FIBA Media

PRODUCTION GUIDELINES

FIBA World Cup Qualifiers
FIBA EuroBasket Qualifiers

FIBA Women's World Cup Qualifiers tournament

FIBA Olympic Qualifying Tournament
FIBA Women's Olympic Qualifying Tournament

July 2024

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1. Introduction

FIBA Media has developed the required standards for the production of all games in all countries.

These production standards are linked to the FIBA Broadcast Academy online initiative where all elements such as camera plans, running orders and technical specifications are available to view.
A multilateral Running Order is defined by FIBA Media and all Host Broadcasters shall deliver an International Feed with a consistent approach across all venues. This document is available for access from http://tv.fiba.basketball/

2. Production Plan

The appointed Host Broadcaster (HB) shall provide all of the necessary production facilities and personnel to ensure the production of a high standard quality International Feed of each game.

The Host Broadcaster shall be responsible for appointing a Directing Television Crew (TV Director, cameramen and EVS operators) with a good knowledge of basketball and experience in producing live basketball games.

To assist the Directors, FIBA has established an online educational tool, the FIBA Broadcast Academy (http://tv.fiba.basketball/tvacademy/) with technical advice/support to guide and educate users in the best practice production of a basketball game. The FIBA Broadcast Academy is the destination for basketball directors to visit and understand the basic fundamental principles and skills required for the optimum coverage of the sport of basketball. Basketball is a simple game to understand and it is essential that any Host Broadcast production ensures that this simplicity is correctly portrayed and that the emotions, dynamism and excitement of the sport are highlighted via the broadcast.

The International Feed of each game shall be produced in High Definition together with a stereo International sound and shall be integrated with high resolution Graphics and Statistics in English.

The facilities shall have their own power generators and available back-up.

The Host Broadcaster shall set up all facilities in the arena in order to be ready for testing and rehearsal at least 4 hours before the Tip-Off for a Qualifier game and on GD-1 (Game Day minus 1) for a tournament.

All audio and video cabling, from/to and inside the arena, must be carefully planned. Specific cableways shall be identified during the site visit, and if available, predetermined cableways will need to be respected.

Special attention must be paid to the distances between the Broadcast Compound and all camera positions (some camera positions may require the use of fibre cables). When available and tested, pre-cables should be the preferred solution in all arenas.

The Host Broadcaster shall plan to provide spare/back-up cables to the main camera platform (for Cameras 1 and 2) as well as around the court, at the court level, on each side.

Other elements such as the on-site parking space, power, security and the access to the arena shall remain the obligation and responsibility of the LOC hosting the game(s).

There shall be one complete facility in the arena with all key English-speaking production / technical and / directing personnel.
The OB Van / Production facility available to produce the International Feed in the arena shall be required to accommodate as a minimum the following persons:

- 1 Director
- 1 Vision Mixer
- 1 Assistant Director
- 3 to 4 Replay Operators (depending on the final camera plan)
- 1 Sound Supervisor (or mixer if required)
- 1 Sound Engineer
- 1 Engineer in Charge
- 2 to 3 Video Engineers; 1 video Engineer to deal with a maximum of 4 moving camera feeds
- 1 Technical Manager/Unit Manager
- 1 Production Manager (one English speaker provided by the Host Broadcaster)
- 1 Graphics Producer

As part of the OB van production team, a Graphic Producer should be included. The Graphic Producer will be responsible, together with the Director and Graphic Operator (provided by the FIBA Media appointed Graphics company), for all the graphic elements that appear on screen during the international feed.

The Graphic Producer must have an extensive knowledge of basketball, together with very good understanding of the game, should have experience in the work of an OB van, and well familiar with the graphic kit including all its possibilities and options.

Additional crew part of the production should also include the following:

- 1 Floor Manager
- Camera Operators (quantity subject to the camera plan size)
- 2 cable assistants at least for the handheld cameras under the basket
- 2 boom operators, one to cover each bench during the timeouts
- Audio assistants for field of play microphones and commentary depending on the number of positions
- Cable riggers

One of the most important coordination positions within the Host Broadcaster set up is the role of the Floor Manager who is part of the Host Broadcaster Directing Television Crew. The Floor Manager shall be located immediately behind or beside the Scorer's Table and will be the television liaison with the event organisers as well as with all stakeholders before and during the game.

The Floor Manager will be the person responsible for the coordination of all of the necessary rehearsals and to ensure that all parties are synchronised to the correct timing, so the game begins exactly on time. During the game, the Floor Manager's role is to be the eyes and ears of the Director on the court. He will be in direct communication with the Director to inform him of aspects of the game that are not immediately covered by the cameras (e.g. impending team time outs and substitutions, clarification of any disputed referee calls, fouls, etc.).

