

Title: Problems in source sequences and in ACR-HRR test setup  
Source: OPTICOM  
Contact: Marcus Barkowsky, OPTICOM, Germany, [mb@opticom.de](mailto:mb@opticom.de)  
Roland Bitto, OPTICOM, Germany, [rb@opticom.de](mailto:rb@opticom.de)  
Tel: +49 9131 53020-0  
Fax: +49 9131 53020-20

## ***Introduction***

This document summarizes the problems we found in the subjective test software for the ACR-HRR test and the visible degradations of the sequences in the in the current source sequence pool.

### ***ACR-HRR with subjective test software AcrVqWinBeta2***

We used the AcrVqWinBeta2 software provided by Acreo to evaluate the different sequences in QCIF and CIF. In order to see how a video coder reacts on the sequences we combined the original video on the left with a medium quality coded video on the right, so the display width was doubled in this case. We saw each video sequence twice so we could concentrate once on the coded side and once on the undistorted video. We therefore did not use the program as intended but with larger and longer sequences than usual.

However, some of the results may still be valid:

- The program crashed if a non-existing input path for a sequence was given in the configuration file
- The “PixelDepth” should be changed from 16 to 24 or 32 in the configuration file depending on the graphics card. Otherwise color quantization artifacts are clearly visible, e.g. in the background of the NTIA\_SRC\_bells5 sequence.
- How can we setup the program to run the practice trials at the start of the subjective sessions?

### ***ACR-HRR test setup and PVS creation***

During the preparation of our viewing session, we came across some additional questions:

- How do we prepare the training data at the start of each session (practice trials)? Which SRCs and HRCs do we use for those? This should ideally be clarified before the PVS creation starts.
- The CommonSet sequences are mostly 30fps. How do we use them in a 25fps subjective test? Do we use a playback of 25fps or 30fps? If we use 25fps then we will have to select a corresponding range of frames or we will have to temporally subsample the original content. On the other hand, if we use 30fps then additional effort will be necessary to create the PVS in 30fps as well as in 25fps.

## ***General comments on the MM Scene Pool***

The sequences in the current MM Scene Pool provide a wide variety of different content and the content of most of them is also not annoying for the viewer.

The quality of the original sequences seems to vary from consumer cameras to very high quality studio cameras. Depending on the illumination situation some of the sequences show typical degradations, e.g. noise, too.

It seems that the conversion step from the (interlaced) original video sequence to the new video size, e.g. QCIF, CIF, VGA has often introduced artifacts. Some of them are typical but not all of them. We commented on each sequence below but there are two classes of distortions which should be addressed:

1. Single frame distortions: Some of the sequences contain implausible distortions like repeated blocks or streaks. Those distortions may be due to transmission errors somewhere in the processing and distribution chain.
2. De-interlacing: In nearly all sequences with fast motion the frames are distorted by high frequency artifacts. These often occur in homogeneous regions and not around borders. They are usually not visible for the viewer because they vanish (or move to a different position) in the next frame. However, both the HRC creation as well as the measurement will have problems with this kind of artifacts. It leads to the situation that a low-pass filtered sequence looks more natural than the reference sequence. On the other hand side, most of the sequences which are currently transmitted worldwide are derived from interlaced material and thus different de-interlacing artifacts may occur. Therefore, we would like to propose to use different algorithms for the de-interlacing of different sequences in a random fashion.

## ***Detailed comments on the MM scene pool***

In the following we comment on each sequence separately. The comments are also weighted by orange and red color depending on the severity. Some of the distortions are allowed by the testplan and are just described as a noticeable impairment. None of the sequences has to be rejected in our opinion but in some cases it would be more important to consider a replacement than in others.

Those sequences which were mentioned in the document by Quan from Psytechnics are marked with a (P) for easier comparison. Only our comments are given.

### QCIF Common Set

IRCCyN\_anim1\_qcif.avi

CU\_SRC\_bbshoot\_qcif.avi

(O) In Frame 264 : Brightness fluctuations above scoreboard.

