

VIEWSTREAM 500

MANUAL

Version 1.3

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Revision History

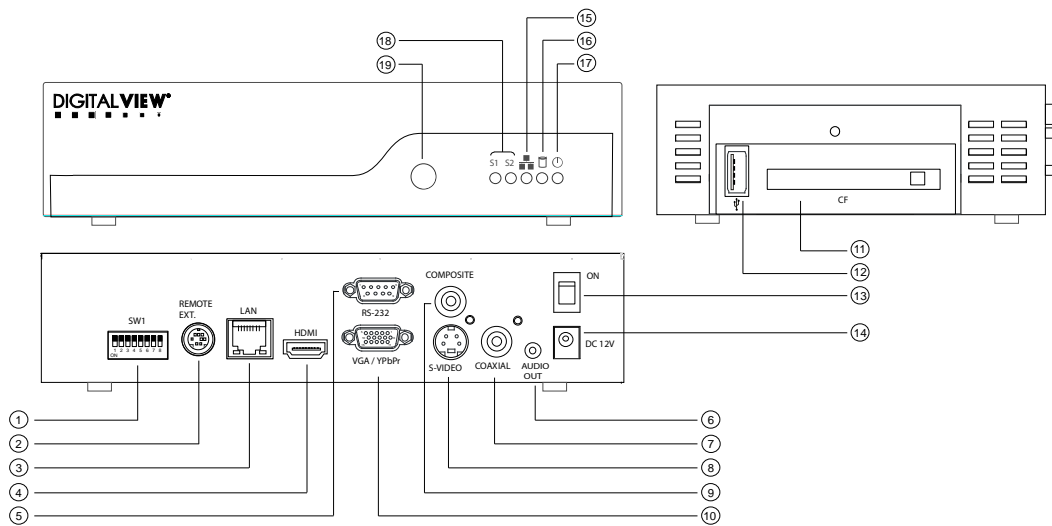
Amendment Date	Version
January 2009	V1.0
February 2009	V1.1
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1 Introduction

The ViewStream 500 is a powerful yet easy to use commercial HD (High Definition) digital media player designed for retail point of purchase (POP) product promotions, product demonstration videos and similar applications such as museum information displays.

1.1 Guide to the ViewStream 500

Diagram 1 – ViewStream 500



Item	Description	Type / Use
1	DIP switch (8-pos)	Display output selection
2	Remote Ext.	8-pin mini DIN socket (for external button)
3	RJ-45 LAN	N/A
4	HDMI / DVI out	HDMI connector
5	RS-232 port	DB-9-M connector
6	Audio output – Speaker out	Stereo jack (3.5mm)
7	Coaxial audio out	RCA jack (orange)
8	S-Video output	Mini DIN 5-pin connector
9	Composite video output	RCA jack (yellow)
10	VGA / YPbPr output	VGA DB-15-F connector
11	Compact Flash Card socket & ejector	Type I & II compatible
12	USB connector	Standard USB (type A)
13	Power on/off switch	Rocket switch
14	12V DC power input jack	DC power jack. Center positive, 2.5mm dia.
15	Network LED	N/A
16	Status LED	Read / Write status of storage device
17	Power LED	On (green) / Off (clear)
18	S1 and S2 LEDs	N/A
19	IR sensor	For use with DV remote control

2 Setup

When powered on the ViewStream 500 will automatically start to play video or still images found in the media folder of an installed Compact Flash (CF) card. Files will be played in alphanumeric order. (if no playlist file (.pll) is present)

Basic setup involves 4 main steps:

1. Installing a CF card with suitable media
2. Setting DIP switches appropriately for desired resolution output
3. Connecting to a display and power
4. Switching on

The ViewStream 500 also offers a range of **Additional Functions**. For details of these see the Additional Functions section below.


2.1 Basic Setup Notes

The following provides a short introduction to the basic setup:

- **CF cards (Compact Flash):** The recommended brand is SanDisk, all capacities and speeds should be suitable. Other brands may also be acceptable.

 CF cards should be formatted using FAT32 before first use.

 All media files on the CF card must be in a folder name "media".

 All media filenames must be an alphanumeric character only, not space, "~", "_", "-", "!", "@", "^", etc. The media filename must not exceed 16.3 format.





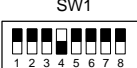
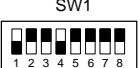
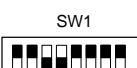
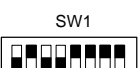








 **It is recommended to use at least 15MB/sec (sometimes referred to as 100x or faster) CF cards for HD video.**

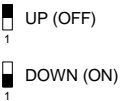
A Playlist is optional, for details as to preparation see the Additional Functions section below. Without a playlist, media files will play in alpha-numeric order according to the filename.