The OB Van / Production facility for each arena shall be equipped with at least*:

- an 24 inputs (minimum) video switcher with at least 4 DSK - 3 inputs (to be able to insert the graphics feeds and the game clock)
- the switcher must have at least 3 Mix Effect and 1 Preview Program
- a DVE with 2 inputs for backup clock camera setup (2 different clocks from the same camera are to be inserted).
- a frame store or external device (the unit need to have capacity for the follow:
    - 1 frame of background for IRS review
    - Official review bumper 2 seconds (4 seconds with Fill and Key)
    - 2 x replay wipes 1 second each (4 seconds with Fill and Key)
    - 3 x 3 stings 2 seconds each (6 seconds with Fill and Key)
    - Additional miscellaneous features of 6 seconds
- video and dual audio routing switcher, with one 18 x 1 bus dedicated as a backup next to the main switcher, this must have synchronous switching.
- a communication system (with a routing system) between the OB van and the different working positions on the court as well as with all working positions within the OB Van and with necessary headsets.
- A 30 mono inputs (minimum) audio mixer and 2 master outputs; 4 Stereo Group + 4 Stereo Aux

The OB Van shall have at least one spare camera and necessary cabling etc. available as a back-up.

The OB Van shall be able to have available the following 3 outputs:

- International Feed
- Clean International Feed without graphics
- Main Camera 1 isolated feed with score/clock graphic inserted

*The above facilities will need to be adapted according to the final Camera Plan.

The OB Van shall provide 16:9 HD colour monitors (minimum 16") to the following positions:

- One with International Feed (audio and video) output programme at the Scorer's Table for the Referees Video Support System
- One with International Feed (audio and video) output programme at the Graphics position
- One with international feed (audio and video) output for the Broadcast Operations Venue Manager position
- One with international feed (audio and video) output for the Floor Manager position
- One with International Feed (audio and video) output programme at each commentary position, if relevant

The facilities should have sufficient UPS (a minimum of 10 minutes) available should the switch between main and redundant power not be synchronised.

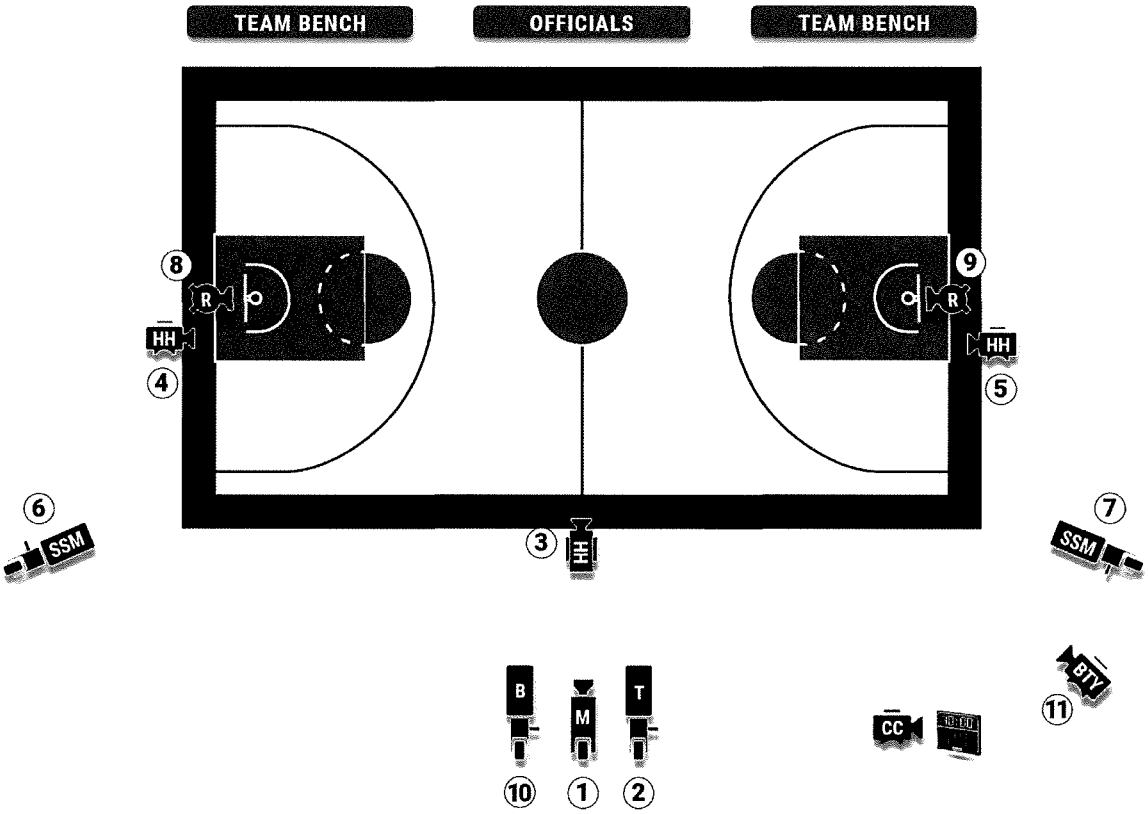
3. Camera Plans

The International Feed shall be produced with at least eleven (11) cameras (not including the Backup Clock Camera). The cameras must be set up on the opposite side of the arena, facing the Team Benches and Scorer's Table.

