

# High-resolution images from the driver's seat

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The MicroHDTV mini-camera is one of the smallest HDTV cameras available.  
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A novel miniature camera allows viewers to enjoy a new live experience and watch a ski jump or a car race in high resolution from the actor's perspective. The camera is so tiny that it even fits inside the cramped cockpit of a racing car.

It is fascinating for a television audience to be able to watch a car race live from the driver's perspective and see the surroundings rushing past. Until recently, this could only be done in standard TV resolution. Now these images have made the leap to 'high-definition TV' (HDTV), thanks to a mini-camera developed by researchers at the Fraunhofer Institute for Integrated Circuits IIS in Erlangen. Several licensees will soon be

putting the camera into series production.

Measuring 4 by 4 by 8 centimeters, the camera is smaller than a bar of soap and can even be accommodated in a cramped racing-car cockpit or a ski jumper's helmet. "The MicroHDTV model is one of the smallest HDTV cameras currently available," says Stephan Gick, group leader at the IIS. "We achieved this chiefly by taking two different approaches: The camera's electronics have a very low power loss, which means that little heat is generated and the housing can thus be kept very small. By using highly integrated parts, we were able to fit all of the components such as the image sensor, the analog-to-digital converter, the color processor and several interfaces into the tiny space available inside the camera."

With its format of 1920 x 1080 pixels and a variable frame rate of up to 60 frames per second, the camera meets all the requirements expected of a professional HDTV production. All parameters – such as color settings, white balance, image format and frame rate – can be controlled using the integrated software.

All it takes is to open a web browser, connect the camera to the notebook via a local network and set the desired parameters. "Because the camera is so small and can be controlled via the Internet, it can deliver pictures of scenes that could not be viewed in the same way before – for example, recordings of sports events or applications that require the camera to be installed in difficult-to-reach places," says Gick. Another of the camera's advantages is that it can be operated using standard optical systems.

The MicroHDTV camera will be on display at the CeBIT trade fair, which will take place in Hanover from March 15 to 21.

Source: Fraunhofer-Gesellschaft

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