DIGITAL VIEW®

Application Note

RS-232 Commands on VS-500/VS-520

Version 3.1

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1 Introduction

Digital View ViewStream™ 500 (VS-500) and ViewStream™ 520 (VS-520) media players provide RS-232 connection and protocol support for real-time direct track playback and control. These protocols be incorporated into the control software of a master device (Host system) or used to control other devices for unique application solutions.

In addition the VS-500/VS-520 also provides equivalent protocol support through its RJ-45 Ethernet port.

The media player's protocols are defined in a text file on the media player named *barcode.ini*. This gives users and developers two options:

- Use Digital View's default barcode.ini – *Section 3*
- Create a custom barcode.ini to match external device protocols – *Section 2*

2 Command Control

2.1 Create commands

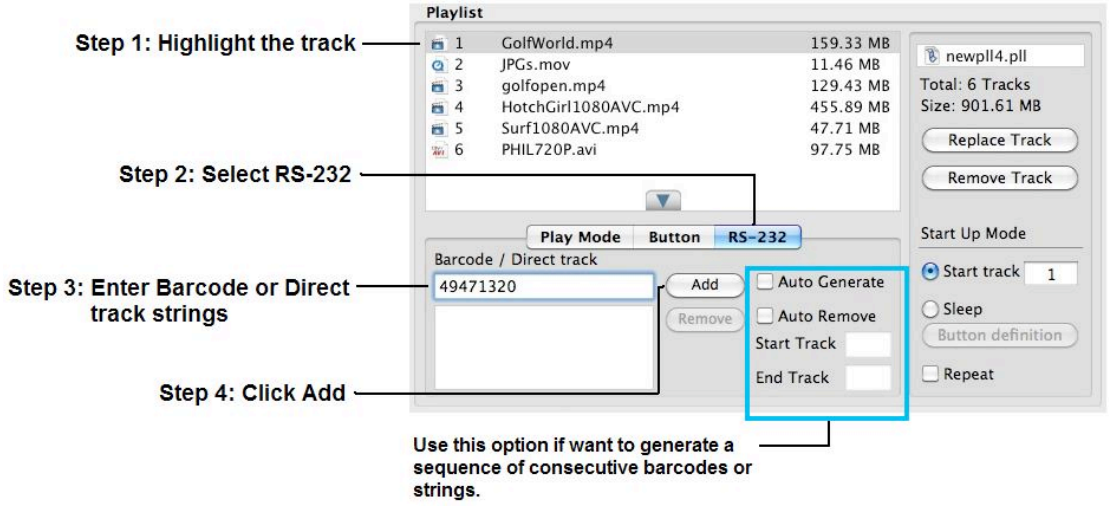
Using DV Studio* (version 1.4.023.03 or later), you can add and define your command code for the existing 8 function keys (PLAY, STOP, PAUSE, REPEAT, NEXT, VOL DN, VOL UP and MUTE).

Note: This command code feature must be used in playlist mode. Simple play mode cannot support this command code.

*The DV Studio can be downloaded from http://www.digitalview.com/products/software

Follow the steps below to define your own command code by DV Studio.

- Step 1: Open DV Studio
- Step 2: Open an existing project and playlist file OR create a new one.
- Step 3: Click on the **RS-232** folder tab.
- Step 4: Enter the command codes in **Barcode Key Setting** table.



The **Auto Generate** provides an option to generate a sequence of consecutive barcodes or direct track string numbers.

- Step 5: When you have finished ensure you save a copy to be amended at a later date then 'Deploy' for use on your media player.

For further instructions including adding .ini files please refer to the main VS-500 Manual.

2.2 Controlling the Media Player

This section describes how to send command from the host system (e.g. PC) to control the VS-500/VS-520.

Step 1: Set up a command lookup table with using DV Studio. (see procedures on Section 2.1 - Create custom barcode.ini

Step 2: Configure the host system with the following parameters:

- Baud Rate: 9600 bps
- Data Length: 8 bits
- Parity Bit: none
- Stop Bit: 1 bit

Step 3: Transmit a command code in HEX (Hexadecimal) String format (see below example) from the host system to the media player. Each HEX string must be end with a terminator '0D'

Example:

Command code	Function	HEX String
0001	Play	30 30 30 31 0D
0002	Stop	30 30 30 32 0D
0003	Pause	30 30 30 33 0D
0004	Repeat	30 30 30 34 0D
0005	Next	30 30 30 35 0D
0006	Volume Down	30 30 30 36 0D
0007	Volume Up	30 30 30 37 0D
0008	Mute	30 30 30 38 0D

3 Barcode.ini

The command lookup table for controlling the Digital View media player is defined in a file called *barcode.ini* that is stored in the "MEDIA" folder on CF (Compact Flash) card.