- **Video:** Many popular video editing programs have a "HD Video" setting however it is important that the file produced is a compatible format supported by ViewStream 500 (see the Specification in this manual).

- **JPEG still images:** A compression setting of medium to good is recommended.
Resolution settings:
 - For output to a widescreen display : 1920x1080
 - For output to a standard 4:3 display: 1600x1200

- **DIP Switch settings**

	HDMI / DVI 1920x1080p @60Hz		Component (YPbPr) 1920x1080i @60Hz
	HDMI / DVI 1280x720p @60Hz		Component (YPbPr) 1280x720p @60Hz
	HDMI / DVI 1600x1200 @60Hz		Component (YPbPr) NTSC
	HDMI / DVI 1024x768 @60Hz		Component (YPbPr) PAL
	ARGB 1920x1080i @60Hz		S-Video / Composite Reserved
	ARGB 1280x720p @60Hz		S-Video / Composite Reserved
	ARGB 1600x1200 @60Hz		S-Video / Composite NTSC
	ARGB 1024x768p @60Hz		S-Video / Composite PAL



- **Display:** There is a wide selection of displays in the marketplace that are suitable for use with the ViewStream 500. Users are however recommended to consider the following:
 - Video resolution: As a general rule it is recommended to use a display of the same resolution as the media to be played. If this is not possible although the media player supports scaling choosing a display with a good scaling engine will provide flexibility and optimal results.
 - Aspect ratio: Many displays are widescreen with an aspect ratio of 16:9. However PAL/NTSC is 4:3. Consequently video output to widescreen displays may be stretched or shown with black bars. If possible this is best corrected during the video production and encoding process.

2.2 Content creation

Factors that determine output quality

When creating content for VS-500 to optimize output quality, consideration of the following factors is recommended:

- When transcoding use source video that equals or preferably exceeds the data-rate of the output.
- Check that encoding bitrates are at the recommended levels
- Video with a resolution to match the display system that will be used will give the best results.

Digital View produce a technical **Content Creation Guide** which is available for download from www.digitalview.com

Video - Encoding bitrates

The following are the recommended encoding specifications for video content on the **RM-DN5 and ViewStream 500**:

MPEG-2 specifications:

Screen size (recommended): 4:3 screen (e.g. 640x480, 800x600, 1024x768, etc)

PAL: 720 x 576

NTSC: 720 x 480

Bit Rate: 5 Mbit/s

Audio Bit Rate: 224 Kbit/s, 48 kHz at 16 bits sample rate

Frame Rate: PAL: 25 Hz / NTSC: 29.97 Hz

Codec: MPEG-2

Supported filename extension: .mpg

MPEG-2 (HD) specifications:

Wide Screen size (recommended): 16:9 screen (e.g. 1366x768, etc)

HD: 1280x720

Full HD: 1920x1080

Bit Rate: 12-15 Mbit/s

Audio Bit Rate: 224 Kbit/s, 48 kHz at 16 bits sample rate

Frame Rate: 25 Hz / 29.97 Hz

Codec: MPEG-2

Typical filename extension: .mpg

MPEG-4 specifications:

Screen size (recommended): 4:3 screen (e.g. 640x480, 800x600, 1024x768, etc)

PAL: 720 x 576

NTSC: 720 x 480

Bit Rate: 2 Mbit/s

Audio Bit Rate: 224 Kbit/s, 48 kHz at 16 bits sample rate

Frame Rate: PAL: 25 Hz / NTSC: 29.97 Hz

Codec: MPEG-4 DivX* 5.2 or higher

Typical filename extension: .avi

AVC/H.264 (MPEG 4 part-10) specifications:

Wide Screen size (recommended): 16:9 screen (e.g. 1366x768, 1920x1080)
 HD: 1280x720
 Full HD: 1920x1080
 Bit Rate: 12-15 Mbit/s
 Audio Bit Rate: 224 Kbit/s, 48 kHz at 16 bits sample rate
 Frame Rate: 25Hz / 29Hz / 60Hz
 Codec: MPEG-4 Part 10 AVC/H.264
 Typical filename extension: .mp4 / .mov* / .wmv*

*Note: Depending on the features desired, customer/purchaser may be required to obtain a video codec license with the relevant organizations.

JPEG - Resolution

The optimal JPG resolutions suggested below should provide a 'best fit' for JPEG pictures. Using JPGs with greater or lesser resolution than this may crop the edges of the image or not fill the entire screen.