NTIA\_SRC\_SusieStill\_qcif.avi

CU\_SRC\_bcancer2\_qcif.avi

(P,O) KBS\_SRC\_gayoB\_qcif.avi - Is also included in set qcif.W – 30fps

CU\_SRC\_presents1\_qcif.avi

### CIF Common Set

IRCCyN\_anim13\_cif.avi  
CU\_SRC\_presents3\_cif.avi  
(P)  
NTT\_SRC\_Talk\_1-4\_cif.avi  
KBS\_SRC\_mubankA\_cif.avi  
(P,O) Is also included in set cif.M – 30fps  
NTIA\_SRC\_WashdcStill\_cif.avi  
(O) Frame 23: slight distortions in the upper left quarter.  
(Above Hay Adams Hotel)  
CU\_SRC\_bbfoul\_cif.avi  
(P)

#### VGA Common Set

NTIA\_SRC\_stadpan\_vga.avi  
(P,O) Is also included in set vga.K – 30fps  
SVT\_SRC\_crowdrunP\_vga.avi  
(P,O) Is also included in set vga.C – 25fps and vga.H - 25fps  
KBS\_SRC\_newsG\_vga.avi  
(P,O) Is also included in set vga.K – 30fps  
Some deinterlacing artifacts

KBS\_SRC\_gayoD\_vga.avi  
NTIA\_SRC\_duckmovie\_vga.avi  
(O) Every 4. Frame is repeated  
OPT\_SRC\_013\_vga.avi

#### QCIF Scene Pools

##### **qcif.A – 25fps**

IRCCyN\_Gob2\_qcif.avi  
OPT\_SRC\_016p\_qcif.avi  
ITU\_SRC\_BicycleRace\_qcif.avi  
PSY\_SRC\_skidh02\_qcif.avi  
T\_W\_01\_q.avi  
SQ\_SRC\_Living\_Room\_qcif.avi  
CRC\_SRC\_Carrousel25fps\_qcif.avi  
OPT\_SRC\_010\_qcif.avi  
(O) Quantized color map

##### **qcif.D – 25fps**

OPT\_SRC\_015p\_qcif.avi  
OPT\_SRC\_021\_qcif.avi  
(O) Large distortions in frame 3,24,125,153,145

ITU\_SRC\_f1raceB\_qcif.avi  
NTIA\_SRC\_ftballslow\_qcif.avi  
T\_W\_06\_q.avi  
T\_W\_04\_q.avi  
FT\_SRC\_news\_qcif.avi  
NTIA\_SRC\_playerout25fps\_qcif.avi

**qcif.G – 25fps**

NTIA\_SRC\_fcnstop25fps\_qcif.avi  
T\_W\_09\_q.avi  
ITU\_SRC\_f1raceA\_qcif.avi  
ITU\_SRC\_arrividerci2\_qcif.avi  
OPT\_SRC\_006\_qcif.avi  
SQ\_SRC\_Living\_Room\_qcif.avi  
FT\_SRC\_news\_qcif.avi  
PSY\_SRC\_drink01\_qcif.avi

**qcif.I – 25fps**

OPT\_SRC\_020\_qcif.avi  
PSY\_SRC\_footb01\_qcif.avi  
ITU\_SRC\_ccraceA\_qcif.avi  
OPT\_SRC\_013\_qcif.avi  
T\_W\_08\_q.avi  
NTIA\_SRC\_stadpan25fps\_qcif.avi  
**IRCCyN\_Gob2\_qcif.avi**  
**(O) The framerate is 30fps but the test is 25fps**  
T\_W\_03\_q.avi

**qcif.J – 30fps**

CRC\_SRC\_bench\_qcif.avi  
KBS\_SRC\_wanggunD\_qcif.avi  
NTIA\_SRC\_playerout\_qcif.avi  
KBS\_SRC\_leeparkA\_qcif.avi  
KBS\_SRC\_newsH\_qcif.avi  
NTIA\_SRC\_twoducks\_qcif.avi  
NTIA\_SRC\_guitar3\_qcif.avi  
KDDI\_SRC\_SD08\_qcif.avi