The following explains the commands within the default barcode.ini and the file structure for creating a custom version.

3.1 Default *barcode.ini* File

The default barcode.ini contains the following command set:

Function	Command (Hex)	Description	Acknowledge (if enabled)
Play	30 30 30 31 0D	Play video track	N/A
Stop	30 30 30 32 0D	Stop video playback and blank screen	N/A
Pause	30 30 30 33 0D	Pause the current video	N/A
Repeat Track	30 30 30 34 0D	Jump back to beginning of current track and loop track	N/A
Next Track	30 30 30 35 0D	Jump to next track	N/A
Volume Down	30 30 30 36 0D	Volume down	N/A
Volume Up	30 30 30 37 0D	Volume up	N/A
Mute	30 30 30 38 0D	Mute audio	N/A

The following is the output function on RS-232 default in the VS-500/VS-520.

Function	Command	Description	Acknowledge (if enabled)
Track Name	NIL	A track name (in hex form) is output from RS-232 port when the track was started to play. For example: A hex string "41 42 43 2E 6D 70 67 0D 0A" will be output on RS-232 port if a file "ABC.mpg" is being played	[Track name.ext] + 0D 0A

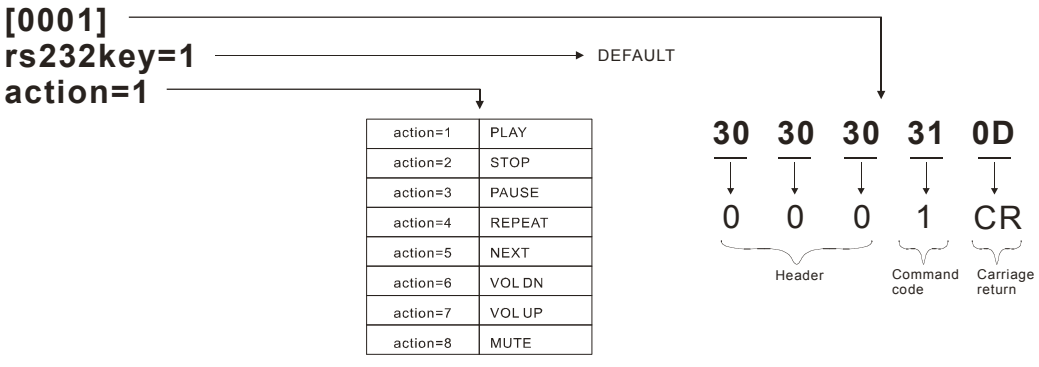
3.2 Defining a Custom *barcode.ini* File

The barcode.ini is an editable text file created by DV Studio.

The following shows an example *barcode.ini* file containing eight command codes for 8 functions (PLAY, STOP, PAUSE, REPEAT, NEXT, VOL DN, VOL UP and MUTE).

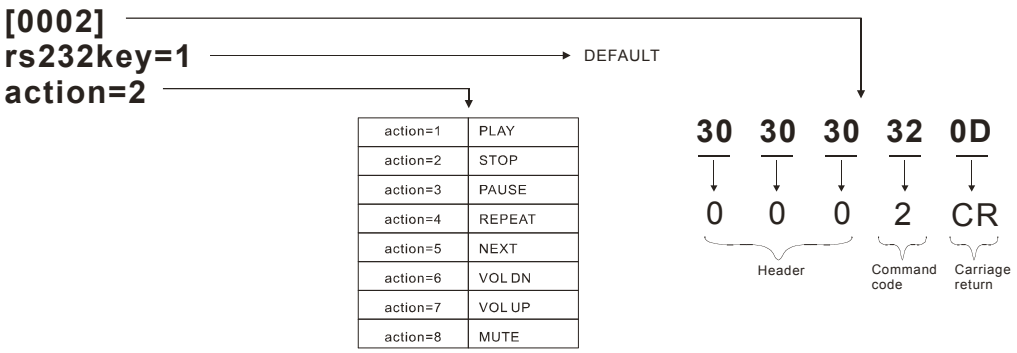
```
[Barcode]
BC1=0001
BC2=0002
BC3=0003
BC4=0004
BC5=0005
BC6=0006
BC7=0007
BC8=0008
[0001]
rs232key=1
action=1
[0002]
rs232key=1
action=2
[0003]
rs232key=1
action=3
[0004]
rs232key=1
action=4
[0005]
rs232key=1
action=5
[0006]
rs232key=1
action=6
[0007]
rs232key=1
action=7
[0008]
rs232key=1
action=8
```

Example of "Play"



In this example, the player will play media if you send “30 30 30 31 0D” from the master device to the media player.

Example of “Stop”



In this example, the player will stop if you send “30 30 30 32 0D” from the master device to the media player.

