

# **Summary**



## **Vclips VC022A Video Clips for Testing and Optimization of Video Compression**

**Encoder Series – VC022A, E-Asia SD NTSC**

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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-022-A E-Asia SD NTSC

<b>Encoder Test Series</b>	VC-022-A E-Asia SD NTSC
<b>Purpose</b>	Test encoders with all variants of movement and lighting
<b>Content</b>	Scenes from Beijing, Tokyo and Seoul with fast/slow movement, tracking, pan, zoom, rotation, high contrast, low contrast, bright colours, dull colours, monochromatic areas, day, night, people, vehicles, talking heads, buildings
<b>Number of clips</b>	<p>53 scenes all provided at sizes:</p> <ul style="list-style-type: none"> <li>• D1 720x480 (numbered V022nn1)</li> <li>• CIF 352x240 (numbered V022nn2)</li> <li>• QCIF 176x120 (numbered V022nn3)</li> </ul> <p>i.e. total 159 clips</p>
<b>Total disk size</b>	33 GBytes
<b>Video format</b>	YUV 4:2:0 planar, 8 bits per pixel
<b>How supplied</b>	On hard disk drive unit (with USB 2.0 and Firewire/1394 interfaces)
<b>Software supplied</b>	YUV sequence viewer in folder: \Software
<b>Documentation</b>	PDF of this manual in folder: \Documentation

## 1. Introduction

This set of video sequences is designed to test and stress a video encoder by providing a diverse set of video clips which have all types of movement and lighting conditions:

- ❑ movement types such as pan, zoom, rotation, object movement in foreground and background, objects moving in/out/across, tracking movement;
- ❑ subject types such as people, vehicles, buildings, trees, sky, water;
- ❑ colours - bright to dark, high/low contrast, monochromatic areas;
- ❑ lighting conditions such as bright daylight, dull daytime, night, dusk;
- ❑ details such as fine lines, moiré patterns;
- ❑ other challenging features such as fast zooms, scene changes, rapid brightness changes, focus changes.

In many cases the lighting conditions and movement are non-ideal: for example, the picture overall is too light or too dark, or a hand-held camera is used, or the subjects are blurred or sometimes out of focus, or there are rapid brightness changes due to the use of automatic gain control on the camera.

These features are deliberately inserted/used as they can often cause the greatest difficulty to video encoders, and these represent the boundary conditions (worst case) that the encoder should encounter with 'real' video clips.

In general the scenes are quite high-brightness, as it is easier to see encoder artefacts in a bright scene.

## 2. Installation, Backup

### 2.1 Backup

These video files are provided on a hard disk unit. Although the unit has been extensively tested prior to delivery, like all hard disks it *could* fail.

***Therefore we strongly advise you to back up all the data on this hard disk unit.***

(If the drive does fail, we can provide a replacement unit at low cost, but it could still be highly inconvenient for you.)

### 2.2 Installation

The hard disk unit has both USB 2.0 and 1394/Firewire interfaces (cables for both are provided). Both these interfaces provide a data transfer speed of over 400 Mbits/sec. Providing you have the correct hardware interface on your computer, the hard disk unit should be recognised automatically, simply by plugging in the cable from the unit to your computer. (The driver disk supplied should not be required.)

### 3. Description of Clip Set

53 video scenes are provided: each of these is provided at D1 (720x480), SIF (352x240) and QSIF (176x120) resolutions (that is 159 clips in all).

All clips 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**

These video scenes were all originally filmed in Interlaced format (as is standard).

This means that the larger format video clips, such as D1 (size 720x480) have Interlace effects within them, which the encoder must deal with. (As would be the case with 'real world' video sequences.)

Clips which are SIF (352x240) and QSIF (176x120) have been processed to remove the Interlace. (Again, this is usually the case with clips of this size.)

### 4. Software supplied

The following software is supplied:

- ❑ YUV sequence viewer

#### 4.1 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.




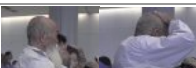





On the 'Tool' menu there is an option to subtract two YUV sequences, to look for differences between two files. A zero difference results in a constant grey image. To make these differences more visible, select the menu 'View' then 'Options' then enter a number into the 'Subtraction scale' box: the larger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

## 5. Information supplied

The following pages describe in considerable detail each video sequence (source data, contents of the scene).

