

# DELTA-highlight

Virtual graphics for game analysis



## Build advanced multisport analysis clips using a wide range of virtual graphics and effects

**DELTA-highlight** is dedicated to sport game analysis. It allows the generation of high-quality augmented replay sequences containing virtual graphics, superimposed over the game field by using only existing TV images.

**DELTA-highlight** is typically used in a studio environment for post games shows or to propose analyses at the halftime or at the end of a game during live retransmission. It can build analysis clips from various sources, in order to highlight various scenes of different games. Note that **DELTA-highlight** can also be used in OB units on a live production of a game.

Thanks to their efficient interface and powerful processing algorithms, analysis sequences can easily be built within minutes. **DELTA-highlight** is applicable to a multitude of sports: soccer, football, basketball, rugby, baseball, ice-hockey, tennis, cricket, handball, field hockey, Australian football, volleyball, beach volley, futsal, golf, badminton, cue sports (snooker, pool...)...

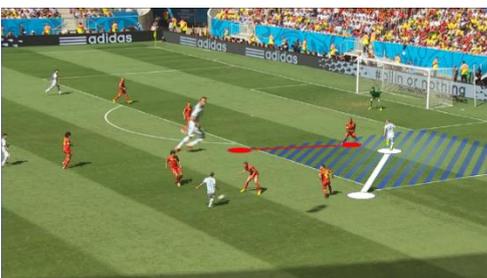
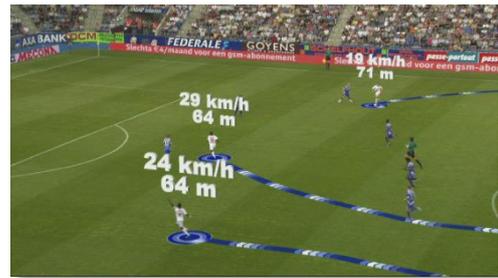
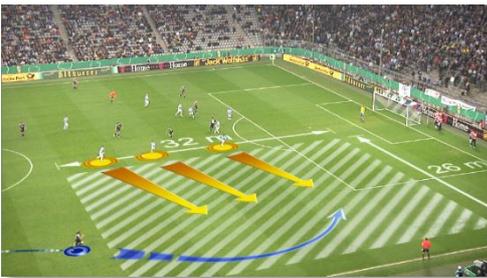
In order to speed up the production of analysis clips, **DELTA-highlight** includes two specific features. With its automatic player tracking, **DELTA-highlight** frees the operator to keyframe player movement. Just by clicking on the player in the image the operator will obtain automatically the trajectory followed by the player meaning the graphics are available in just a few seconds. Additionally with its automatic calibration feature, **DELTA-highlight** reduces consistently the time to be ready to put graphics in the images.

With its internal live recording of the event stream (up to 4 hours of HD uncompressed video), **DELTA-highlight** frees you from the use of an external video server saving costs and time.

## Enhancements

**DELTA-highlight** allows the generation of a large collection of graphics and visual effects:

- ✓ “Bird View” effect intended to create a camera fly between two real camera views providing a spectacular and realistic transition from one to another analysis point of view
- ✓ Player drag, grow, blink and erase effects that allows to manipulate directly the players present in the image
- ✓ Animated markers
- ✓ Player and ball traces
- ✓ Arrows and bended arrows
- ✓ Height measurement
- ✓ Links between players and markers
- ✓ 3D offside wall
- ✓ Offside lines (simple, double)
- ✓ Distance measurements (point to point, to goal, transversal, longitudinal, radius)
- ✓ Action duration measurements
- ✓ Rectangular areas
- ✓ Circular areas
- ✓ Players networks
- ✓ Circles
- ✓ Running speed (players and ball)
- ✓ Running path length (players and ball)
- ✓ Logos
- ✓ 3D texts
- ✓ 3D objects
- ✓ Spotlight and keyhole effects
- ✓ 2D front overlays
- ✓ 2D measurement banners
- ✓ Magnifiers
- ✓ Slow-motion and fast forward effects



## Additional Modules

### DELTA-touch

DELTA-highlight can be used and interfaced in many different ways depending on the production needs & requirements, through different configuration packages. DELTA-highlight is most often configured with DELTA-touch, a touch-based presentation tool allowing TV presenters to illustrate their speeches by selecting and controlling the playbacks of video sequences, as well as drawing live 2D/3D graphics directly on the screen.

Highly interactive and easy-to-use through touch-screen or multi-tablet interface, this added module is the perfect tool to add a high visual impact to a TV show.

