



# **Video Adjudication Guidelines for Olympic Games**

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## I. INTRODUCTION

Canoe slalom requires a video adjudication system that also supplies nations coaches with a live video feed of individual competition runs.

For the Olympic Games this video system is separate from OBS, a stand alone system dedicated to video adjudication.

ICF decision making on adjudication at Olympic Games time needs to be consistent with OBS output. ICF and competition management will request OBS policy to extend the privilege to receiving a broadcast feed to guarantee effective adjudication.

## II. EXPECTATIONS

Test Event needs to be fully operational for Video Adjudication and the Video Room. Both the system need proving and staff will need training on task. This video output is for technical purposes only.

## III. OUTLINE OF THE SYSTEM

On the whitewater channel side seven dedicated video cameras each feed a signal to the Video Production (HUB) operator who compiles a unique video file for each competition run.

The video file then goes to Video Adjudication where it is analysed live and saved for review. Video Adjudication can also refer to Slow Motion (SloMo) replay on any camera.

Each video file also goes live to the nations' video room as either A or B feed where the option to save the files is available to each nation. Additionally, small nations are offered a 1Gb connection facility for remote access on demand to a hard drive of files.

## IV. NOTES

- Best practice to have the video adjudication cameras all on one side of the channel.
- Ducting for cabling is good, however it is impossible to determine in advance exactly where judge shelters will be located. For earlier plans the shelter positions are estimated to hold the footprint.
- The simplest solution for camera cables and in legacy is a open ducts installed with portable covers to lay cables, avoiding access chambers. A suitable product is difficult to find. La Seu (ESP) has some 'slot drains' that are very useful.
- Omega will request their own ducts including 2 intermediate timing positions.
- Test Event (TEV) needs to simulate Games time (exception is OBS not operational)
- If the OCOG chooses to televise/stream the test event (TEV) the video system camera signals can support this production - to be negotiated
- A & B feed are essential to support reduced start interval contingency plans
- Under test is a push button (PB) system for penalty input. This would be an integral part of the Omega system.

## V. OCOG PROVIDES

- All power outlets (good guarantee on safety with many European standard)
- All cabling and ducting (patch cabling to be discussed)
- Fibre cabling and converters as required to BNC terminations
- 5 Optical Fibre splitters (2-way split) for Video Production (HUB)
- 1GB link OVR-Video Room-Enquiries for video replay on demand
- Coaxial cable as agreed, HD quality
- 7 low end professional video cameras, tripods, waterproof covers, spare batteries
- Suitable editing suite for the Video Producer (HUB)
- All monitors, including stands where necessary
- High Quality monitors for video adjudication as defined elsewhere
- Suitable shelves, tables including raised monitor shelves for video adjudication
- Camera operators x 5, accredited workforce
- Video Producer x 1, accredited workforce
- Director x 1 (briefed by and working with ICF Officials), accredited workforce
- Technical Manager x 1, accredited workforce