Camera platforms will be provided by the LOC for the necessary number of cameras. These platforms must be stable, erected independently from any public stands to avoid vibrations and fully secured with limited and controlled access to them.
The cameras' view on this platform should never be blocked under any circumstance.
In each arena, up to two handheld cameras from the Production Plan may, if required, be used before and after the game for pre- and post-game unilateral interviews and locker room winning team celebration.

All camera positions shall be pre-booked with the LOC, the Host Broadcaster and FIBA Media during the site visit, and any modifications shall be approved in advance by all parties.

<u>FIBA Qualifiers camera plan</u>



Id	Camera	Lens	Native Speed	Position	Mount	Support
1	Main Shot	22x7,6	25fps	Main Camera Platform	Light Tripod	6m x 2m platform
2	Tight Shot	86x stabilized	25fps	Main Camera Platform	Heavy Duty	6m x 2m platform
3	Handheld centre	Wide Angle	25fps	Court level centre line		
4	Handheld Left	Wide Angle	25fps	Court level next to left basket	Light Tripod	1m x 2m reserved surface
5	Handheld Right	Wide Angle	25fps	Court level next to right basket	Light Tripod	1m x 2m reserved surface
6	SSM Box Lens Left	86x stabilized	75fps	Left corner elevated	Heavy Duty	2m x 2m x 2m scaffold
7	SSM Box Lens Right	86x stabilized	75fps	Right corner elevated	Heavy Duty	2m x 2m x 2m scaffold
8	Robotic Left	Wide Angle	25fps	Behind left backboard	Dedicated rig	
9	Robotic Right	Wide Angle	25fps	Behind right backboard	Dedicated rig	
10	Bench	86x stabilized	25fps	Main Camera Platform	Heavy Duty	6m x 2m platform
11	Beauty shot	Wide Angle	25fps	Corner highly elevated	Dedicated rig	Dedicated rig
	Backup Clock Camera	22x7,6	25fps	TBD shot of the clocks	TBD	TBD

- **Camera 1 - Wide Shot**

Located high up in the stands, exactly on the centre court, to follow the game action.
Light camera equipped with a 22x7.6 lens (or wide angle if camera is too close to the court) with full servo, on light tripod.

- **Camera 2 - Close Up**

Located next to Camera 1.
Heavy camera equipped with at least an 86x lens with full servo, on a heavy tripod.

- **Camera 3 – Hand-Held Camera**

Located opposite the Scorer's Table, centre court, to shoot the Team Benches and to follow the game action.
This camera needs to be at court level on the same side as Cameras 1 and 2 and equipped with a wide-angle lens or 22x7.6.

- **Cameras 4 & 5 - Hand-Held Cameras (see ** below)**

Located under or beside the basket at each end of the court to shoot the game action
but also, able to view the Team Benches. Equipped with a wide-angle lens.
These handheld cameras from the production plan, can be used for pre- and post-game unilateral interviews and locker room winning team celebration.

- **Cameras 6 & 7 - Super Slow-Motion Cameras**

Located in both corners of the court on a 2m x 2m x 2m scaffold.
Heavy cameras with at least a 86x lens with full servo.

- **Cameras 8 & 9 – Robotic Camera**

Remote controlled and over the rim (hanging 2-3 metres above, from the roof) or looking through the backboard. Able to move with the action.
Cameras to be positioned to ensure that the FIBA rim stickers are in shot.

For the Women's games, those are usually noted "E" as positioned as an elbow of the basket
There are fixed minicam, attached to the backstop elbow with a wide-angle lens to be whereby the shot shows all the players action within the basket area. Please also consider how the camera is attached to the backstop. Previously strong straps were used to secure this camera in place with multi points of safety.

- **Camera 10 – Team Bench Camera**

Located next to Cameras 1 and 2 (or a little lower), facing head-on for bench reactions, with a clear view above the players' heads, replay angle action.
Heavy camera with at least a 86x lens with full servo.

- **Camera 11 - Beauty Shot Camera**

Located at a high position (e.g. somewhere up in the roof), on the same side as the main cameras facing diagonally in the corner of the arena, to shoot an attractive general view of the arena. Light camera with wide angle.

****The Host Broadcaster should plan to include two cable assistants within the Host Broadcaster team to help the handheld cameras behind each basket to move quickly to be able to cover each Team Bench during the time-outs and between quarters.**

The final camera positions will be confirmed by FIBA Media in the Broadcast Plan.

All long lens cameras should be set up with heavy duty tripods.

