

Summary



Vclips VC001A Video Clips for Testing and Optimization of Video Compression

Encoder Series – VC001A, E-Space

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General Safety Summary

Use this product only as specified.

While using this product, you may need to access other parts of a larger system. Read the safety sections of the other product manuals for warnings and cautions related to their operation.

Summary: VC-001-A E-Space

Encoder Test Series	VC-001-A E-Space
Purpose	Test encoders with many different sizes of video
Content	Single scene – synthetic space scene of the moon, Earth and the space shuttle moving across picture 175 frames
Number of clips	44 sequences at various sizes, mainly smaller than CIF with a few larger, including many 'unusual' sizes
Total disk size	568 MBytes
Video format	YUV 4:2:0 planar, 8 bits per pixel
How supplied	1 computer CD
Software supplied	YUV sequence viewer in folder: \Software on disk 1
Documentation	PDF of this manual in folder: \Documentation on disk 1

1. Introduction

This set of video sequences is designed to test a video encoder by providing many different sizes of video to encode:

- ❑ most clips are in the range QCIF - CIF in size (i.e. X and/or Y dimensions are within the range 176x144 to 352x288)
- ❑ many 'unusual' sizes, mainly between QCIF and CIF, which may be used for mobile applications, web banners/ads and small picture-in-picture applications
- ❑ a few larger clips (maximum VGA 640x480)

The scene 'Space' incorporates many hard-to-encode elements, such as movement in different directions, high contrasts, large monochromatic areas and low contrast text (at the start).

2. Description of Clip Set

44 video sequences are provided: the size of the sequence is given in the filename, e.g. `v00114_E-Space_300x200.yuv` is 300 pixels wide and 200 pixels high.

The first 6 digits (e.g. `v00114`) are the sequence number.

All sequences are provided in YUV 4:2:0 format with no header:

- ❑ planar YUV 4:2:0 sub-sampled i.e. 4 bytes of Y data for each byte of U data and each byte of V data;
- ❑ no headers of any kind (no file or frame headers);
- ❑ one byte per sample;
- ❑ progressive scan (not interlaced);
- ❑ row raster order (top picture row first);
- ❑ Y plane values are 0-255 unsigned;
- ❑ U and V plane values are unsigned with a DC offset of 128;

Interlace

There is no interlace in any of these sequences.

3. Software supplied

The following software is supplied:

- YUV sequence viewer

3.1 YUV sequence viewer

This program is called: `YUVSequenceViewer.exe`
and is located on disk 1 in the folder: `\Software`

To run it, double-click on it – it does not need to be installed.

Once it has been run once, it associates files with an extension of `.yuv` so that after this double-clicking on a file with this extension will automatically open the YUV file in the sequence viewer.

YUVSequenceViewer tries to work out the size of the video frames from the filename (if it is given in the filename): if there are no clues from the filename then the user must enter the size of the frames.

On the 'Tool' menu there is an option to subtract two YUV sequences, to look for differences between two files. A zero difference results in a constant grey image. To make these differences more visible, select the menu 'View' then 'Options' then enter a number into the 'Subtraction scale' box: the larger the number, the more the differences are multiplied.

4. Information supplied

The following pages:

- list all the sequences with their sequence number, size, use of Interlace or Progressive scanning, and file size on disk (see section 4.1);
- subsequently, the 'keywords' used in the Traffic sequence are listed (as per other Vclips sequences) (see section 4.2)
- finally, the features of the Space sequence are described in detail (scene content, movement, etc.) (see section 4.3)

4.1 List of Sequences

Sequence Number)	Size (horizontal x vertical)	Description	Interlaced/ progressive	Duration (secs: frames)	File size (MB)
V00101	352x288	Standard CIF	Progressive	5:00	26.6
V00102	350x288	Slightly narrower than CIF	Progressive	5:00	26.4
V00103	352x286	Slightly less high than CIF	Progressive	5:00	26.4
V00104	350x286	Narrow & less high than CIF	Progressive	5:00	26.2
V00105	340x288	Half VGA wide x CIF high	Progressive	5:00	25.7
V00106	340x240	Half VGA	Progressive	5:00	21.4
V00107	176x288	QCIF wide; CIF high	Progressive	5:00	13.3
V00108	176x240	QCIF wide; half VGA high	Progressive	5:00	11
V00109	352x144	CIF wide; QCIF high	Progressive	5:00	13.3
V00110	340x144	Half VGA wide x QCIF high	Progressive	5:00	12.8
V00111	300x200	300x200 'odd' size	Progressive	5:00	15.7
V00112	300x198	300x198 'odd' size	Progressive	5:00	15.5
V00113	298x200	298x200 'odd' size	Progressive	5:00	15.6
V00114	200x200	200 square	Progressive	5:00	10.5
V00115	352x72	CIF wide; half QCIF high	Progressive	5:00	6.6
V00116	352x60	CIF wide; 60 high (banner ad)	Progressive	5:00	5.5
V00117	352x36	CIF wide x quarter QCIF high (banner ad)	Progressive	5:00	3.3
V00118	300x288	300 x CIF high 'odd' size	Progressive	5:00	22.6
V00119	200x288	200 x CIF high 'odd' size	Progressive	5:00	15.1
V00120	100x288	100 x CIF high 'odd' size (web)	Progressive	5:00	7.5
V00121	88x288	Half QCIF wide x CIF high banner	Progressive	5:00	6.6
V00122	44x288	Quarter QCIF wide x CIF high banner	Progressive	5:00	3.3

V00123	176x144	Standard QCIF	Progressive	5:00	6.6
V00124	176x142	2 pixels less high than QCIF	Progressive	5:00	6.5
V00125	174x144	2 pixels narrower than QCIF	Progressive	5:00	6.5
V00126	174x142	2 pixels narrow and less high than QCIF	Progressive	5:00	6.4
V00127	160x120	Quarter VGA	Progressive	5:00	5.0
V00128	160x240	Quarter VGA wide x half VGA high	Progressive	5:00	10.0
V00129	140x240	140 wide; half VGA high	Progressive	5:00	8.8
V00130	176x72	QCIF wide; half QCIF high	Progressive	5:00	3.3
V00131	176x36	QCIF wide; quarter QCIF high	Progressive	5:00	1.6
V00132	108x208	108 x 208 'odd' size	Progressive	5:00	5.8
V00133	208x108	208 x 108 'odd' size	Progressive	5:00	5.8
V00134	200x100	200 x 100 'odd' size	Progressive	5:00	5.2
V00135	100x200	100 x 200 'odd' size	Progressive	5:00	5.2
V00136	100x100	100 square	Progressive	5:00	2.6
V00137	100x50	100 x 50 small	Progressive	5:00	1.3
V00138	50x100	50 x 100 small	Progressive	5:00	1.3
V00139	88x72	Half QCIF wide	Progressive	5:00	1.6
V00140	88x36	Half QCIF wide x quarter QCIF high	Progressive	5:00	0.8
V00141	400x288	400 wide x CIF high	Progressive	5:00	30.2
V00142	400x300	400 x 300 'odd' size	Progressive	5:00	31.5
V00143	640x480	VGA	Progressive	5:00	80.6
V00144	170x240	Quarter VGA wide x half VGA high	Progressive	5:00	10.7