**qcif.K – 30fps**

**NTIA\_SRC\_tea1p\_qcif.avi**  
**(O) Last scene cut below 1 second.**  
KBS\_SRC\_newsG\_qcif.avi  
NTIA\_SRC\_stadpan\_qcif.avi  
NTIA\_SRC\_overview2\_qcif.avi  
KBS\_SRC\_winterA\_qcif.avi  
KBS\_SRC\_gayoA\_qcif.avi

KDDI\_SRC\_3D11\_qcif.avi  
KDDI\_SRC\_SD03\_qcif.avi

**qcif.L – 30fps**

NTIA\_SRC\_collage1\_qcif.avi  
CRC\_SRC\_carrousel\_qcif.avi  
ITU\_SRC\_popples\_qcif.avi  
NTIA\_SRC\_spectrum1\_qcif.avi  
KBS\_SRC\_newsF\_qcif.avi  
NTIA\_SRC\_bells5\_qcif.avi  
KDDI\_SRC\_SD01\_qcif.avi  
KDDI\_SRC\_SD19\_qcif.avi

**qcif.P – 30fps**

NTIA\_SRC\_cartalk1\_qcif.avi  
(O) Minor color quantization artifacts at the top of the car

KDDI\_SRC\_3D02\_qcif.avi  
NTIA\_SRC\_pghtruck2a\_qcif.vai  
KBS\_SRC\_wanggunB\_qcif.avi  
KDDI\_SRC\_SD14\_qcif.avi  
KBS\_SRC\_mubankBp\_qcif.avi  
NTIA\_SRC\_ffgear\_qcif.avi  
ANSI\_SRC\_vtc2mp\_qcif.avi

**qcif.S – 30fps**

NTIA\_SRC\_rfdev2\_qcif.avi  
NTIA\_SRC\_rbtnews1\_qcif.avi  
NTIA\_SRC\_bpit5\_qcif.avi  
(O) Every 5. Frame is repeated  
KBS\_SRC\_gayoE\_qcif.avi  
KBS\_SRC\_leeparkC\_qcif.avi  
(O) Flickering , in the bottom of the sequence  
NTIA\_SRC\_twogeese\_qcif.avi  
NTIA\_SRC\_pghvansd\_qcif.avi  
SMPTE\_SRC\_bicycles\_qcif.avi

**qcif.T – 30fps**

KBS\_SRC\_mubankE\_qcif.avi  
NTIA\_SRC\_catjoke\_qcif.avi  
NTIA\_SRC\_towtruck1\_qcif.avi  
KBS\_SRC\_wanggunC\_qcif.avi  
KDDI\_SRC\_3D10\_qcif.avi  
(O) Color quantization distortions in the black bar.  
NTIA\_SRC\_pghtruck2a\_qcif.avi  
KDDI\_SRC\_SD15\_qcif.avi

KBS\_SRC\_newsD\_qcif.avi

**qcif.U – 30fps**

CRC\_SRC\_volleyball\_qcif.avi

NTIA\_SRC\_fcnstop\_qcif.avi

(O) The reflections and flashes possibly lead to viewer irritations.