- **Backup Clock Camera**

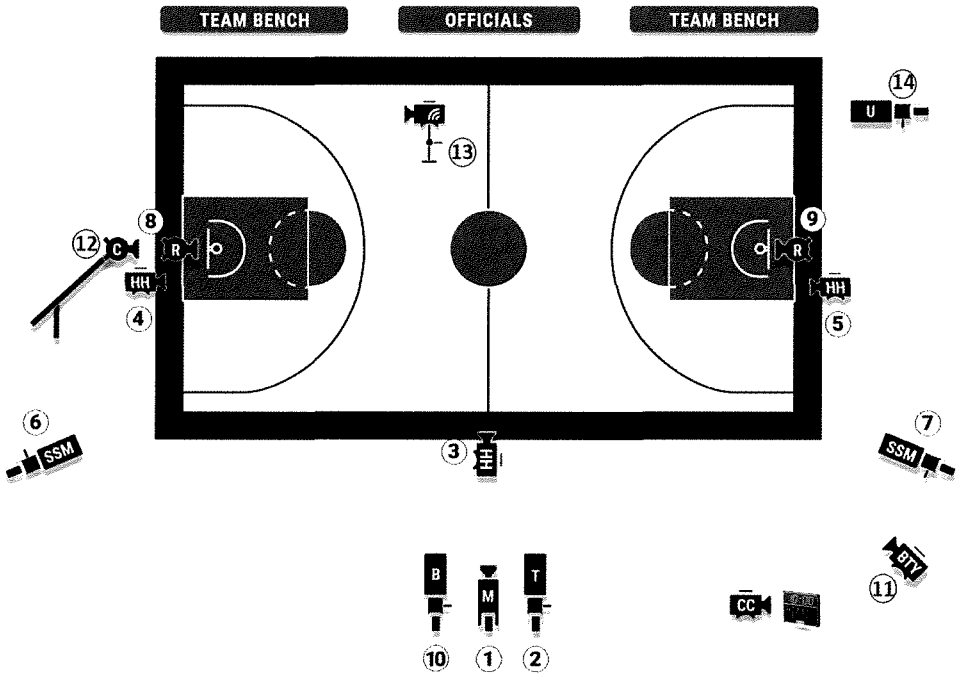
A backup clock camera (unmanned) is mandatory as a back-up solution for the clocks. The Host Broadcaster shall ensure that an appropriate lens is used so that the game clock is shot correctly showing both the game clock and shot clock (24 seconds) so that it can be inserted, either separately or at the same time, on the screen.
The camera should be installed in a secure and stable spot where the view to both clocks will not be blocked.

The backup clock should be prepared and tested before the start of the game and be keyed over the graphics according to FIBA MEDIA guidelines.

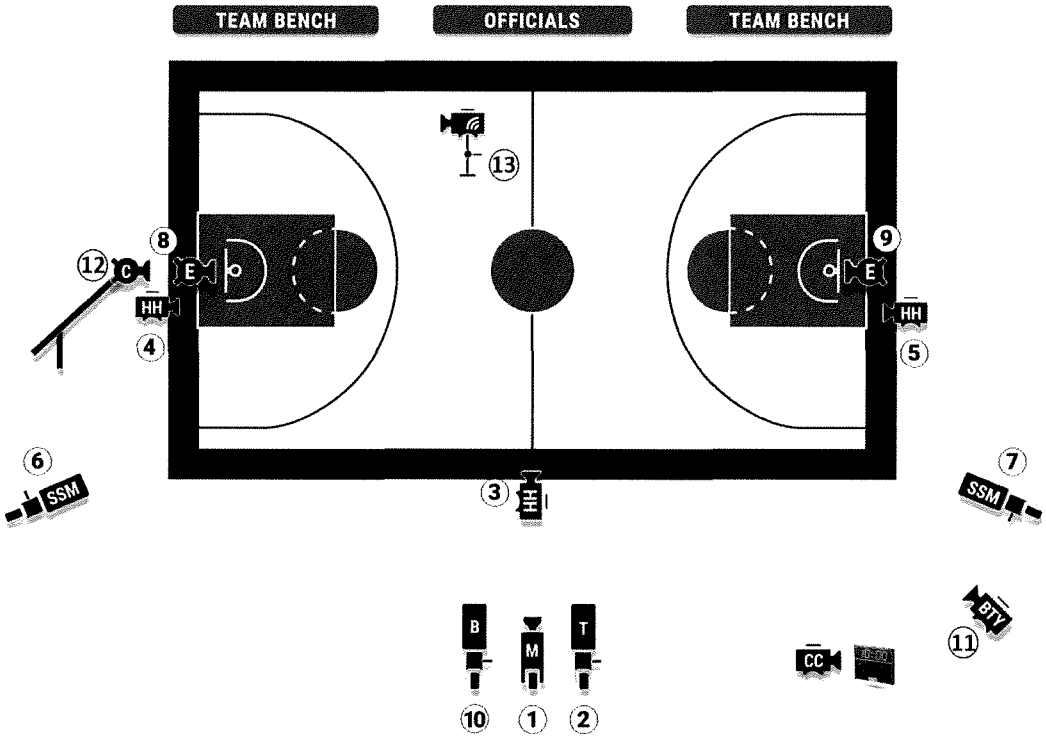
<u>The above camera plan applies for the FIBA World Cup and EuroBasket Qualifiers as well as for FIBA Women's World Cup Qualifiers tournament.</u>

<u>For the FIBA Olympic Qualifying Tournament and FIBA Women's Olympic Qualifying Tournament, specific camera plans have been developed as below described.</u>

FIBA Olympic Qualifying Tournament camera plan



FIBA Women's Olympic Qualifying Tournament camera plan



Additional cameras implemented for the FIBA OQT (12, 13, 14) and Women's OQT (12 and 13)

- **Crane camera 12**

The crane camera is usually setup just behind the basket, fully aligned with the basket in a 5mX5m reserved space. The arm's length must be 12m.
Some venues may require the Crane camera to be two persons operated. One to swing the crane and one to operate the hothead robotics.
If two operators are used it should have a dual intercom system (channel 1: director, channel 2: internal between the crane arm operator and the robotics control). Additionally, 4 monitors (2 for each operator) to include a source of the International Feed and the camera.

