



Live Streaming at Indoor Hockey Tournaments

When live streaming indoor hockey games there are many options available. The only obstacle is the cost, as the higher the quality of live stream (quality picture and features), the higher the cost.

In 2020, four associations live streamed tournaments. These associations received fabulous feedback from viewers while also keeping costs to a minimum.

Association/Contact	Filmed/Internet connection	Streamed	Additional Software	Location	Other Comments
South Brisbane Vipers Carolyn Martin	iPad/WiFi only – Access point is a fair distance from the filming location (30m). WIFI is free in the centre so other people might use it as well.	Uploaded directly to South Brisbane Facebook page then shared to Indoor Hockey Queensland	None	Filmed from halfway on a small crane	Sometimes the connection was not great. This might have something to do with the distance from the access point as well as other people using the free WiFi. SB Vipers will investigate using a dongle (or iPad with phone connection) next year. Volunteers took turns at filming. SB Vipers had a roster prior to the start of the tournament.
Mackay Hockey Association Vicki Spyve	iPad/Wi-Fi dongle	The video stream was uploaded directly to Mackay Indoor Hockey Facebook page.	Did not use additional software but trialled several - Switcher and OBS Studio. These produced a more professional looking stream but required more set up and trained personnel to operate the programs.	We filmed on an elevated scaffold platform.	Volunteers took turns filming. Mackay had a roster prior to the start of the tournament. After the tournament, we trialled a GoPro. A GoPro produces a better result due to the inbuilt image stabilisation.
Maryborough Shane Palmer	Samsung Galaxy Tablet/WiFi with good coverage (using MDHA's)	Streamed - Uploaded directly to MDHA Facebook page & shared with Qld Indoor page	None	Filmed from upstairs viewing area	Small band of volunteers operated equipment. May need to create a barrier to avoid any crowd comments filtering through.

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BIHL Tony Comerford /Stacey Cabot	GO Pro Hero 4/WIFI DONGLE INTO computer used Optus - approx 35GB+	Directly to BHA Facebook	HDMI card reader (capture card) with a laptop and Vmix Software system	Half way line - Spectators side on scaffolding	Feedback from Viewers was to keep camera still. Use a Phone (this would be a hassle because if you get calls or anything that goes on the screen will block viewing. The height was a bonus and also use of a dongle. I used a laptop HDMI capture card Dongle for WIFI and V mix which will cost to use but its a one off. The Nationals used Video camera and Video Camcorder and volunteers from each team that recorded the game before theirs each time. The setup can have the score and Altius imported into the live streaming

Examples of Live Streaming from Associations

South Brisbane Indoor Hockey League: <https://www.facebook.com/VSBIHL/videos/820108878548028>

Mackay Indoor Hockey: <https://www.facebook.com/indoorhockeymackay/videos/439419587063348>

Maryborough Indoor Hockey: <https://www.facebook.com/Maryboroughhockey/videos/392722838745395>

Brisbane Indoor Hockey League: <https://www.facebook.com/Brisbane01/videos/891295504944633>

Further Comments

The presence of the large screen outside of the hall at Mackay was a great addition. This is something that other centres could consider moving forward – particularly as it appears masks will be a feature of life for a while and we may also have capacity restrictions inside halls and indoor venues for at least the 2021 Championship season.

Comments from Scott Evans-Gill (Responsible for Live Streaming National Indoor Tournaments)

Camera, anything that can do full HD should be fine, but the bigger the sensor and lens the better it will perform in low light and indoors. Usually output to HDMI to capture card.

Capture cards can connect via USB3 or Thunderbolt. At National tournaments, Blackmagic mini recorder 3G for thunderbolt3 and an Elgato hd60d for USB3 are used.

Computer wise, quad-core laptop works well. Gaming laptops are generally quite suitable.

When using a laptop, Nationals run both Wirecast Pro and OBS software. Wirecast Pro is paid software (annual subscription) and is feature packed, however OBS is free to download and use, but is a bit more basic in its features. Instant Replays are the main reasons Nationals use Wirecast Pro. The software takes in the camera feed on the bottom layer, then on the layer above that we add in the Alitusrt scoreboard, which is added as a Web page feed.

Eg: Overlay: <https://hockeyaustralia.altiusrt.com/overlay/4849/live>
Control: <https://hockeyaustralia.altiusrt.com/overlay/4849/>

For internet, generally stream at 4-5mbps, so you need a solid connection with at least 6-10mbps upload, but 20mbps is preferable so there is plenty of headroom. When on 4G, Nationals only use the Telstra network, and use a Netgear Nighthawk M1 portable 4G router. Most other small dongle type modems are not suitable. If connecting via NBN, an NBN50 plan is preferable, and you would want to connect via Ethernet unless within 5 meters of the wireless router.

When streaming games, Nationals use H264 video feed via RTMP to either Facebook live or YouTube live, or sometimes both with the help of the restream.io service.

Example from National Titles: <https://www.youtube.com/watch?v=qXIEJjLu3As>