KBS\_SRC\_wanggunG\_qcif.avi

NTIA\_SRC\_music3\_qcif.avi

CU\_SRC\_presents4\_qcif.avi

NTIA\_SRC\_schart2\_qcif.avi

NTIA\_SRC\_fish5\_qcif.avi

KBS\_SRC\_newsEp\_qcif.avi

**qcif.V – 30fps**

NTIA\_SRC\_tea4\_qcif.avi

CRC\_SRC\_headshot\_qcif.avi

KDDI\_SRC\_SD11\_qcif.avi

KBS\_SRC\_soccerD\_qcif.avi

KBS\_SRC\_mubankBp\_qcif.avi

NTIA\_SRC\_bpit2\_qcif.avi

(O) Every 5. Frame is repeated

KBS\_SRC\_newsH\_qcif.avi

NTIA\_SRC\_rbtnews2\_qcif.avi

**qcif.W – 30fps**

NTIA\_SRC\_playerout\_qcif.avi

KBS\_SRC\_leeparkD\_qcif.avi

KBS\_SRC\_mubankD\_qcif.avi

KBS\_SRC\_newsG\_qcif.avi

KBS\_SRC\_gayoB\_qcif.avi

KDDI\_SRC\_SD16\_qcif.avi

YONSEI\_SRC\_zooC\_qcif.avi

KDDI\_SRC\_3D04\_qcif.avi

**qcif.X – 30fps**

NTIA\_SRC\_firemovie1\_qcif.avi

CRC\_SRC\_volleyball\_qcif.avi

NTIA\_SRC\_cchart3pp\_qcif.avi

CRC\_SRC\_carrousel\_qcif.avi

CRC\_SRC\_bench\_qcif.avi

NTIA\_SRC\_collage5\_qcif.avi

NTIA\_SRC\_heli02\_qcif.avi

SMPTE\_SRC\_birches1\_qcif.avi

## CIF Scene Pools

### **cif.B – 25fps**

SQ\_SRC\_ChildrenPlaying\_cif.avi  
ITU\_SRC\_ccraceA\_cif.avi  
SVT\_SRC\_PrincessRunPP\_cif.avi  
NTIA\_SRC\_ftballslow\_cif.avi  
IRCCyN\_SRC\_Gob3\_cif.avi  
T\_W\_02\_cif.avi  
PSY\_SRC\_inter01\_cif.avi  
NTIA\_SRC\_stadpan25fps\_cif.avi

### **cif.E – 25fps**

SVT\_SRC\_ParkJoyPP\_cif.avi  
FT\_SRC\_visio\_cif.avi  
OPT\_SRC\_015p\_cif.avi  
PSY\_SRC\_ccski01\_cif.avi  
NTIA\_SRC\_heli0225fps\_cif.avi  
PSY\_SRC\_festi01\_cif.avi  
OPT\_SRC\_009\_cif.avi  
T\_W\_07\_c.avi

### **cif.G – 25fps**

NTIA\_SRC\_fenstop25fps\_cif.avi  
(O) The reflections and flashes possibly lead to viewer irritations.  
T\_W\_09\_cif.avi  
ITU\_SRC\_f1raceA\_cif.avi  
ITU\_SRC\_arrividerci2\_cif.avi  
IRCCyN\_SRC\_Gob3\_cif.avi  
SQ\_SRC\_Living\_Room\_cif.avi  
FT\_SRC\_news\_cif.avi  
PSY\_SRC\_drink01\_cif.avi

### **cif.H – 25fps**

OPT\_SRC\_020\_cif.avi  
(P)  
PSY\_SRC\_ccski02\_cif.avi  
CRC\_SRC\_volleyball25fps\_cif.avi  
FT\_SRC\_visio\_cif.avi  
OPT\_SRC\_016p\_cif.avi  
SVT\_SRC\_CrowdRunP\_cif.avi  
(O) Distortions in frame 272, however this frame is outside the 8 sec border.  
NTIA\_SRC\_heli0225fps\_cif.avi  
OPT\_SRC\_008\_cif.avi  
(O) Temporally downsampled by 3 frame repeats in the first part

**cif.J – 30fps**

CRC\_SRC\_bench\_cif.avi  
KBS\_SRC\_wanggunD\_cif.avi  
NTIA\_SRC\_playerout\_cif.avi  
[KBS\\_SRC\\_leeparkA\\_cif.avi](#)  
(P)  
KBS\_SRC\_newsH\_cif.avi  
NTIA\_SRC\_twoducks\_cif.avi  
NTIA\_SRC\_guitar3\_cif.avi  
KDDI\_SRC\_SD08\_cif.avi

**cif.L – 30fps**

NTIA\_SRC\_collage1\_cif.avi  
CRC\_SRC\_carrousel\_cif.avi  
ITU\_SRC\_popple\_cif.avi  
NTIA\_SRC\_spectrum1\_cif.avi  
[KBS\\_SRC\\_newsF\\_cif.avi](#)  
(O) Flickering in fountain and microphone.  
NTIA\_SRC\_bells5\_cif.avi  
KDDI\_SRC\_SD01\_cif.avi  
KDDI\_SRC\_SD19\_cif.avi