- **RF Steady camera 13**

The RF Steady cam is to cover all team's presentations and ceremonies without cabling on the court and walk around the stands.

- **Ultra Motion camera 14**

The ultra motion camera is usually located court level, just behind the photographers' bench 1st row and a platform (2mX2m and 50cm high).

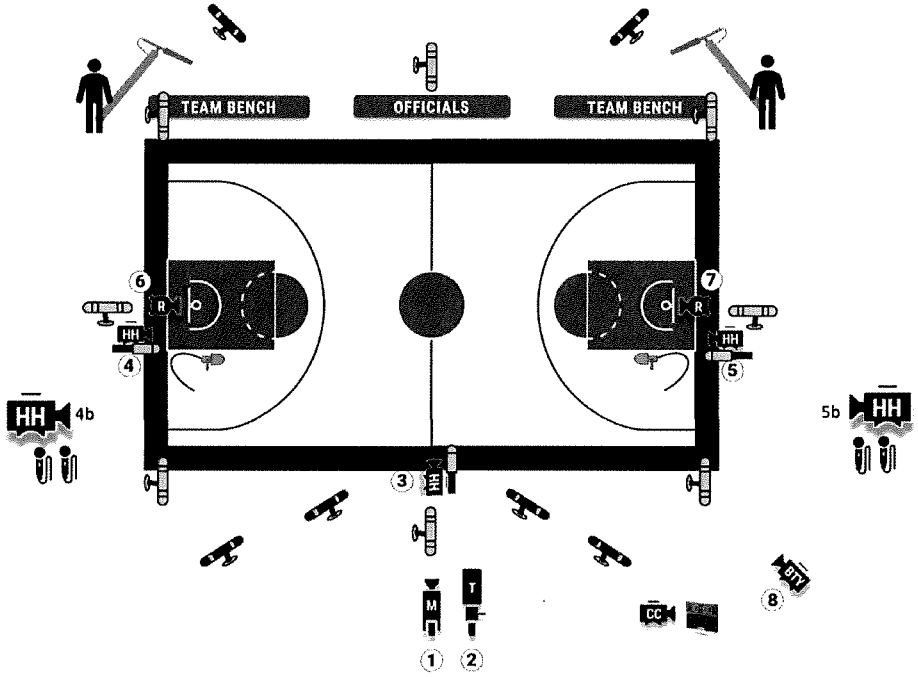
4. Audio Production Plan

The international audio feed must consist of full international sound with court side effects. It must be produced in stereo. Careful planning must be made to have the microphones near to the court to capture the best quality game and crowd audio. A direct feed of the Public Announcement System should also be made available as well as a stereo feed from the arena control room.

The following plan is suggested as a minimum:

- 1 ground level microphone located behind each basket (2)
- 1 ground level microphone located on each side of the center line (2)
- 1 microphone hung from the roof on each side of the stands (4)
- 1 microphone installed on each hand-held camera (3)
- 1 microphone installed on each backboard, to catch the sound effects of the ball (2)
- 2 lapel RF neck microphones (Main & backup) for the main referee

In addition, the Host Broadcaster should plan to include two boom microphones and two boom operators to be able to cover the audio from each Team Bench during the time-outs.
At the interview position, for the pre- and post-game unilateral interviews, the Host Broadcaster shall also provide 2 wired or wireless hand microphones and a 1 x 1 LED lighting panel (and if required, wired or wireless earpieces with N-1 Analog return).



MICROPHONE NARRATIVE for STANDARD CAMERA PLAN 6+1						
ID	**Source**		**Usage**	**Stand**	**Mounting**	**Windshield**
1	ECM 77	Mono	Left Hoop		Behind Left Basket	Lav Fluffy
2	ECM 77	Mono	Right Hoop		Behind Right Basket	Lav Fluffy
3	416	Mono	Ground level mic behind basket right			
4	416	Mono	Ground level mic behind basket left			
5	416	Mono	FoP - Far Left	Low Floor Stand / T-Boom	Softie	Foam
6	416	Mono	FoP - Near Left	Low Floor Stand / T-Boom	Softie	Foam
7	416	Mono	FoP - Far Right	Low Floor Stand / T-Boom	Softie	Foam
8	416	Mono	FoP - Near Right	Low Floor Stand / T-Boom	Softie	Foam
9	416	Mono		Camera 3 - HH Basket Centre	Softie	Foam
10	416	Mono	Camera 4	Camera 4 - HH Basket Left	Camera Mount	Foam
11	416	Mono	Camera 5	Camera 5 - HH Basket Right	Camera Mount	Foam
12	418	Stereo	Crowd - Far Left	TBC	Softie	Foam
13	418	Stereo	Crowd - Near Left	TBC	Softie	Foam
14	418	Stereo	Crowd - Far Right	TBC	Softie	Foam
15	418	Stereo	Crowd - Near Right	TBC	Softie	Foam
16	418	Stereo	On Floor		On Floor	Foam
17	418	Stereo	On Floor		On Floor	Foam
18	416	Mono	Time-outs Team A	Pole / Plug-on transmitter **5m pole***	Softie	Softie
19	415	Mono	Time-outs Team B	Pole / Plug-on transmitter **5m pole***	Softie	Softie
20	RF Lapel	Mono	Player	RF Microphone for the Player		
21	RE50	Mono	Interview Questions	to be used with camera 4		Foam RE50
22	RE50	Mono	Interview Answers	to be used with camera 4		Foam RE50
23	RE50	Mono	Interview Questions	to be used with camera 5		Foam RE50
24	RE50	Mono	Interview Answers	to be used with camera 5		Foam RE50
IFB 1			Listen of Timeout Mic A	Headset for the boom microphone operator 1		
IFB 2			Listen of Timeout Mic B	Headset for the boom microphone operator 2		
IFB 3			Reporter at interview position	Wired earpiece		

