datavideo

INSTANT REPLAY
HDR-10
Instruction Manual

www.datavideo.com

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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's 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 is 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.
- Damage caused by accident, misuse, unauthorized repairs, sand, grit or water is not covered by this warranty.
- All mail or transportation costs including insurance are at the expense of the owner.
- All other claims of any nature are not covered.
- Cables & batteries are not covered under warranty.
- Warranty only valid within the country or region of purchase.
- Your statutory rights are not affected.

Two Year Warranty

- All Datavideo products purchased after 01-Oct.-2008 qualify for a free one year extension to the standard Warranty, providing the product is registered with Datavideo within 30 days of purchase. For information on how to register please visit www.datavideo.com or contact your local Datavideo office or authorized Distributors

- Certain parts with limited lifetime expectancy such as LCD Panels, DVD Drives and Hard Drives are only covered for the first 10,000 hours, or 1 year (whichever comes first).

Any second year warranty claims must be made to your local Datavideo office or one of its authorized Distributors before the extended warranty expires.

Disposal

For EU Customers only - WEEE Marking
This symbol on the product indicates that it should not be treated as household waste. It must be handed over to the applicable take-back scheme for the recycling of Waste Electrical and Electronic Equipment. For more detailed information about the recycling of this product, please contact your local Datavideo office.

1.   Introduction

The HDR-10 is a Highlight Replay Recorder (3G/HD/SD SDI) capable of capturing specific, desired or special scenes during any sports game. The captured scene is then output to the switcher as a replay. The HDR-10 also allows the user to store the chosen Highlights into removable compatible media (2.5" SSD recommended). The User controls the unit with a simple USB 2.0 compatible Jog/Shuttle wheel which has five function buttons. An SDI AUX video output from the HDR-10 unit provides an On Screen Display (OSD) menu and the PGM SDI output provides clean video output.

2.   Features

- Single channel highlight replay recorder
- Internal 4GB Buffer to capture and review the event
- 3G/HD/SD SDI input, output and loop through with embedded audio
- A third party Jog/Shuttle control device is provided with the unit
- GPI interface allows other devices such as switcher to trigger the playback.
- Recording file formats: Uncompressed 4:2:2 MOV
- LISN (Local Interconnect Synchronous Network) connection between main unit, remote controller and other devices.
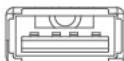
3.   Functions

Front Panel

Media Locking Switch
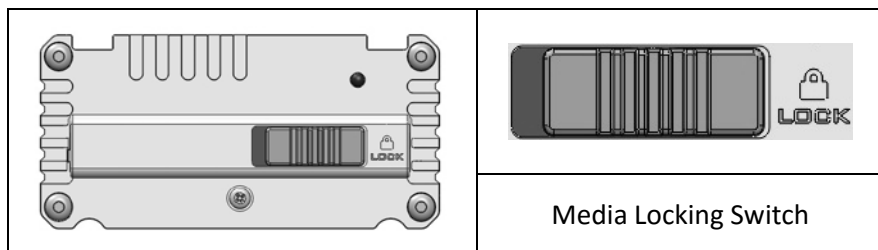
Rear Panel
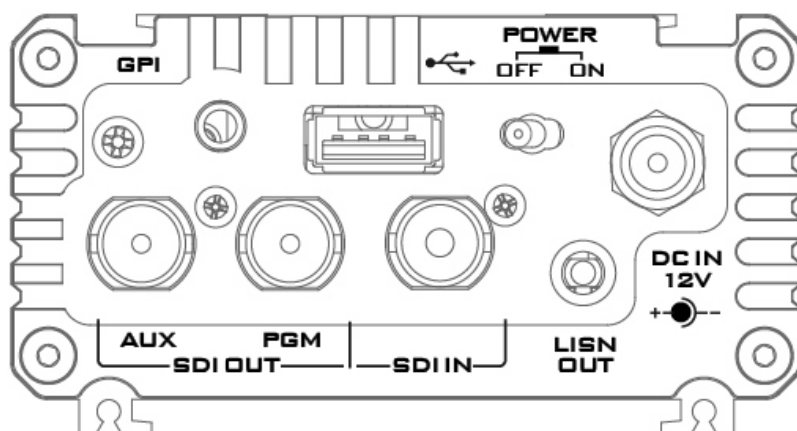
	DC In Socket (12V)
	ON/OFF Switch
	USB 2.0 port for Control or Updates
	External GPI Trigger
	AUX OUT
	PGM OUT
	SDI IN

4. Quick Operation Instruction

To operate the HDR-10, the user needs to be familiar with the supplied *Contour Shuttle Express* USB 2.0 controller. When viewing the HDR-10 AUX SDI output, relevant controller buttons or wheels are annotated as an OSD menu in the lower left hand corner of the video with a number or icon assigned to each. This OSD menu is not shown on the separate PGM SDI output.