Clip Number(s)	Title	Main purposes	Duration (mins:secs :frames)	D1 file size (MB)	Begin   End
V022011,2,3	Shinagawa	People, many objects moving towards & away from camera	00:30:20	476.4	
V022021,2,3	Megatop	Slow movement, text, low contrast	01:05:23	1,021.8	
V022031,2,3	Great Wall down	Fine detail pattern, large monochromatic area	00:14:27	231.7	
V022041,2,3	Front traffic	Large objects moving towards camera, reflections, texture	01:08:17	1,213.6	
V022051,2,3	Stripy shirt	Lines, tracking pan of subject with global motion	00:19:21	305.9	
V022061,2,3	Making jade	Low movement, texture, bright areas, round objects	00:10:28	170.0	
V022071,2,3	Night zooms	Night time, fast zooms, neon signs	00:15:12	239.5	
V022081,2,3	Phone girls	Talking heads, patterns	01:00:15	939.9	
V022091,2,3	Emperor Ming	Slow zoom, camera shake, largely monochromatic image	00:19:18	304.3	
V022101,2,3	Lawnmower man	Tracking pan in fine detail background	00:13:01	202.7	
V022111,2,3	Endless roofs	Rapid pan of many patterns and colours	01:08:17	1,563.0	
V022121,2,3	People crossing	Strong lines, crossed by people	00:17:26	277.3	
V022131,2,3	Bears	High contrast, bright areas, random movement, texture	00:22:20	352.0	
V022141,2,3	Shopping girls	People moving towards camera, detail background	00:06:03	94.9	
V022151,2,3	Crossing traffic	Traffic rapidly crossing image, left and right, strong lines	00:11:04	173.1	
V022161,2,3	Neon sign	High contrast patterns, zoom out, out of focus, night time	01:08:17	1,129.6	
V022171,2,3	Gargoyles	Low contrast fine patterns, pan up and zoom	00:28:13	441.7	
V022181,2,3	Korean Air	Slow movement, text, large low contrast/monochromatic areas	00:36:07	563.0	
V022191,2,3	Great Wall up	People moving away from camera	00:26:09	408.5	
V022201,2,3	Shrine	Fast zooms in/out, detail pattern	00:09:22	151.4	

Clip Number(s)	Title	Main purposes	Duration (mins:secs :frames)	D1 file size (MB)	Begin   End
V022211,2,3	Traffic junction	Many vehicles moving diagonally (high viewpoint)	01:08:17	1,250.9	
V022221,2,3	Night focus	In/out of focus, high contrast	00:14:23	229.7	
V022231,2,3	Car side view	Very rapid movement right to left, detail	00:17:26	277.3	
V022241,2,3	Ticket barrier	Many people crossing whole image	00:33:22	524.1	
V022251,2,3	Tokyo signs	Text, lines, buildings, reflections, pan up & down	00:36:04	561.4	
V022261,2,3	Baggage handler	Low movement tracking pan down, low contrast, text	00:28:07	438.6	
V022271,2,3	Wheelbarrow	Tracking pan right and zoom, background texture	00:40:21	632.4	
V022281,2,3	Character scroll	Low contrast detail patterns, foreground texture	00:14:20	228.1	
V022291,2,3	Rollercoaster	Rapid global motion into image, high contrast	00:12:03	188.2	
V022301,2,3	Bicycle lane	Traffic movement towards camera, bright areas	00:32:07	500.8	
V022311,2,3	Craggy rock	Rapid left/right pan over random shapes	00:47:11	736.1	
V022321,2,3	Freeway trip	Motion into lined image, texture	00:39:12	612.2	
V022331,2,3	Adult bar	Rapid zooms in/out, buildings, circular objects	00:18:10	284.6	
V022341,2,3	Mother son	Talking heads with background movement	00:32:01	497.7	
V022351,2,3	Passing balustrade	Rapid movement left, patterns	00:09:00	140.0	
V022361,2,3	Four men	Small objects (people) moving in background	00:15:12	239.5	
V022371,2,3	Roof lions	Large monochromatic areas, patterns, pan right/down/up/left	00:24:09	377.4	
V022381,2,3	Pentop girl	(Non) talking head, lines/moiré patterns	00:55:27	868.3	
V022391,2,3	Takeoff	Low contrast image, object moving rapidly right to left	00:07:04	110.9	
V022401,2,3	Seoul	Buildings, lines	00:08:22	135.8	
V022411,2,3	Standing guard	Continual camera shake, objects in & out of focus	00:33:28	527.2	
V022421,2,3	Basic House	Background text, white-out, people filling image	00:38:10	595.6	
V022431,2,3	Tokyo night	Dark image, neon signs, high contrast	00:20:05	313.1	

Clip Number(s)	Title	Main purposes	Duration (mins:secs :frames)	D1 file size (MB)	Begin   End
V022441,2,3	Great Wall	Patterns, detail, pan up & left	00:14:04	219.8	
V022451,2,3	Traffic lanes	Lines, text, traffic moving right (high viewpoint)	00:30:02	467.1	
V022461,2,3	Mauve skirt	Tracking pan of person in complex scene	00:19:13	301.7	
V022471,2,3	White beard	Talking heads, a few colours only	00:32:28	511.7	
V022481,2,3	Tourists	Many small people moving, zoom in	00:31:03	483.1	
V022491,2,3	Bench men	Talking heads with many passing foreground & background people	00:57:20	895.8	
V022501,2,3	Side traffic	Traffic filling image, rapid movement right, reflections	00:35:02	544.8	
V022511,2,3	Passing shops	Rapid movement left, high contrast	00:13:25	215.1	
V022521,2,3	Three girls	Tracking pan of 3 people, background texture	00:25:14	395.5	
V022531,2,3	Jumbo parking	Text, slow movement towards camera, round objects	00:40:13	628.3	