5. Replay Facilities

Each OB Van should have available at least three to four (3 to 4) slow motion facilities, depending on the final production plan, all EVS on Giga Ethernet Network:

- 3 to 4 EVS XT2 (or later generation) Quad Channels (4+2 / 6+2)

Final EVS plan to be approved with the Director.

Please note that **all camera feeds** (except the beauty shot and the back-up clock camera) shall be recorded as a well as the International dirty feed.
Total input channels shall be at least 15 + 2 output channels per EVS (prog and preview) for the FIBA Qualifiers camera plan page6 and the number shall increase accordingly for the FIBA OQT and Women's FIBA OQT camera plans page9.

6. EVS Melt Downs

Ten (10) minutes after the end of the International Feed but still as part of the multilateral feed, the Host Broadcaster shall place on satellite the Melt Downs directly from the EVS facility. These Melt Downs should consist of ten (10) minutes per game of isolated slomo replays and colour from the game as well as clean isolated camera feeds of the best actions and emotions of the game that have not been used within the live feed.

FIBA Media shall coordinate any specific requirements with the relevant Host Broadcaster.
Please note that if there is no unilateral activity the EVS Melt Downs can be played out as soon as it's ready.

7. Video Support for the Referees

A colour monitor with International Feed (audio and video) output programme is required to be set up at the Scorer's Table together with an intercom connection between the Scorer's Table and the OB van with a complete headset to be set up at the Scorer's Table and in the OB Van.

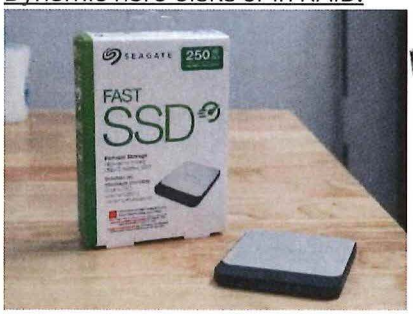
8. Master Recordings

HIGH QUALITY RECORDINGS on EXTERNAL SSD HARD DRIVE

The high-quality master recordings must be made on-site, in the OB facility, onto new unused supports following the below required formats. All recordings must be clearly labelled (on the drive itself and on the box if any) in ENGLISH with the name and date of the specific game and competition round/venue. Each OB facility should have available enough recordings / supports to be able to provide all requested recordings after each game.

SUPPORT	SDD hard drive "Dirty" feed recording
SHOULD INCLUDE	PGM DIRTY FEED from Opening Sequence to Closing Sequence +10 to 20 minutes Iso Angles / EVS Melt Downs
AUDIO	A1 & A2: International Mix A3 & A4: International Mix + Virtual Audio Crowd, if applicable.
VIDEO SET UP	Wrapper: Quicktime Codec: AppleProRes 422 (SQ) Bit Rate: 122 Mbps Width: 1920 / Height: 1080 Scan type: Interlaced / Scan Order: Top field first FPS: 50 / 59,94
AUDIO SET UP	Format: PCM Sample: 48 kHz Depth: 16 bits Mode: 1&2 Stereo / 3&4 Stereo

Very important to note: The Hard Disks must be configured in NTFS as main partition. Avoid Dynamic hard disks or in RAID.



These High-Quality recordings shall be sent safely to FIBA Media by tracked courier unless requested otherwise:

FIBA Media & Marketing Services SA
Route Suisse 5
1295 Mies,
Switzerland
FMMS: CHE-194-961.232
T. +41 22 545 00 00

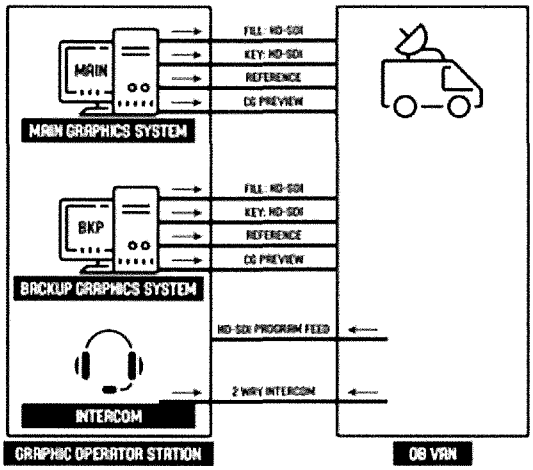
LOW QUALITY RECORDINGS on USB KEYS
Each OB facility should also have available enough recordings / supports to be able to provide the following low quality recordings after each game.