There are four modes of operation within the HDR-10, three main modes and a menu driven maintenance mode. **The three main modes follow the normal operation sequence of the HDR-10**.

These are, in order:

1. Capture Mode   Where live action is monitored and a potential highlight is flagged.

2. Review Mode   Where a highlight is precisely edited and can be also saved.

3. Replay Mode   Where the selected highlight is replayed on the PGM OUT port.

In these three modes, dedicated keys are provided for quick access and control. As a reminder, the function of each button or wheel is then annotated in the lower left hand corner of the AUX screen.

Maintenance mode   Accessed from the **HOME menu option** and is menu driven.

4.1   Capture Mode

The HDR-10 automatically enters this mode when it is first powered on and this mode can also be selected from the OSD Home menu by the user.

In capture mode video is buffered or saved to working memory only. This memory is depicted by a growing **red buffer line** at the bottom of the AUX OSD display.

This memory buffer will only store up to the latest 30 seconds of video. Once the buffer memory is full the line stops growing and the HDR-10 starts recycling memory or buffer space. During this recycle process the oldest video frames captured are lost in order to save the latest video data being supplied to the HDR-10.

	2	Drop start cue sets the start point of a particular replay clip
EXIT	5	Exit highlight **Capture mode** and enter **Review mode**
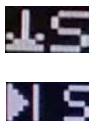
When the user presses button 2 on the Jog/Shuttle controller, a start flag or box is shown progressing along the red buffer line. This marks the beginning of a possible video highlight to be replayed. When the user decides enough video has been captured for the highlight clip button 5

is pressed to end capture mode and the unit automatically enters Review Mode.

4.2 Review Mode

The HDR-10 automatically enters this mode when capture mode is exited. This mode can also be selected from the OSD Home menu by the user. **In review mode** the buffer line has changed colour to a **green buffer line** to quickly confirm the mode has changed.

The clip marked between the start and exit buttons being pressed in capture mode can now be reviewed, edited further or saved to the removable SSD media as an uncompressed .MOV file.

	1	Save the currently marked clip, between the Start and End points, as an uncompressed MOV file to the removable SSD media.
	2	Drop Start Cue marker at current position Go to Start Cue marker
	3	Toggles the unit between Drop Marker or Go To marker mode
	4	Drop End Cue marker at current position Go to End Cue marker
		Jog (inside wheel) : Frame-By-Frame fine tune
		Shuttle (outside wheel): Fast forward or rewind at 1x, 2x or 4x speed
	5	Exit the **Review mode** and move to **Replay mode**

Saving an edited clip or highlight to MOV file

The HDR-10 only saves the marked clip/highlight on the buffer line to the removable SSD as an uncompressed MOV file. The file size will be large, up to 4GB, depending on the clip length in seconds. The saved clip can be replayed from the unit at a later stage or added (appended) to other clips on the same SSD. The SSD removed from the HDR-10 can also be used to transfer saved clips to a non-linear editing computer.

1. Power on the HDR-10 and by default, the HDR-10 will be in the capture mode.
2. Press the No. 2 control button to place the start cue
3. To stop capturing, press the No. 5 control button (EXIT) and enter the Review Mode
4. In Review Mode, use jog and shuttle wheels to adjust the cursor position and once the cursor is at desired position, replace the start cue and/or the end cue.
5. Press the No. 1 control button (▮) to save after the start and end points are determined.

4.3 Replay Mode

The HDR-10 automatically enters this mode when review mode is exited. This mode can also be selected from the OSD Home menu by the user.

In replay mode the buffer line has also changed colour to **blue** to quickly confirm the mode has changed.

▶	1	Play the replay clip
Repeat	2	Repeat the replay clip for unlimited counts until the button is pressed again
Ext/Int T	3	Switches between GPI trigger or Contour Shuttle Express controller trigger
Speed	↓↑	Change play speed
Exit	5	Exit the **Replay mode** and move to the **Home menu**

Capture and Replay

1. Power on the HDR-10 and by default, the HDR-10 will be in the capture mode.
2. The HDR-10 will start capturing once it is in the capture mode.
3. Press the No. 2 controller button to place the start cue.
4. To stop capturing, press the No. 5 controller button (EXIT) to enter the Review Mode.
5. In the Review Mode, use jog and shuttle wheels to adjust the cursor position and once the cursor is at desired position, place the start cue or the end cue.
6. Press the No. 2 controller button to place the start cue and press the No. 4 controller button to place the end cue.
7. Press the No. 5 controller button to exit the Review Mode after the start and end points are determined.
8. Go to the Replay Mode.
9. To start the replay, simply press the No. 1 controller button (▶)

