism that stops recording automatically when the disk space is only 1GB left. The record protection is to prevent issues caused by possible disk storage shortage when the video format is changed to HD.

The HDR-1 approximates the remaining recording time of the external storage based on the available space detected. Nevertheless, the actual recording time will be shorter than the estimated recording time due to the 1 GB buffer record protection. The tables below give information about the ideal (estimated) recording time and the actual recording time of different recording qualities and video formats on a 32 GB USB flash drive.

HDR-1 Estimated Recording Time Available								
Recording Quality (Mbps)	20	18	15	12	10	7.5	5	3
Video Format	**Estimated Recording Time(min.)**							
1080P	203	225	270	N/A	N/A	N/A	N/A	N/A
720P	203	N/A	270	N/A	404	N/A	N/A	N/A
1080i	N/A	N/A	270	337	404	N/A	N/A	N/A
SD	N/A	N/A	N/A	N/A	N/A	537	798	1309

HDR-1 Actual Recording Time (With the 1 GB buffer record protection)								
Recording Quality (Mbps)	20	18	15	12	10	7.5	5	3
Video Format	**Estimated Recording Time(min.)**							
1080P	195	225	267	N/A	N/A	N/A	N/A	N/A
720P	195	N/A	267	N/A	399	N/A	N/A	N/A
1080i	N/A	N/A	267	333	399	N/A	N/A	N/A
SD	N/A	N/A	N/A	N/A	N/A	539	785	1263

Appendix 4 Firmware Update

Datavideo usually releases new firmware containing new features or reported bug fixes from time to time. Customers can either download the HDR-1 firmware as they wish or contact their local dealer or reseller for assistance.

This section outlines the firmware upgrade process which should take ***approximately 10 minutes to complete***.

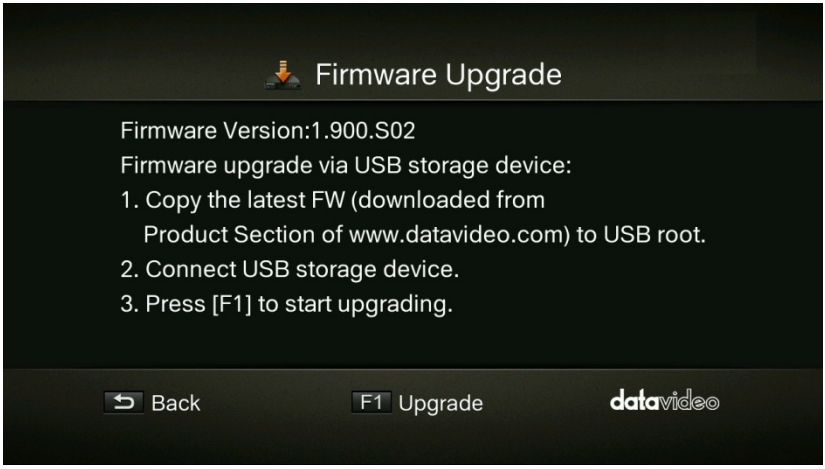
The existing HDR-1 settings should persist through the *firmware upgrade process, which should not be interrupted once started* as this could result in a non-responsive unit.

HDR-1 Firmware Update Procedure

Step 1: Please visit the Datavideo official website www.datavideo.com to download the latest version of firmware. Firmware file is usually available on the product page.

Step 2: Extract the files by unzipping the package. Copy the firmware files to the root directory of your USB storage device, and then connect it to the *HDR-1*.

Step 3: Enter the "**Firmware Upgrade"** option, and press F1 to start the firmware upgrade process. Press the BACK button to abort the operation and return to the previous page.



Step 4: Once the firmware upgrade process has completed, press OK to restart the *HDR-1*.

Appendix 5 Frequently-Asked Questions

This section describes problems that you may encounter while using HDR-1. If you have any questions, please refer to related sections and follow all suggested solutions. If problem still exists, please contact your distributor or the service center.