- 1 USB key low quality recording of the isolated feed of the Main Camera 1 with the score clock graphics inserted permanently on screen, audio channels 1&2 (International Sound) only. **This low-quality recording USB key needs to be delivered to a specific contact (To Be Determined) on site right at the end of the game.** And a copy of it should be included in the SSD above (Specific folder to be created with only Low Quality files).

- 1 USB key low-quality recording of the International Feed, audio channels 1&2 only. This is a backup and only needs to be delivered onsite if indicated by the FIBA Media Broadcast Operations Venue Manager. Otherwise file should be included in the SSD above (Specific folder created with only Low Quality files).
    - **USB key files format**
        - One file per game
        - MP4 - MPEG-4
        - Bitrate: 2.5-4 Mbps
        - Resolution: 1280 x 720 (16:9) Progressive
        - Codec: H264
        - Max. 2.5-4 GB per game/file

9. Broadcast Graphics

The Broadcast Graphics operation will be centrally managed and usually, live graphics will be operated on-site by a company that FIBA Media has appointed.
There will be a Main and a Backup system for each English language graphics.
This diagram below is valid for one language setup.



Requirements and Specifications for the Broadcast Graphics

MAIN CHARACTER GENERATOR - CG[1]

Cable Type	Function/Signal	Note
Coaxial BNC -BNC	HD-SDI Final Program feed	*Graphics Operator to watch produced video*
Coaxial BNC -BNC	HD-SDI CG FILL OUT	*LIVE CG Channel out*
Coaxial BNC -BNC	HD-SDI CG KEY OUT	*LIVE CG Channel out – ("transparency" or "alpha" channel)*
Coaxial BNC -BNC	Reference Input *"BlackBurst" or "Tri-Sync"*	*If Host Broadcaster needs it*
Coaxial BNC -BNC	CG Preview – *Preview CG Channel*	*Preview channel displays next Broadcast Graphic ready to be shown*
Intercom / audio	2 way intercom – for Operator	*Including Headphone and Microphone*
Power / "Schuko Type" female	~220V, 600W max, grounded	*Minimize chance for interferences*

BACKUP CHARACTER GENERATOR - CG[2]

Cable Type	Function/Signal	Note
Coaxial BNC -BNC	HD-S DI CG FILL OUT	*Same as above*
Coaxial BNC -BNC	HD-S DI CG KEY OUT	
Coaxial BNC -BNC	Reference Input *"BlackBurst" or "Tri-Sync"*	
Coaxial BNC -BNC	CG Preview – *Preview CG Channel*	
Power / "Schuko Type" female	~220V, 600W max, grounded	*Minimize chance for interferences*

HD Format support: 1080i50 (or 1080i59,94 when relevant) // SDI Compliance: SMPTE 292M

An intercom connection between the OB van and the graphics operator with a noise cancelling headset to be set up at the graphics position.

The Broadcast Graphics consist of game information data provided to the Host Broadcaster as a TV signal. The graphic elements have been designed in harmony with the FIBA branding guidelines and the event "look".

Languages

The official international language of the FIBA graphics is English.

On-Screen Credits

Official FIBA Partners in the IT and Timing categories are entitled to on-screen identifications during all of the games. The on-screen identification shall consist of three (3) inserts, each of four (4) seconds, per quarter for each partner. For any over-time period, the identification shall be one insert of four (4) seconds for each partner.
All game feeds provided to rights holding broadcasters shall be "dirty" feeds including all graphic information and on-screen credits and should be used without any superimpositions.

Game Day Procedures

All graphics and feeds shall be available at the time of rigging the television coverage and fully operational for the test game. The Host Broadcaster shall designate an English-speaking person to co-ordinate between the relevant parties.

Standard Technical Set-Up

The Host Broadcaster is responsible for ensuring the cabling (main and backup) to and from the OB Van and the Graphics position (usually positioned at the Scorer's Table).
A dedicated Intercom system should be installed at the Graphics position with a noise cancelling headset.
There should be a command-only communication workflow between the TV Director and the graphics operator for the International production.
The broadcast graphics are animated graphics that need to be produced with open key. The Director is able to double-check the proposed graphic before insertion via the preview signal.
It would be preferred that the graphics signals are processed via a frame synchroniser prior to insertion into the production facility.
Please note that fibre cable and fibre transport equipment are likely to be required for the Graphics signals from the Arena for one output language only.

On occasion, FIBA Media may decide to implement a remote graphic solution and the host broadcaster should be able to support this workflow and consider communications and monitoring of the international feed.