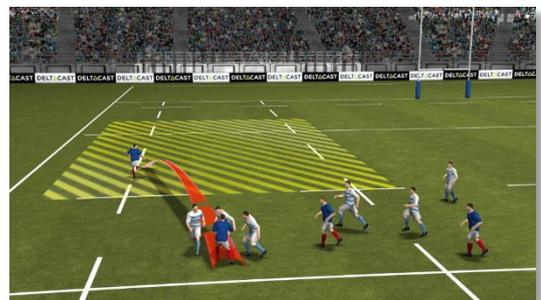


### Virtual View

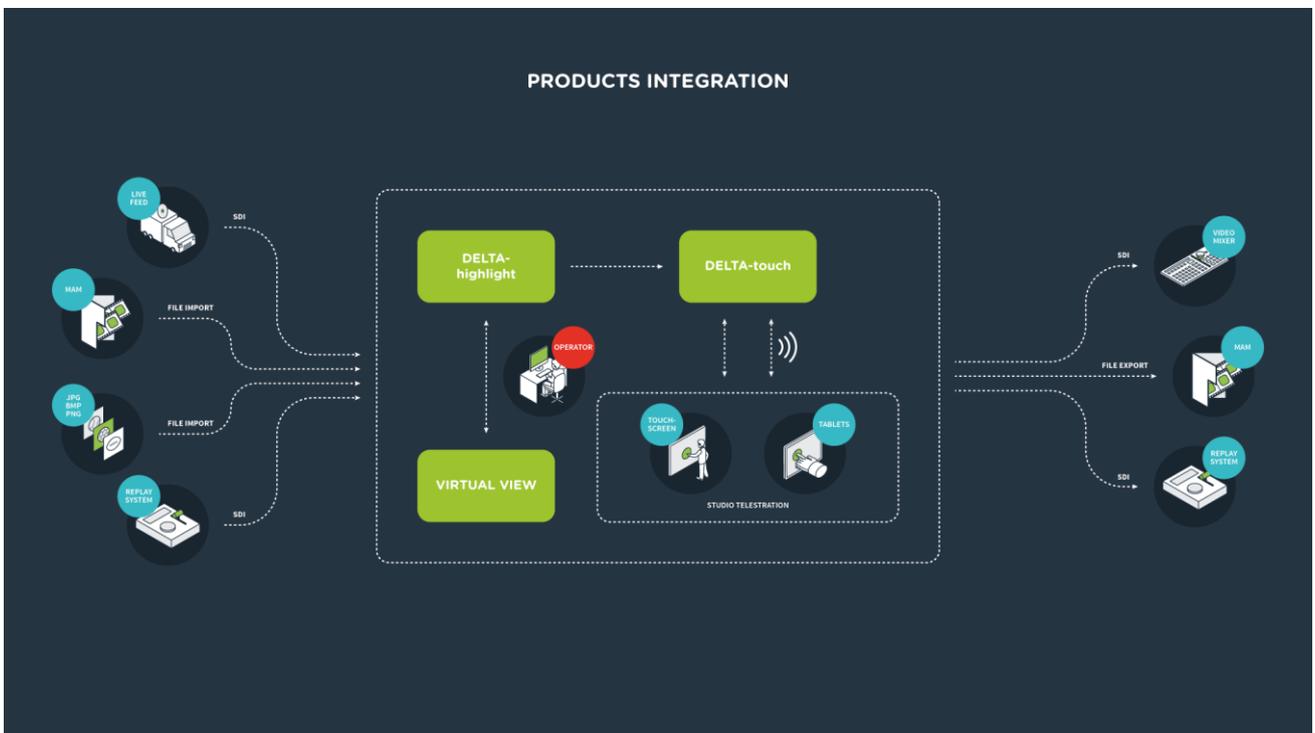
Virtual View allows you to create a highly realistic virtual 3D scene based on a football game image.

By moving the camera, Virtual View allows viewers to see the action from any angle, helping them to understand if decisions taken by actors during game were relevant. Amongst others, it's now possible to see the point of view of the referee on an offside or the vision of the striker when he shoots or passes.

Virtual View is also the ideal solution to explain coach tactics. Move the camera to have a top view of the field and you'll be able to explain team tactic by moving players like on a coach board.



## Workflows



## Technical specifications

DELTA-highlight SDI supported formats:

- ✓ HD 1080i-50, 1080i-60, 720p50, 720p60
- ✓ SD (4:3 and 16:9 anamorphic PAL/NTSC)

Genlock:

- ✓ Black Burst
- ✓ Tri-Level

DELTA-highlight is also available for file-based workflow.

Input: video stream

Output: augmented video stream

2U 19" rack

Ergonomic Storm Case (option)

### Optional

DELTACAST can also provide a one-box hardware solution. Easy to take in your luggage, it offers a highly flexible and cost effective solution for travelling operators.



**DELTA****CAST**

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