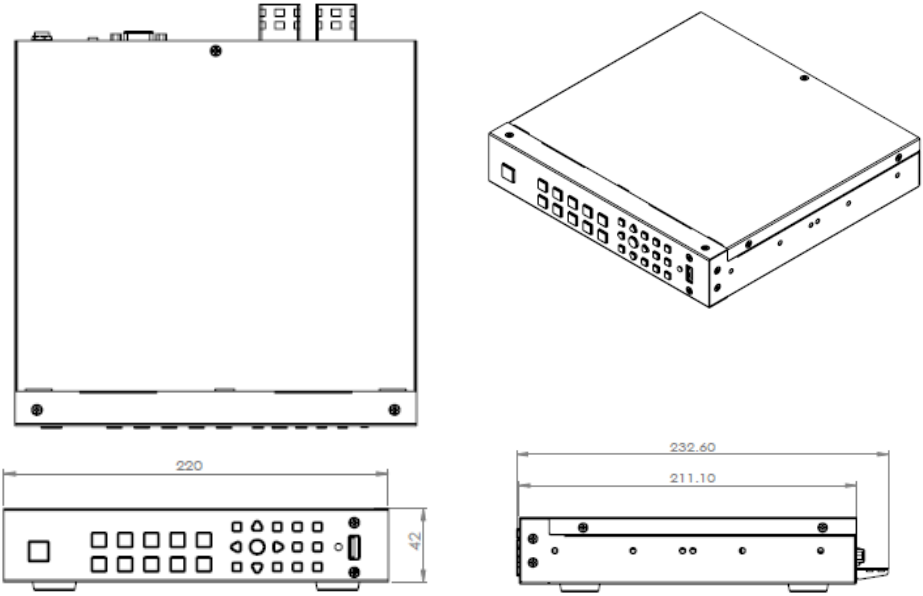
No.	Problems	Solutions
1	Why can't HDR-1 record normally after the USB thumb drive is plugged into the HDR-1?	The HDR-1 only supports NTFS format, so please format your USB thumb drive to NTFS before use.
2	I have formatted my disk to NTFS format but still getting error prompt (Make sure the NTFS disk driver has been correctly installed) when connected to the HR-1. How can I solve this kind of problem?	Please first check if your disk is encrypted. Please note, since the HDR-1 only supports MBR and the encrypted disk uses GPT (GUID Partition Table), the only solution to this problem is to reformat your disk to an MBR disk.
3	When the HDR-1 records to different USB thumb drives, sometimes the write will fail and the recording will be interrupted.	The performance of "thumb drives" varies. Many of these devices are optimized for "read" operations, while the HDR-1 requires sustained "write" capabilities. For best results, please use a USB 3.0 thumb drive with a write speed faster than 45 MB/s.
4	My portable hard disk is not powered after connected to the USB port on the front panel of the HDR-1.	The DC power of the HDR-1 is sufficient to power one "USB thumb drive" only, thus you need an external power supply to power the portable hard disk (HDD/SSD) to work with the HDR-1.
5	What can I do when the HDR-1 cannot detect the storage device?	1. Please reinstall the device driver. If there are too many files saved on the disk, the HDR-1 might need a longer time to detect the disk. 2. Please reformat the disk to NTFS on your PC and then reconnect the NTFS disk to the HDR-1. We recommend using the "HP USB Disk Storage Format Tool" to do the formatting. Please download the tool from the link below. http://download.cnet.com/HP-USB-Disk-Storage-Format-Tool/3000-2094_4-10974082.html

6	Why is the HDR-1 still displaying remaining capacity of 9XX MB even after the 32G thumb drive is full?	This is because the recording format is VBR and approximately 1GB of space must be reserved as the recording buffer so this is normal.
7	After the 32GB thumb drive is full, you will be prompted that the recommended edit time is 6 minutes upon file editing. However, in fact, the file cannot be edited.	This is because the post-edit function requires some free space to function, thus it is normal that you cannot use the post-edit function after the thumb drive is full. The 6-minute recommended edit time is the estimated time required for post-editing. The length of recommended edit time is related to the size of the recorded file, and the bigger the file, the longer the recommended edit time.
8	What can the customer do if he cannot find a thumb drive that meets the recommended spec?	The customer can buy a purely SD card reader that also reads a Class 10 SD card.
9	Will I see any power issue when I use a removable hard disk?	Yes! This is because removable hard disks made by different manufacturers have different power consumptions and also, the cables provided by those manufacturers are different, there will thus be power issues.
10	If the customer happens to need a thumb drive, what are the recommended specifications?	We recommend getting a thumb drive with a write speed of 45 MB/sec or above. Technical Descriptions 1. The HDR-1 requires a sustaining write speed of 10 MB/sec and most of the off-the-shelf thumb drives are either not labelled of the write speed or only labelled with the read speed. 2. The HDR-1 only requires the thumb drive to have a write speed of 10 MB/sec but why does Datavideo recommend a thumb drive with a write speed of 45 MB/sec? This is because even the thumb drive is labelled with the write speed but it

		usually refers to the maximum write speed and not the minimum write speed. We have found that the current off-the-shelf thumb drives need to have at least a write speed of 45 MB/sec to be able to work with the HDR-1. 3. Why do you recommend the SD card reader when thumb drive is not available? This is because the Class 10 label on the SD card represents the minimum write speed so if you are unable to find a thumb drive that meets the requirements, please use the SD card reader with the SD card as another alternative.
11	Why the recorded file resolution is only 1080p30 when my input video resolution is 1080p60?	The HDR-1 supports 1080p60 input resolution but the HDMI output only supports 1080i, thus the recorded file resolution is only 1080p30.
12	What is the HDR-1's longest and shortest record time?	The longest recording time is 14 hours and recording will stop once the longest recording time is reached. The user will receive a prompt message. The shortest recording time is 6 seconds during which the record button will be deactivated.
13	The video display disappears after the PS4 HDCP is disabled.	Please unplug the HDMI cable and then plug back in, the video display will reappear.
14	Does the HDR-1 support imported video or photos for replay?	The HDR-1 can only edit and play the file that is recorded by the HDR-1 itself. Importing other files may cause errors.
15	Does the HDR-1 support PS3, XBOX Dolby 5.1 and 24p video format?	No, the HDR-1 cannot record 5.1 Dolby or 24p video format. Please set the audio to auto on the play station's setting menu screen in order to output the correct audio format (PCM Stereo). However, you may use Dolby 5.1 or 24p video format when the HDR-1 is OFF and works as a pass through device.