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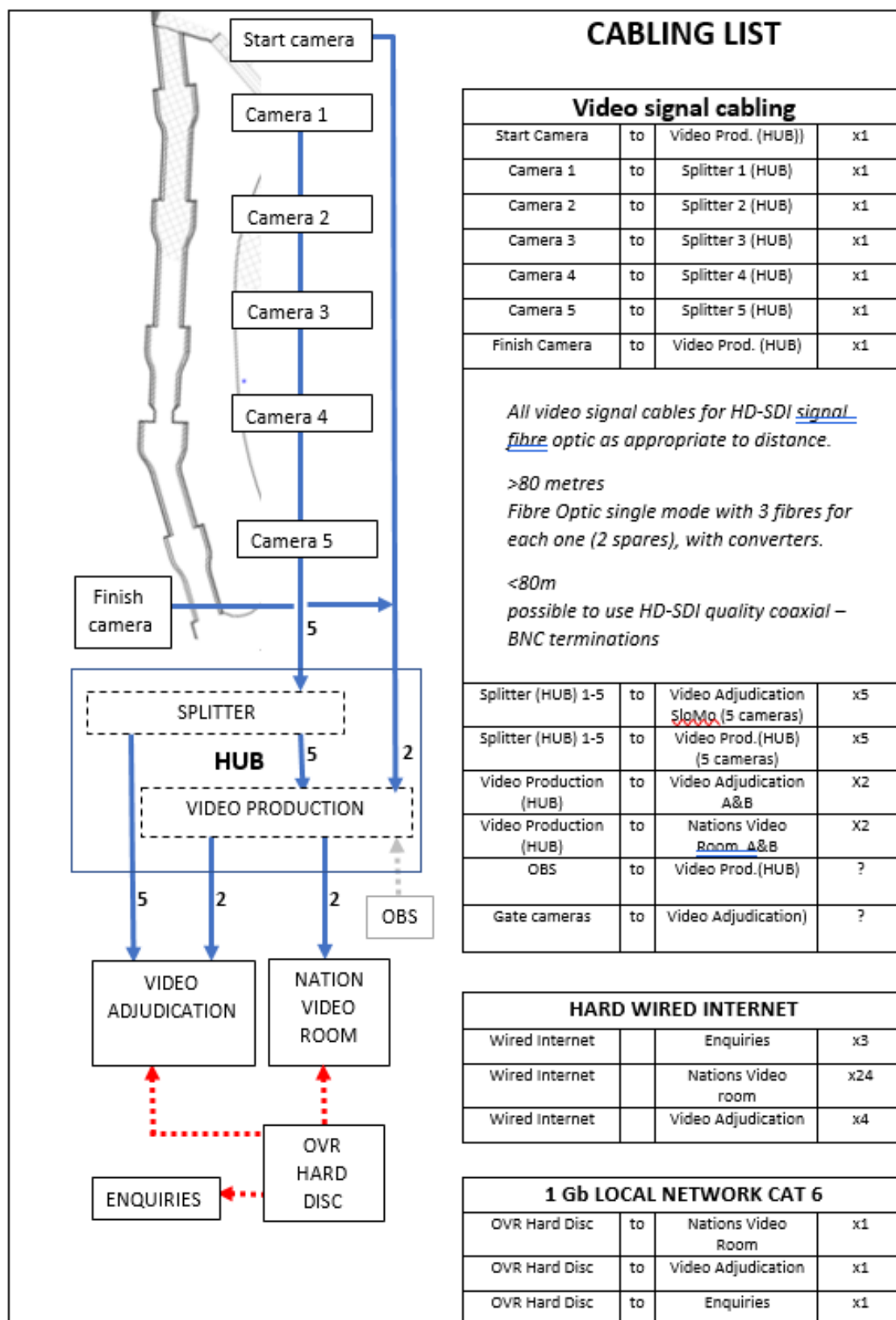
## **VI. ICF PROVIDES**

- All video adjudication hardware and software except monitors
- Video distribution amplifiers A and B feed for the Nations Video room (28 stations)
- Patch cabling for distribution in the Nations Video room
- Technical Officials, including a video system expert and adjudication officials.

## **VII. AT THIS STAGE, NOVEMBER 2017, MUST HAVE**

- The principle and scope of the system understood by the OCOG to budget and plan
- Ducts planned in construction drawings
- Power distribution planned in construction drawings (not Overlay power)
- Video system Staffing numbers identified for accreditation (not including ITOs)
- Discussion on who operates the video system
- Footprints of operational areas understood by architects
- The Tokyo 2020 equipment list checked to suit the need. For TEV and Games time

