



Live Streaming & Media

Technical Requirements for Arenas and Hosts



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1. Light Requirements

For HD livestream production the lighting in the arena must be evenly spread at the playing surface without shadows along the boards and be not less than 900 lux, measured 1.5 m above the playing surface at 11 different points on the rink (see below).



The lux value is measured using a luxmeter. Approximate values can be obtained using the free smartphone application Lux Light Meter ([Android](#), [iOS](#)).

The light should have a colour temperature of minimum 3200° Kelvin (arena without daylight) and up to 5600° Kelvin (arena with daylight), with the same colour temperature at the playing surface and tribunes. The colour temperature is indicated on your lamps.

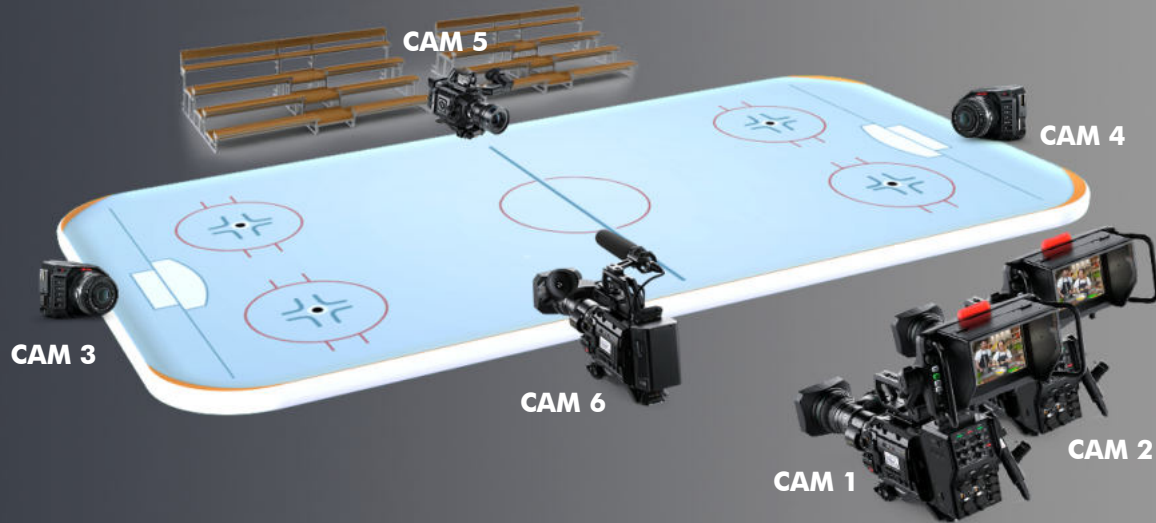
If the lighting values in your arena are different from the ones indicated, please contact the official broadcaster in advance.



Light color temperature chart

2. Camera Location

- Cam1** Front main view
- Cam2** Front wide view
- Cam3** Behind left net
- Cam4** Behind right net
- Cam5** Reverse view
- Cam6** Close up & interview



For high-quality and multiplane video shooting of the games, it is necessary to place at least 6 cameras in the arena. You can see the standard arrangement of all cameras in the pictures above. The exact amount and location of cameras may be varying depending on the arena.

2.1 Front Cameras Positioning



Main camera location

Cam1 Front main view and **Cam2** Front wide view are the main cameras. They should be located at a height 4-8 meters above the level of the playing surface, at the centre line opposite of the main tribune. The viewing angle from these cameras to any part of the playing surface should not be blocked by any objects or standing fans.

2.2 Front Cameras Placement

Both front cameras should be located at the top of the arena and at least 1m above the heads of people standing nearby. A flat horizontal platform 1m wide and 2m long with a fence should be provided for each camera, or one single platform of 2 x 2m for both cameras together.

If there is no such platform in the arena, it need be constructed from temporary structures. Dissolvable stage platforms are a good solution.

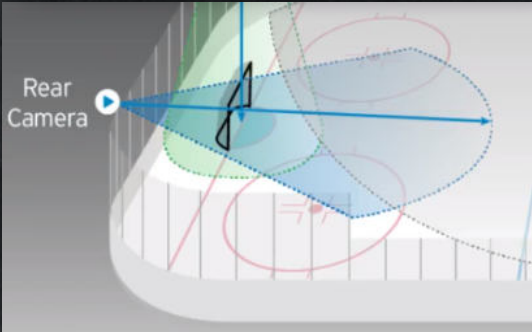


Dissolvable camera platforms

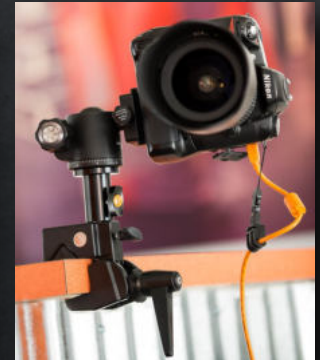
2.3 Cameras behind the Net (rear cameras)



Cam3 and **Cam4** are static cameras which are mounted outside the pitch in front of the middle of the goal net at a height of 2-5 meters above the playing surface. No third-party objects (including protective net) should be located between the camera and the goal net.