**cif.M – 30fps**

CRC\_SRC\_houseoffer\_cif.avi  
NTIA\_SRC\_brick2\_cif.avi  
NTIA\_SRC\_heli02\_cif.avi  
NTIA\_SRC\_magic1\_cif.avi  
KBS\_SRC\_soccerB\_cif.avi  
KDDI\_SRC\_SD16\_cif.avi  
CRC\_SRC\_mobike\_cif.avi  
KBS\_SRC\_mubankA\_cif.avi

**cif.N – 30fps**

NTIA\_SRC\_firemovie1\_cif.avi  
NTIA\_SRC\_fcstop\_cif.avi  
CBC\_SRC\_LePoint\_cif.avi  
NTIA\_SRC\_wfall\_cif.avi  
[SMPTE\\_SRC\\_birches2\\_cif.avi](#)  
(P)  
[KDDI\\_SRC\\_3D09\\_cif.avi](#)  
(P,O) Green bar at the bottom of the sequence.  
NTIA\_SRC\_fish1\_cif.avi  
CRC\_SRC\_redflower\_cif.avi

**cif.O – 30fps**

NTIA\_SRC\_pgstalk1a\_cif.avi



CRC\_SRC\_headshot\_cif.avi  
ITU\_SRC\_ungenerique\_cif.avi  
CRC\_SRC\_FlamingoHilton\_cif.avi  
KBS\_SRC\_newsA\_cif.avi

(O) Visible interlace artifacts on the shirt.

KBS\_SRC\_newsBp\_cif.avi  
CRC\_SRC\_volleyball\_cif.avi  
NTIA\_SRC\_bpit1\_cif.avi

(O) Guard net may irritate the viewer. This could lead to large variance of the results.

#### **cif.Q – 30fps**

NTIA\_SRC\_hose\_cif.avi  
NTIA\_SRC\_stadsc\_cif.avi  
KBS\_SRC\_morningBp\_cif.avi  
CBC\_SRC\_BetesPasBetesP\_cif.avi  
NTIA\_nstopbf\_cif.avi  
NTT\_SRC\_Block\_2-1\_cif.avi

(O) Blurred speaker due to consumer camera.

KBS\_soccerD\_cif.avi  
Yonsei\_SRC\_zooA\_cif.avi

#### **cif.R – 30fps**

KBS\_SRC\_mubankCp\_cif.avi  
KBS\_SRC\_soccerC\_cif.avi  
(O) Local interlace artifacts.  
KDDI\_SRC\_3D01\_cif.avi  
(P)  
ITU\_SRC\_MobileCalendar\_cif.avi  
NTIA\_SRC\_drumfeet\_cif.avi  
NTIA\_SRC\_fishrob1\_cif.avi  
CRC\_SRC\_CaesarsPalace\_cif.avi  
NTIA\_SRC\_collage5\_cif.avi

#### **cif.U – 30fps**

CRC\_SRC\_volleyball\_cif.avi  
NTIA\_SRC\_fcstop\_cif.avi  
KBS\_SRC\_wanggunG\_cif.avi  
NTIA\_SRC\_music3\_cif.avi  
CU\_SRC\_presents4\_cif.avi  
NTIA\_SRC\_schart2\_cif.avi  
NTIA\_SRC\_fish5\_cif.avi  
KBS\_SRC\_newsEp\_cif.avi

