



Goalmouth technology

how Polecam helps capture all the football action in 3D

With disallowed goals a hot topic since this year's World Cup, capturing a great view of all the goalmouth action in major football matches has never been more important. Back in May, two Spanish Polecam operators were at the 2010 UEFA Champions League final to do just that - and it was all in 3D.

In an exciting use of 3D, Madrid-based Polecam specialists Cristian Martínez and Juan Carlos Bergantiños (Poleshot Production) were commissioned in May to be part of a team televising the 2010 UEFA Champions League final. Held at the Santiago Bernabéu stadium, home of Real Madrid, the match between Inter Milan and Bayern Munich was televised in 3D via a total of 13 cameras including Polecam, Spidercam, Steadicam and overhead shots from a helicopter. The production was managed by Catalan public-service broadcaster Televisión de Catalunya (TV3) which had been commissioned by UEFA to cover the event.

Easy set-up 3D HD

To capture the action, Poleshot's Polecam system was configured with a 4-metre boom and two Toshiba IK-HD1E 3CCD cameras operating at 1920 x 1080 50i. Both cameras were fitted to a Polecam 3D-Wide head which allows the distance between cameras to be extended to 'hyperstereo', increasing the 3D effect for more distant subjects. A levelling plate with three fine-adjustment verniers allows each camera to be exactly matched in height and forward angle. Set-up is quick and easy, conforming with Polecam's strategy of ensuring high mobility and operational efficiency.

The HD-SDI signal from each camera was routed via fibre-optic cable to a TV3 production vehicle, the transmission output being broadcast live by satellite and simultaneously recorded on HDCAM.

"The Polecam system gave viewers the best seat in the stadium," Juan Carlos Bergantiños explains. "Positioned directly behind a goal, it enabled us to capture spectacular action shots through and over the net as well as looking back to the cheering fans."

"3D is finally moving out of cinemas into the television arena," adds Polecam Sales & Marketing Manager Vic Godding. "Polecam's 'the-boom-is-the-zoom' approach delivers realistic 3D both in the foreground and middle



▲ Toshiba IK-HD1E HD 3CCD cameras mounted in 3D-pair configuration on Polecam 3D-Wide head

"with the advent of 3D broadcasting, people viewing matches will enjoy an even more precise sense of depth than they can get with traditional 2D"

distance while retaining our system's huge creative potential."

Operator Cristian Martínez and Polecam were seen by millions of viewers around the world when the media area was invaded by Italian fans celebrating Inter Milan's 2-0 victory over Bayern Munich. The win, exuberantly celebrated by 'the special one', manager Jose Mourinho, in his last game with the club, gave Milan its third European Cup title and its first since the 1965 European Cup Final.



▲ Polecam operator Cristian Martínez capturing images of enthusiastic fans from the pitchside

Clear view of the goal

Interest in televised goal close-ups has gained even more momentum since the infamous disputed Frank Lampard goal during the England v Germany World Cup match in Bloemfontein on Sunday 27 June.

Polecam's Hi-Eye fish-eye HD camera allows an entire room or even stadium to be covered from a single viewpoint without the need for a pan and tilt mount. Based on a modified Toshiba IK-HR1S, it has a 170 degree ultra wide-angle field of view yet weighs only 234 grammes. The lens is rated at 5 megapixel equivalent resolution. Up to five Hi-Eye cameras can be controlled from a single Polecam remote control panel. Camera support, housing, cables, RCP and compact recorder are optional.

"The referee's reported observation

('Oh my god!') when he saw a video replay of the goal he had disallowed suggests that football organisations really should take television a great deal more seriously than they do," says Polecam's Camera Sales Manager Nigel Paine. "With the advent of 3D broadcasting, people viewing matches like this will enjoy an even more precise sense of depth than they can with traditional 2D. Poleshot Production's 3D images from behind the goal during the Inter Milan versus Munich match show exactly what can be achieved, quietly, safely and efficiently."

Fact File

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