Selected output with 16:9 format		Optimal JPG resolution
Composite / S-Video	PAL	N/A
	NTSC	N/A
VGA output		1920x1080 or 1280x720
Component Video (YPbPr)		1920x1080 or 1280x720
HDMI		1920x1080 or 1280x720
DVI		1920x1080 or 1280x720

Selected output with 4:3 format		Optimal JPG resolution
Composite / S-Video	PAL	720x576
	NTSC	720x480
VGA output		1600x1200 or 1024x768
Component Video (YPbPr)		1600x1200 or 1024x768
HDMI		1600x1200 or 1024x768
DVI		1600x1200 or 1024x768

CF Card Use

HD resolutions (e.g. 1080p) require higher transfer rates. It is recommended to use newer, high-speed CF cards. 100x, 15Mb/s cards have provided quality results.

2.3 Content update

Content on the VS-500 can be updated by:

- Copying new media onto the CF card, this can be done using DV Studio Plus if a playlist is required or by direct copy using a PC or MAC.
- Using the USB update process, in this case new media and playlist if required is copied to a USB flash drive. This can then be updated to the ViewStream 500's CF card using the USB update process, refer to the application note.

2.4 Additional functions

The ViewStream 500 offers a wide selection of options as briefly introduced below. For more information on each of these please refer to detailed application notes that may be added from time to time at www.digitalview.com/viewstream/documentation.php.

- **Playlist:** By default, videos and still images play in alphanumeric order by filename. Using DV Studio to create a playlist, available for download from www.digitalview.com/viewstream/software.php, files can be played in a specified order.
- **Data Logging:** Create log files for reporting and analysis containing a cumulative log of events that lists the date, time and track that was played.
- **Scheduling:** Multiple playlists can be loaded and scheduled to play at specified times.
- **Firmware upgrade:** From time to time the operating system of the ViewStream 500 may be upgraded providing new features and /or bug fixes – these upgrades can be easily installed using the firmware upgrade process. Please check the above website links for possible updates.
- **Customization:** Digital View provides customization services. Please contact your local office for enquires.

3 FAQ

<p>Q: What USB memory sticks are suitable?</p> <p>A: SanDisk/Transcend USB memory sticks are recommended however many other brands are suitable. If the USB stick comes with some security files or bootable files, please remove them before use on the ViewStream 500.</p>
<p>Q: How do I prepare a media file on the USB stick for a USB update ?</p> <p>A: All media files on the USB memory stick must be in a folder name "Media". Please refer to the detailed "USB update" application notes at http://www.digitalview.com/viewstream/documentation.php#notes.</p>
<p>Q: How do I encode or prepare suitable video?</p> <p>A: Settings equivalent to those used for making a HD Video are recommended and many popular video editors (e.g. ImTOO MPEG Encoder) have a HD Video setting preset.</p>
<p>Q: How do I get video and still images to play in a particular order?</p> <p>A: Create a playlist to specify the playback order by using DV Studio which can be downloaded from http://www.digitalview.com/viewstream/software.php.</p>
<p>Q: What is DV Studio?</p> <p>A: An authoring tool from Digital View for the creation of playlists and additional functions with the ViewStream 500.</p>
<p>Q: How do I get the most out of the advanced features?</p> <p>A: A good place to start is with the Application Notes on the website as these will explain how the various features work. In addition Digital View's sales support team can provide assistance and ideas.</p>
<p>Q: What customization is possible?</p> <p>A: Digital View provides both software and hardware customization services – please contact Digital View's sales support team for assistance.</p>

Q: What/Where the user related files should be located on VS-500 media players ?

A: The following shows what and where certain user related files should be located on 500 Series media players. Note, not all files are required, the point is that if these files are used this is where they should be located.

ON THE CF CARD	
In the MEDIA folder	Outside the MEDIA folder ("/" directory)
All content (.mpg / .jpg, etc)	Data log files
Playlist file (.pl)	Firmware file (e.g. xxx.dn5)
Project file (.prj)	
Schedule.ini	
Barcode.ini	
Netcfg.ini (RP-500 only)	
Dvsync.ini (RP-500 only)	