#### **cif.W – 30fps**

NTIA\_SRC\_playerout\_cif.avi

KBS\_SRC\_leeparkD\_cif.avi

(O) Clearly visible Interlace artifacts

KBS\_SRC\_mubankD\_cif.avi

KBS\_SRC\_newsG\_cif.avi

KBS\_SRC\_gayoB\_cif.avi

KDDI\_SRC\_SD16\_cif.avi

YONSEI\_SRC\_zooC\_cif.avi

KDDI\_SRC\_3D04\_cif.avi

(O) Green border at the bottom of the sequence

### **cif.X – 30fps**

NTIA\_SRC\_firemovie1\_cif.avi

CRC\_SRC\_volleyball\_cif.avi

NTIA\_SRC\_cchart3pp\_cif.avi

CRC\_SRC\_carrousel\_cif.avi

CRC\_SRC\_bench\_cif.avi

NTIA\_SRC\_collage5\_cif.avi

NTIA\_SRC\_heli02\_cif.avi

SMPTE\_SRC\_birches1\_cif.avi

## VGA Scene Pools

### **vga.C – 25fps**

ITU\_SRC\_popple625\_vga.avi

(O) 30fps sequence in 25fps test set

(O) White dot in the blue background. Not annoying

PSY\_SRC\_skidh03\_vga.avi

OPT\_SRC\_004\_vga.avi

(P)

PSY\_SRC\_festi02\_vga.avi

T\_W\_05p\_v.vga

(O) Huge coding artifacts in frame 261. (DCT basis functions)

SVT\_SRC\_CrowdRunP\_vga.avi

OPT\_SRC\_008\_vga.avi

(P)

T\_W\_02\_v.vga

### **vga.E – 25fps**

SVT\_SRC\_ParkJoyPP\_vga.avi

FT\_SRC\_visio\_vga.avi

OPT\_SRC\_015p\_vga.avi

PSY\_SRC\_ccski01\_vga.avi

NTIA\_SRC\_heli0225fps\_vga.avi  
PSY\_SRC\_festi01\_vga.avi  
OPT\_SRC\_009\_vga.avi  
(P,O) Field ordering mismatch. (Error is prominent in the displayed numbers)  
T\_W\_07\_v.avi

**vga.F – 25fps**

SVT\_SRC\_IntoTree\_vga.avi  
ITU\_SRC\_ccraceB\_vga.avi  
OPT\_SRC\_006\_vga.avi  
(P,O) Spatial color displacement in every second frame.  
T\_W\_10\_v.avi  
(P)  
T\_W\_08\_v.avi  
OPT\_SRC\_01p\_vga.avi  
(P)  
ITU\_SRC\_CalMobB625\_vga.avi  
(P)  
NTIA\_SRC\_ftballslow\_vga.avi  
(P)

**vga.H – 25fps – repeat of CIF set**

OPT\_SRC\_020\_vga.avi  
(P)  
PSY\_SRC\_ccski02\_vga.avi  
CRC\_SRC\_volleyball25fps\_vga.avi  
(O) Interlace artifacts in frame 169 and following  
FT\_SRC\_visio\_vga.avi  
OPT\_SRC\_016p\_vga.avi  
SVT\_SRC\_CrowdRunP\_vga.avi  
NTIA\_SRC\_heli0225fps\_vga.avi  
OPT\_SRC\_008\_vga.avi  
(P)

**vga.K – 30fps**

NTIA\_SRC\_tea1p\_vga.avi  
KBS\_SRC\_newsG\_vga.avi  
(O) Temporal flickering  
NTIA\_SRC\_stadpan\_vga.avi  
NTIA\_SRC\_overview2\_vga.avi  
KBS\_SRC\_winterA\_vga.avi  
(O) Critically blurred sequence. May lead to large variance of test results.  
KBS\_SRC\_gayoA\_vga.avi  
(O) Interlace artifacts (prominent in frame 54)  
KDDI\_SRC\_3D11\_vga.avi  
KDDI\_SRC\_SD03\_vga.avi

### **vga.L – 30fps**

NTIA\_SRC\_collage1\_vga.avi

CRC\_SRC\_carrousel\_vga.avi

(P)

ITU\_SRC\_popple\_vga.avi

NTIA\_SRC\_spectrum1\_vga.avi

KBS\_SRC\_newsF\_vga.avi

(O) Interlace flickering (prominent at the microphone)

NTIA\_SRC\_bells5\_vga.avi

(O) Color quantization and interlace artifacts

KDDI\_SRC\_SD01\_vga.avi

KDDI\_SRC\_SD19\_vga.avi

(P)