4 Hex to ASCII Conversion

The table below shows the hexadecimal equivalent of each character.

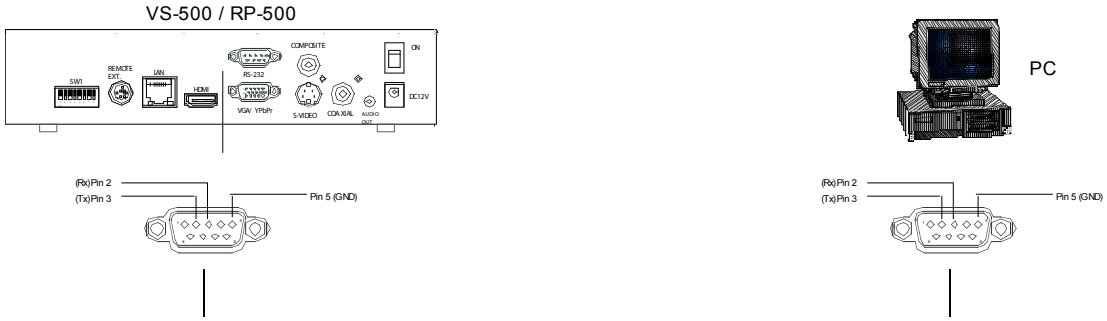
Hex to ASCII conversion table

Hex	ASCII	Hex	ASCII	Hex	ASCII
0x30	0	0x41	A	0x61	a
0x31	1	0x42	B	0x62	b
0x32	2	0x43	C	0x63	c
0x33	3	0x44	D	0x64	d
0x34	4	0x45	E	0x65	e
0x35	5	0x46	F	0x66	f
0x36	6	0x47	G	0x67	g
0x37	7	0x48	H	0x68	h
0x38	8	0x49	I	0x69	i
0x39	9	0x4A	J	0x6A	j
		0x4B	K	0x6B	k
		0x4C	L	0x6C	l
		0x4D	M	0x6D	m
		0x4E	N	0x6E	n
		0x4F	O	0x6F	o
		0x50	P	0x70	p
		0x51	Q	0x71	q
		0x52	R	0x72	r
		0x53	S	0x73	s
		0x54	T	0x74	t
		0x55	U	0x75	u
		0x56	V	0x76	v
		0x57	W	0x77	w
		0x58	X	0x78	x
		0x59	Y	0x79	y
		0x5A	Z	0x7A	z

5 Connection

5.1 RS-232 Connection

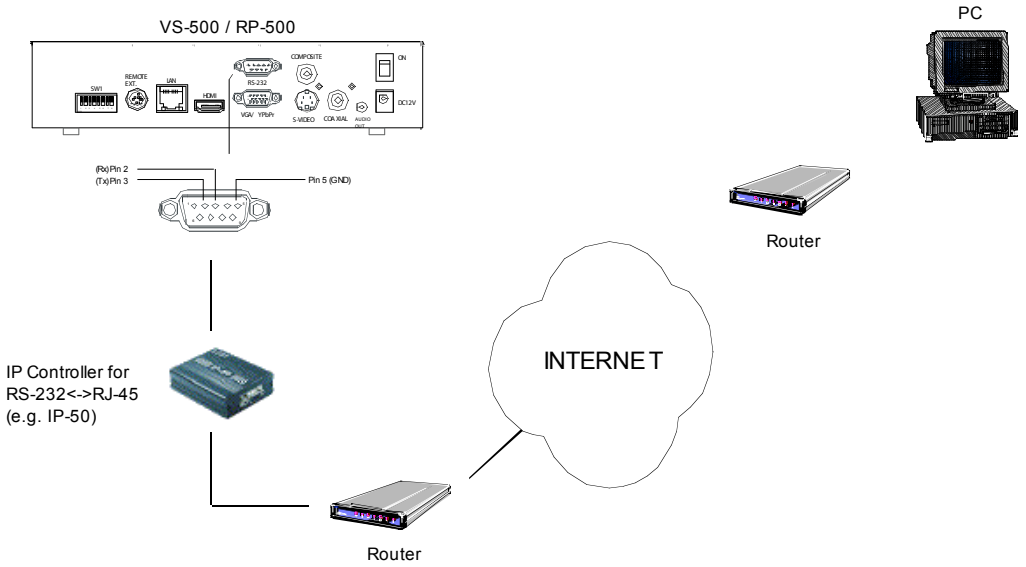
Connect your PC (or RS-232 terminal) to the VS-500/VS-520 through the RS-232 port. The baud rate setting of 9600, N81 must be used.



RS-232 (Null modelm) cable

5.2 Ethernet Connection

Connect the VS-500/VS-520 with IP Controller (RS-232<->RJ-45) to internet. Use any PC located on internet may control the player with RS-232 command.



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