Rear camera and angle of view



Cameras clamp and mounting

2.4 Situational Cameras



Cam5 Reverse view and **Cam6** Close up & interview are located near the boards on opposite sides of the rink. Both cameramen should have enough space to freely rotate the camera 180 degrees. Their location may be varying, depending on the arena. However, one of both cameras must be able to quickly access the blitz interview zone.



Cameraman

2.5. OCR Camera

To provide online viewers with the same instant information as spectators live in the arena, an OCR camera will be utilized that recognizes the numerical information provided on the arena scoreboard and converts it into an interface for the live broadcast.

The OCR camera should be fixed and pointed directly towards the scoreboard or at a slight angle (up to 30 degrees). The mounting point of this camera must be provided by the host. The distance to the camera may be different (from 3 to 50 m), but a larger distance leads to a heavier camera installing (up to 5 kg).

The camera need be positioned in a secured way to avoid that any third person or object can access the camera and/or accidentally change the camera position.



3. Brand Wall @ Blitz Interview Zone

The **Blitz Interview Zone** must be located nearby the team's entrance to the rink, where broadcasters should be given the opportunity to make a blitz-interview with a player or coach before or after the game.



The interviews take place before a **brand wall** that is at least 2 meters high and 2 meters wide. The design of the brand wall will be provided by IISHF not later than 45 days prior to the start of the tournament. The Host is responsible for its production and placement and provides to IISHF its exact measurements at least 75 days prior to the tournament.

4. Video Director's Room



In this room all the equipment for video recording and broadcasting is located and the work of the camera crew is carried out.

All cables from all cameras come into this room, so it should be located not farther than 120 m from any camera. The room must contain at least 4 workplaces (3 tables and 4 chairs). It can be directly in the arena, but it should be fenced on all sides with no access from unauthorized persons.

This room should be equipped with a wired Internet connection and a power outlet 220V 16A.

5. Internet Connection

To ensure high-quality broadcast of IISHF title events, a high-speed wired Internet connection (RJ45 connector) is necessary.

The broadcast includes 3 language channels of the live games and a simultaneous upload of photo and video game highlights to various communication channels. As such a separate connection with a minimum upload speed of 50 Mb/s is required. Preferable are 100Mb/s upload speed to ensure all processes can run simultaneously.

To check the upload speed of your arena's internet connection, you can use the free application [Speedtest](#) by Ookla.

Should the upload speed of your Internet connection be less than the required minimum, please contact the official broadcaster in advance.



6. TV Screens



To watch online games by the fans in the arena and to display commercial video during the tournament, the arena should be equipped with at least four 42" TV **screens** or **beamers** (with HDMI input and white screens). Their quantity and sizes may be larger. The video format will be 1920 x 1080 p50.

The monitor/beamer location may vary at any venue. However, they must be located in crowded areas and be clearly visible. Their content will be broadcast from the director's room. Respectively, an Ethernet Cat5e cable with RJ45 connectors must be laid between this room and the monitors. The cables are provided by the host and the length of each cable must not exceed 100m. The Ethernet to HDMI convertors will be provided by the broadcaster.



Ethernet Cat5e cable
with RJ45 connectors

For arenas with existing TV screens infrastructure, the broadcaster aims to provide streaming output for integration with the arena's platform.

The exact technical details are to be discussed and agreed between Host and broadcaster well in advance.

7. Commentator Workplaces

The Host shall provide 3 workplaces for the commentators. Each workplace must be equipped with a table and chair. One power outlet (220V) must be available. The workplaces need be located at a point of a good view of the game and not further than 40m from the video director's room.



8. Musical Accompaniment

As all games will be broadcast online and on various Social Media channels only music and sound effects with corresponding copyright permission or unprotected by copyright are to be played during the tournament. To avoid a blocking of the online broadcast by any communication platform, all music and sound effects **must** be coordinated in advance with the broadcaster.



9. Photographer's Workplace

To ensure an operational posting of photos after the end of each game, the host must provide a workplace for one photographer. The workplace can be located anywhere in the arena and should be equipped with a table, a chair, a power outlet (220V) and high-speed Internet access.

10. Broadcaster Crew Assistance

To save budget, the broadcaster crew does not arrive with extra personnel not involved in the broadcasting during the games. Given the amount of games and short periods of breaks, the broadcaster crew relies on the assistance of the Host & IISHF to ensure a continuous workflow and effective operation of all equipment in the arena. In particular, the assistance of the host is necessary:

- A) Availability of a technical person during installation and deinstallation for access to power outlets, the internet and ethernet networks and camera mounting points.
- B) The opportunity to work after the end of the game day.
- C) Provision of standard security measures for the broadcasting equipment at night, e.g. a locked equipment storage room with no third-party access.
- D) Provision of parking places for 1-2 cars close to the arena during the tournament.
- E) Aid in the provision of drinks and snacks for the broadcaster crew in avoidance of queues at the arena's stands.

Anex 1 Wiring Diagram



11. Contacts



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