Recalling a previously saved Clip

1. On the home mode menu, select Media.
2. To select the desired bin number, select "**SELECT BIN**" on the Media Sub-Menu.
3. After the bin number is selected, select the "**Recall Clip**" option to load the desired clip.
4. Select "**SELECT CLIP**" to start clip selection, which can be done by using the jog wheel to cycle through the available clip numbers.
5. After the desired clip is selected, the user can either clear the memory buffer content and load the selected clip (Clear and Recall) or append the selected clip to the existing buffer content (Recall Append).
6. After the clip is loaded, exit the Media Sub-Menu back to the Home Mode and then select the Replay Mode.
7. To start the clip replay, simply press the No. 1 controller button (▶)

4.4   Home Mode

After entering the Home menu, the menu options can be seen at the top center of the AUX output OSD. The relevant controls are annotated in the lower left hand corner of the AUX screen. The small inside wheel on

the jog/shuttle controller allows the user to scroll up/down the Home menu. To make the selection, simply press the No. 1 control button on the controller.

Capture	Capture Mode	Refer to Capture Mode section	
Review	Review Mode	Refer to Review Mode section	
Replay	Replay Mode	Refer to Replay Mode section	
Media	Storage Media	Space Avail: Space available on HDR-10 Audio and Video formats (e.g. STEREO 1080i59.9)	
		Recall Clip	SELECT CLIP
			CLEAR AND RECALL
			RECALL APPEND
		Select Bin	
		Mark Clip Bad	Yes/No
		Empty Recent Bin	Yes/No
		Format Media	Yes/No
		Save Clip	
Tools	System Tools	Video Format	720p50 720p59.9 720p60 1080i50 1080i59.9 1080i60 1080p50 1080p59.9 1080p60
		Revision	CONTROL/HDR Versions
		Date & Time (YYYY-MM-DD HH:MM)	SET GMT
			SET RTC
		Time Code	SET SOURCE

			SET TIMECODE
		Audio Setup	MONO
			STEREO
			QUAD
		Firmware Upgrade	

Currently selected option is indicated by an asterisk mark (*).

5.   Firmware Upgrade

Upgrading the Firmware involves upgrading the HDR-10 (Recorder) portion of the unit first and then the Controller portion of the unit.

Recorder portion:
1. Format the SSD drive within the HDR-10 and then connect the SSD to your computer.
2. Copy the supplied **flash.bin** file to the root directory of the SSD.
3. Safely eject the media from the computer and return the SSD to the HDR-10.
4. Go to the UPGRADE FIRMWARE option in the Home menu and follow OSD directions.

This process can take several minutes to complete, please be patient.

Controller portion:
1. Copy the supplied **update.bin** file to a USB Flash drive at the root directory.
2. Turn power to the HDR-10 unit OFF.
3. Disconnect the USB Jog/Shuttle Controller and connect the Flash Drive in its place.
4. Turn power to the HDR-10 unit ON and the unit will upgrade itself.
5. When finished, turn power OFF and return the Jog/Shuttle controller to the HDR-10.

This process can take several minutes to complete, please be patient.

6.　Formatting Storage Media

Follow the procedure below to format SSD media in your HDR-10:

WARNING: Formatting the SSD will destroy any existing files already on the SSD. Back up any important files before formatting a previously used SSD in the HDR-10.

1. Go to Home menu.
2. Select Media → Format media.
3. A Format prompt screen will appear to ask for confirmation; select "Yes"
4. Formatting will progress until finished
5. System returns to media menu after formatting is completed.

7.   Specifications

HDR-10 Specifications			
Description		3G/HD Recorder, Player, Highlight Replay Recorder	
Housing Size		Standalone Type	
HDD Size		No size limitation	
Removable SSD / HDD		V	
File Format		MOV	
Connector	**3G/HD-SDI Input**	1	Level A
	3G/HD-SDI Output	2	One is programmable as loop-through or independent output
	LISN	1	Connection interface between main unit, remote controller and other devices
	USB	1	Connection with remote controller (Contour Shuttle Express controller)
	GPI	1	
	DC IN	1	
Video Format	**HD**	720P@50/59.94/60	
		1080i@50/59.94/60	
	3G	1080p@50/59.94/60	In Highlight Replay Recorder Mode only
Codec	**Color Format**	4:2:2	
	Uncompressed	10-bit or 8-bit	
Internal Buffer	**Size (GB)**	4	Standard memory module
	Channels	1 in and up to 2 out	
	Navigation	Slow Motion/ Normal Speed/ Fast Speed	
	Cues	2	Cue In and Cue Out, controlled by Controller
	Highlight	Records the clip marked by Cue In and Cue Out	

Service & Support

It is our goal to make your products ownership a satisfying experience. Our supporting staff is available to assist you in setting up and operating your system. Please refer to our web site www.datavideo.com for answers to common questions, support requests or contact your local office below.

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