16	Why is recording interrupted?	This means that the HDR-1 has detected that the write performance of your storage device is extremely poor, which is the direct cause of interrupted recording. Hence we recommend an NTFS hard disk replacement.
17	Why does the record LED start to flash rapidly during recording?	When the record LED starts to flash rapidly, it means your storage device will be used up very soon. Recording could stop in a few minutes after the storage space is depleted. Please find a new hard disk replacement before recording stops.
18	Why is the audio and video of the recorded content out-of-sync?	While the recording is in progress, if the HDMI input is disconnected, the recording will stop. After the input is reconnected and restored, the HDR-1 will start to record again, but the audio and video of the content recorded will become out of sync.
19	The HDR-1 fails to record when the source contains multiple audio channels.	The HDR-1 currently supports dual audio channel recording only and will fail to record if multiple audio channels such as Dolby, DTS and etc are detected.
20	Can the HDR-1 record 5.1 channels of high-quality audio?	The HDR-1 can only record two audio channels so if the signal source is of multiple audio channels, the HDR-1 still records two audio channels only.
21	Why can't the system detect the firmware during the upgrade process?	Please check if the firmware file is still on the thumb drive. This is because if the HDR-1 detects that the thumb drive is not safely removed on the PC, the system will display a repair message and the firmware file will be removed (previously recorded file will NOT be deleted) after the thumb drive is repaired.

Appendix 6 Dimensions



All measurements in millimeters (mm)

Appendix 7 Specifications

Interfaces		
Video Input	HDMI Type A x 1	
Video Output	HDMI Type A x 1	
DC IN	DC Jack	
Storage	USB Port x 1 (Female Type A / USB 2.0 Compliant)	
Power Bank IN	USB Port x 1 (Female type A)	
Control	RS-232 / GPI (Pulse Trigger: Record Start / Stop)	
Coding Spec		
Container	MP4	H.264 + AAC
Profile	Main/High Profile	480i60 Main profile Level 4.1 480p60 Main profile Level 4.1 576i50 Main profile Level 4.1 576p50 Main profile Level 4.1 720p50 Main profile Level 5.0 720p60 Main profile Level 5.0 1080i50 High profile Level 4.1 1080i60 High profile Level 4.1 1080p50 High profile Level 5.0 1080p60 High profile Level 5.0
Video Coding	H.264 4:2:0	HD: 1080P 20Mbps/18Mbps/15Mbps HD: 720P 20Mbps/15Mbps.10Mbps HD: 1080i 15Mbps/12Mbps/10Mbps SD: 576P/480P/576i/480i 7.5Mbps/5Mbps/3Mbps
Audio Coding	AAC	Stereo 16 bit 48KHz 128Kbps
USB Storage Device Condition		
File System	NTFS	
Storage Speed	Minimum write speed > 45 MBytes	
Features		
Recording Function	Record, Play/Pause, Fast Forward, Rewind, Previous Clip, Next Clip, Recall Slow Motion	

Video and Audio Display / Record Mode						
Pass through		Recording Mode			Record Format	Playback Mode
Video	Audio	Real Time Mode	Standard Mode	Audio		
		Video				
1080P@24	Auto: PCM 2Ch Manually: RAW 5.1Ch Dolby Digital & DTS	X	X	PCM 2Ch	X	X
1080P@50		1080P@50	1080i@50		1080P@25	1080i@50
1080P@60		1080P@60	1080i@60		1080P@30	1080i@60
1080i@50		1080i@50	1080i@50		1080i@50	1080i@50
1080i@60		1080i@60	1080i@60		1080i@60	1080i@60
720P@50		720P@50	720P@50		720P@50	720P@50
720P@60		720P@60	720P@60		720P@60	720P@60
576P		576P	576P		576P	576P
480P		480P	480P		480P	480P
576i		576i	576i		576i	576i
480i		480i	480i		480i	480i

Service & Support

It is our goal to make owning and using Datavideo products a satisfying experience. Our support staff is available to assist you to set up and operate your system. Contact your local office for specific support requests. Plus, please visit www.datavideo.com to access our FAQ section.

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Jan-31.2018
Version : E2