4 Troubleshooting

<p>Problem:</p> <p>Check & Correction:</p>	<p>Nothing is displayed on the screen:</p> <ul style="list-style-type: none"> • First check that all parts of the system are connected and powered on. • Check that the display is getting a signal from the ViewStream 500. • Ensure that all media content are placed inside a "MEDIA" folder on the CF card. • Ensure the media is compatible, see specifications. • Ensure that files are in a compatible format.
<p>Problem:</p> <p>Check & Correction:</p>	<p>The display cannot fit the whole screen:</p> <ul style="list-style-type: none"> • The output resolution currently set on ViewStream 500 may not be supported by the monitor being used. (For example, display a 4:3 content on a wide screen.) This may be compensated for using monitor settings to scale the image or by reworking the media.
<p>Problem:</p> <p>Check & Correction:</p>	<p>Video is jerky:</p> <ul style="list-style-type: none"> • It is likely that the video is encoded at a data rate too high for the player or the CF card. It is recommend not to use greater than 40Mb/s bit rate on the ViewStream 500. A high speed CF card (100x or above) is recommend if playback HD video
<p>Problem:</p> <p>Check & Correction:</p>	<p>Video is very blocky:</p> <ul style="list-style-type: none"> • The SD video encoding settings are for a lower resolution. DVD settings are recommended. • Original content source was low resolution
<p>Problem:</p> <p>Check & Correction:</p>	<p>Audio playback is intermittent:</p> <ul style="list-style-type: none"> • It is likely that the video is encoded at a data rate too high for the player. It is recommend not to use greater than 40Mb/s on ViewStream 500.
<p>Problem:</p> <p>Check & Correction:</p>	<p>Video in the playlist does not play in accordance with the play sequence.</p> <ul style="list-style-type: none"> • Make sure both the project (.prj) and playlist (.pll) files have been uploaded on the player. Check if these two files were present in the USB memory stick before activating a content update procedure.

5 Specifications

Playable formats	<p>MPEG-1 / MPEG-2 (.mpg) JPEG (.jpg), Bitmap (.bmp) MPEG-4 DivX (.avi), AVC/H.264 (.mov / .wmv)</p> <p><small>Note: Depending on the features desired, customer/purchaser may be required to obtain a video codec license with the relevant organizations.</small></p>
Storage media	Compact Flash card (high speed type)
Video output	<p>HDMI / DVI* VGA / YPbPr* Composite / S-Video</p> <p style="text-align: right;"><small>*Adapter is required.</small></p>
Audio out	<p>Phone jack (Stereo) Digital coaxial</p>
External I/O ports	<p>RS-232 (9600, N-8-1) USB (Data upload) Infra-red (use with DV IR handset, P/N:559000104-3) Remote Ext. (External button connection) RJ-45 port (N/A)</p>
LEDs	<p>Power LED (Green) Read/Write status LED (Green) Network LED (Green)</p>
Real time clock	Battery-backup RTC
Power requirement	DC 12V input
Power consumption	500mA @ 12V
Environmental	<p>Operating temperature : 0°C to 50°C Relative humidity : 5%-95% relative humidity (Non-condensing)</p>
Dimensions	<p>217mm (W) x 156.7mm (D) x 52mm (H) 8.5 in (W) x 6.2 in (D) x 2 in (H)</p>
Weight (net)	556g / 1.2 lbs

WARRANTY

The products are warranted against defects in workmanship and material for a period of three (3) year from the date of purchase provided no modifications are made to it and it is operated under normal conditions and in compliance with the instruction manual.

The warranty does not apply to:

- Product that has been installed incorrectly, this specifically includes but is not limited to cases where electrical short circuit is caused.
- Product that has been altered or repaired except by the manufacturer (or with the manufacturer's consent).
- Product that has subjected to misuse, accidents, abuse, negligence or unusual stress whether physical or electrical.
- Ordinary wear and tear.

Except for the above express warranties, the manufacturer disclaims all warranties on products furnished hereunder, including all implied warranties of merchantability and fitness for a particular application or purpose. The stated express warranties are in lieu of all obligations or liabilities on the part of the manufacturer for damages, including but not limited to special, indirect consequential damages arising out of or in connection with the use of or performance of the products.

CAUTION

Whilst care has been taken to provide as much detail as possible for use of this product it cannot be relied upon as an exhaustive source of information. This product is for use by suitably qualified persons who understand the nature of the work they are doing and are able to take suitable precautions and design and produce a product that is safe and meets regulatory requirements.

SAFETY INSTRUCTION

Do not use this product near water, for example, near a bathtub, wash bowl, kitchen sink, laundry tub, in a wet basement or near a swimming pool.

LIMITATION OF LIABILITY

The manufacturer's liability for damages to customer or others resulting from the use of any product supplied hereunder shall in no event exceed the purchase price of said product.

LICENSING REQUIREMENTS

Depending on the features desired, customer/purchaser may be required to obtain a license with the relevant organizations.

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VIEWSTREAM

CONTACT DETAILS

USA: Digital View Inc.
18440 Technology Drive
Building 130
Morgan Hill, CA 95037
USA

Tel: (1) 408-782 7773

Fax: (1) 408-782 7883

Sales: ussales@digitalview.com

EUROPE: Digital View Ltd
6 Marylebone Passage
London
W1W 8EX
UK

Tel: (44) (0)20 7631 2150

Fax: (44) (0)20 7631 2156

Sales: uksales@digitalview.com

ASIA: Digital View Ltd
16th floor Millennium City 3
370 Kwun Tong Road
Kwun Tong
Hong Kong

Tel: (852) 2861 3615

Fax: (852) 2520 2987

Sales: hksales@digitalview.com

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