10. Test Game / Full rehearsal

There shall be a test game / full rehearsal at least four hours before the start of the game.
For tournaments, a test game should be planned on GD-1 (Game Day minus 1).

All elements related to the television production (e.g. camera positions manned with cameramen, TV graphic operation, commentary positions –if applicable-, full lighting, arena PA, etc.) must be set-up and fully operational for the test game.
The test game should be organised as per the Running Order starting 10 minutes before Tip Off with the full presentation of the teams, warm-up etc. and the Host Broadcaster shall, as a minimum, produce the pre-game and first quarter of the game with the complete graphics etc.
It is not necessary to produce the full game, but all concerned parties must be comfortable with the production during the test game before ending it.

After the first home game of the competition, a full rehearsal shall always be planned for all future home games at least four hours before the game tip-off time.

11. Distribution

<u>On site Up link facility</u>

The Host Broadcaster shall be responsible to book the uplink truck as part of the Host Broadcaster plan.

The technical specifications shall be as follows:

- The uplink facility shall be digital MPEG 4 DVBS2 4:2:0; and all equipment shall be fully
- redundant 1+1.
- The feeds to be made available shall be digital together with 8 audio channels (4 audio pairs).
- The transmissions shall be encrypted (Biss-1 mode) – one encryption code / day.
- The video compression shall be 15 Mbits and both video + 4 audios shall be transmitted on a 9 Mhz slot.
- The uplink truck shall have its own available back-up power generator.

Audio channels (in Stereo configuration)

- Channel 1: International Sound (L)
- Channel 2: International Sound (R)
- Channel 3: FIBA Media Commentator (when required)
- Channel 4: Unilateral Commentator

FIBA Media shall be responsible for the administration and technical coordination of the signal transmissions on Pan Continental satellites to all FIBA Rights Holders for all games. Such services shall include:

- Bookings
- Technical Planning
- Coordination
- Delivery of Signals to Rights Holders

All signals shall be encrypted using BISS -1 encryption, in order to avoid piracy. All technical details and the relevant encryption code will be given to the relevant Rights Holders according to their bookings.

On site SRT encoding facility

In addition, a SRT streaming service shall be provided by the HB. It shall consist of a fully redundant SRT encoding facility (main and back up) with dedicated technical support and according to the following recommended specifications:

- The International feed shall be encoded using MPEG-4/H.264 codec, on 1080i or 1080p (4:2:0 / 8-bit) video format at 15Mbps into SPTS stream feeds.
- The Audio configuration shall include up to 4 x stereo pairs per feed (MPEG-1 L2).
- The stream feed shall originate at the venue.

The recommended equipment should be:

- X 2 Fortigate 100E firewalls
- X 2 Super Micro OBE encoder/IDN engine combination servers
- X 2 Dell XR11 Encoder servers
- X 1 Power changeover PDU

Signal encryption shall be a combination of 16-bit SRT passphrase and unique UDP ports that will be communicated via the booking synopsis.
All SRT encoding equipment should have their power supply inline from a UPS or inline from a generator to ensure that a signal is maintained to rightsholders in case the main power is lost.

12. Additional Requirements

Commentary Positions

Located on the same side as the main camera position (facing the team benches and the scorer's table) and according to the Broadcast Partners' bookings, each on-site Rights Holder broadcaster will be assigned a fully equipped or semi-equipped commentary position.

If **fully equipped**, the position shall include:

- Colour television monitor (International Feed) – 16 inches size
- A commentary unit/production mixer (with an IP or ISDN / and a hybrid phone capacity) with the capability as a minimum for coordination and programme feedback with 2 to 3 headsets with incorporated microphones. For IP, please indicate if a second internet line is needed for a co-ordination line.
- An analogue source of international sound
- A fully equipped position should be cabled to the uplink truck for the audio output to be made available on one audio of the satellite distribution.

If **semi-equipped** the position is like a fully equipped but without the commentator unit and the headsets and no audio output cabled to the uplink truck for availability on the satellite distribution.

The commentary positions shall, as a minimum, have the capability for coordination and programme feedback.
All commentary positions shall be available at least two (2) hours before the game for commentators' orientation and system testing.

The final number of positions required will be confirmed at a later stage.

Please note that for some games, FIBA Media will require one (1) fully equipped commentary position to be installed at each arena and cabled up to the uplink truck in the compound for the availability of the FIBA Media English commentaries via the International satellite distribution (audio 3 of the satellite). When required, this FIBA Media commentary position shall be provided free of any charges.

Additional positions will be required for radio commentators and/or reporters.

13. Miscellaneous

FIBA Media will define any unilateral running order requirements for Broadcast Partners with specific production requirements. In such a case, the Unilateral Broadcast Partner shall need to set up its own necessary on-site equipment / cabling / transmission facility (i.e. a separate unilateral production facility).
The Host Broadcaster will be required to assist in managing Broadcast Partners on-site unilateral production requirements. This will include the space allocation in the compound, the coordination of the cabling, and the management of the technical power requirements, etc.
The arena may have to be visited with the OB technical project manager and the OB production manager for the correct implementation of these production guidelines.