## VIII. VIDEO ADJUDICATION CABLING



## IX. OPERATIONAL AREAS HARDWARE PROVISION

<b>Camera 1 and 7</b> footprint 4m <sup>2</sup> each	OC OG	Start and Finish cameras Fixed, on tripod, video signal fibre cabling and power.	Located channel side level with the start and finish.
<b>Camera 2-6</b> footprint 4m <sup>2</sup> each	OC OG	Section cameras with operators, INTERCOM, video signal fibre cabling and power. A raised platform may be required.	Channel side (same side) at positions required
<b>Gate cameras</b> footprint FOP point	ICF	Gate cameras (number tba)	For gates identified by ICF as difficult to judge
	OC OG	Signal cabling to Video Producer (HUB)	
<b>Storage equipment</b> footprint 8 m <sup>2</sup>	OC OG	Overnight storage of cameras etc. Power for charging equipment. Security.	Located adjacent to the HUB, Video Production
<b>HUB: Splitter and Video Production</b> footprint 8 m <sup>2</sup>	OC OG	Video editing equipment to combine camera feeds. Security. INTERCOM	Located in the Nations Video Room OR adjacent to the OVR
<b>Video Adjudication</b> footprint 18-21m <sup>2</sup>	ICF	ICF equipment, 4 computers, 1 slow motion, file storage and patch cables	Best located in the OVR, by permissions of Omega.
	OC OG	2TV monitor(≥ 40" /HDMI/4K+remote) 1TVmonitor(≥50"/HDMI/4K + remote) 2PCmonitor(≥22"/≥1920x1200/HDMI) 5 HDMI cables (PC to monitor) Tables 6m <sup>2</sup> minimum 7 chairs, 2 power sockets 2 platforms (≥ 40cm high) for 2 TV,s	
<b>Enquiries Area</b> footprint 16m <sup>2</sup>	OC OG	Power, internet Laptop for results, Laptop for video replay on demand <b>Dedicated 1Gb connection from OVR</b> for video on demand	Best local to Video Adjudication, adjacent to results board and easy access for Team Leaders.
<b>Nations' Video Room</b> footprint 120m <sup>2</sup>	ICF	ICF video signal distribution equipment and patch cables Switch for replay distribution	To hold up to maximum 90 people, 80 computers and various nations hardware.
	OC OG	Power distribution, internet 2 large monitors (A and B). Security.	
<b>Small Nations Replay on demand</b> Footprint included in the Video Room	ICF	Hard drive (possibly Siwidata) <i>discuss</i> Switch distribution hub	Hard Drive located in the OVR Located Video Room
	OC OG	<b>Dedicated 1Gb connection from OVR</b> for video replay on demand	OVR-Video Room

**X. POWER DISTRIBUTION**

Power is either installed in construction or installed temporary, 'Gap Cabling'.

Allow for variances in nation' power adapters. Offering many European outlets professionally installed is far safer than lots of connectors.

Take note of the power zoning to reduce the risk in the Nations Video Room.

<b>Camera 1 and 7</b> <b>100w</b>  footprint 4m <sup>2</sup> each	OC OG	Low power outlet for (i) fibre converters and (ii) cameras. Allow 500w total Auto-battery back-up required
<b>Camera 2-6</b> <b>400w</b>  footprint 4m <sup>2</sup> each	OC OG	
<b>Gate cameras</b> <b>?</b>  footprint FOP point	OC OG	Low power outlet for (i) fibre converter and (ii) cameras Allow 100 watts each position Auto-battery back-up required
<b>Storage equipment</b> <b>1000w</b>  footprint 8 m <sup>2</sup>	OC OG	Multiple power outlets 2 x 4 outlets suggested Allow 1000 watts
<b>HUB : Video Production &amp; Splitter</b> <b>1000w</b>  footprint 8 m <sup>2</sup>	OC OG	Multiple power outlets 2 x 4 outlets suggested Allow 3500watts Supply PSU protection
<b>Video Adjudication</b> <b>2000w</b>  footprint 9m <sup>2</sup>	OC OG	Multiple power outlets 2 x 4 outlets suggested Allow 2500watts Supply PSU protection
<b>Nations' Video Room</b> <b>25000w</b>  footprint 50m <sup>2</sup>	OC OG	Multiple power outlets 2 x 25 outlets minimum Nations to connect in their own distribution blocks. Allow 25kW power supply Must have 10-12 separate fuses (zones)



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## XI. ADDITIONAL NOTES

Video standards are HD-SDI

Camera persons prefer headphones/boom microphone for their INTERCOM link with Video Production.

Outputs for A & B channel not included in this document are Athlete Lounge, Competition Management Office and VIP area. Discuss please for TEV and Games time.

Video cameras, BNC output, low end professional, professional quality tripod, waterproof cover to suit. Platform 1.5m x 1.5m x 0.3m may be requested.

Camera operators who are in direct OBS camera view need matching clothing including waterproofs.

Test Event: If there is a late resolution of the Panasonic contract the Test Event may not have the Panasonic cameras provision.

(i) Rio 2016: Video Producer and camera persons in Rio were a TV production company.

For the Test Event in Rio they used their own cameras and Games time the Panasonic cameras.

(ii) London 2012: For the Test Event in London Panasonic cameras were purchased - a challenging process for LOCOG. London 2012 used personnel from the ICF TV crew, a volunteer group who were paid subsistence to cover the Olympic Games and Test Event.

The list of requirements can be finalised as soon as the positions of the OVR, Video Adjudication, Video Production (HUB) and Nations Video Room are decided. Affected are types of cable. Generally, cable runs 80 metres or less can be quality coaxial cable, whereas longer cable runs will require converters and optical fibre.