### **vga.M – 30fps**

CRC\_SRC\_houseoffer\_vga.avi

NTIA\_SRC\_brick2\_vga.avi

NTIA\_SRC\_heli02\_vga.avi

NTIA\_SRC\_magic1\_vga.avi

KBS\_SRC\_soccerB\_vga.avi

(P)

KDDI\_SRC\_SD16\_vga.avi

(P)

CRC\_SRC\_mobike\_vga.avi

(O) Critically blurred

KBS\_SRC\_mubankA\_vga.avi

(P)

### **vga.N – 30fps**

NTIA\_SRC\_firemovie1\_vga.avi

NTIA\_SRC\_fcstop\_vga.avi

(O) The reflections and flashes possibly lead to viewer irritations.

CBC\_SRC\_LePoint\_vga.avi

(O) Sequence temporally downsampled by a factor of 2. Interlace artifacts visible.

NTIA\_SRC\_wfall\_vga.avi

SMPTE\_SRC\_birches2\_vga.avi

(P)

KDDI\_SRC\_3D09\_vga.avi

(P,O) Green bar at the bottom of the sequence.

NTIA\_SRC\_fish1\_vga.avi

CRC\_SRC\_redflower\_vga.avi

### **vga.O – 30fps**

NTIA\_SRC\_pghtalk1a\_vga.avi

CRC\_SRC\_headshot\_vga.avi

ITU\_SRC\_ungenerique\_vga.avi

(O) Color distortions in text.

CRC\_SRC\_FlamingoHilton\_vga.avi

(P)

KBS\_SRC\_newsA\_vga.avi

(P,O) Color flickering

KBS\_SRC\_newsBp\_vga.avi

(P,O) Color flickering

CRC\_SRC\_volleyball\_vga.avi

(O) Interlacing artifacts

NTIA\_SRC\_bpit1\_vga.avi

(O) Guard net possibly irritate the subject. This could lead to large variance of the results.

### **vga.P – 30fps**

NTIA\_SRC\_cartalk1\_vga.avi

(O) Color quantisation

KDDI\_SRC\_3D02\_vga.avi

(P)

NTIA\_SRC\_pghtruck2a\_vga.vai

KBS\_SRC\_wanggunB\_vga.avi

KDDI\_SRC\_SD14\_vga.avi

(P,O) Interlace artifacts

KBS\_SRC\_mubankBp\_vga.avi

NTIA\_SRC\_ffgear\_vga.avi

ANSI\_SRC\_vtc2mp\_vga.avi

### **vga.Q – 30fps**

NTIA\_SRC\_hose\_vga.avi

NTIA\_SRC\_stadsc\_vga.avi

(P)

KBS\_SRC\_morningBp\_vga.avi

(P,O) Huge color distortions

CBC\_SRC\_BetesPasBetesP\_vga.avi

NTIA nstopbm\_vga.avi

NTT\_SRC\_Block\_2-3\_vga.avi

KBS soccerD\_vga.avi

(P,O) Interlace artifacts

Yonsei\_SRC\_zooA\_vga.avi

(P)

### **vga.R – 30fps**

KBS\_SRC\_mubankCp\_vga.avi

KBS\_SRC\_soccerC\_vga.avi

(P)

KDDI\_SRC\_3D01\_vga.avi

(P)

ITU\_SRC\_MobileCalendar\_vga.avi

(P)

NTIA\_SRC\_drumfeet\_vga.avi

NTIA\_SRC\_fishrob1\_vga.avi

CRC\_SRC\_CaesarsPalace\_vga.avi

(P)

NTIA\_SRC\_collage5\_vga.avi

**vga.S – 30fps**

NTIA\_SRC\_rfdev2\_vga.avi

NTIA\_SRC\_rbtnews1\_vga.avi

NTIA\_SRC\_bpit5\_vga.avi

KBS\_SRC\_gayoE\_vga.avi

**KBS\_SRC\_leeparkC\_vga.avi**

**(P,O) Much color flickering**

NTIA\_SRC\_twogeese\_vga.avi

NTIA\_SRC\_pghvansd\_vga.avi

SMPTE\_SRC\_bicycles\_vga.avi

(P)