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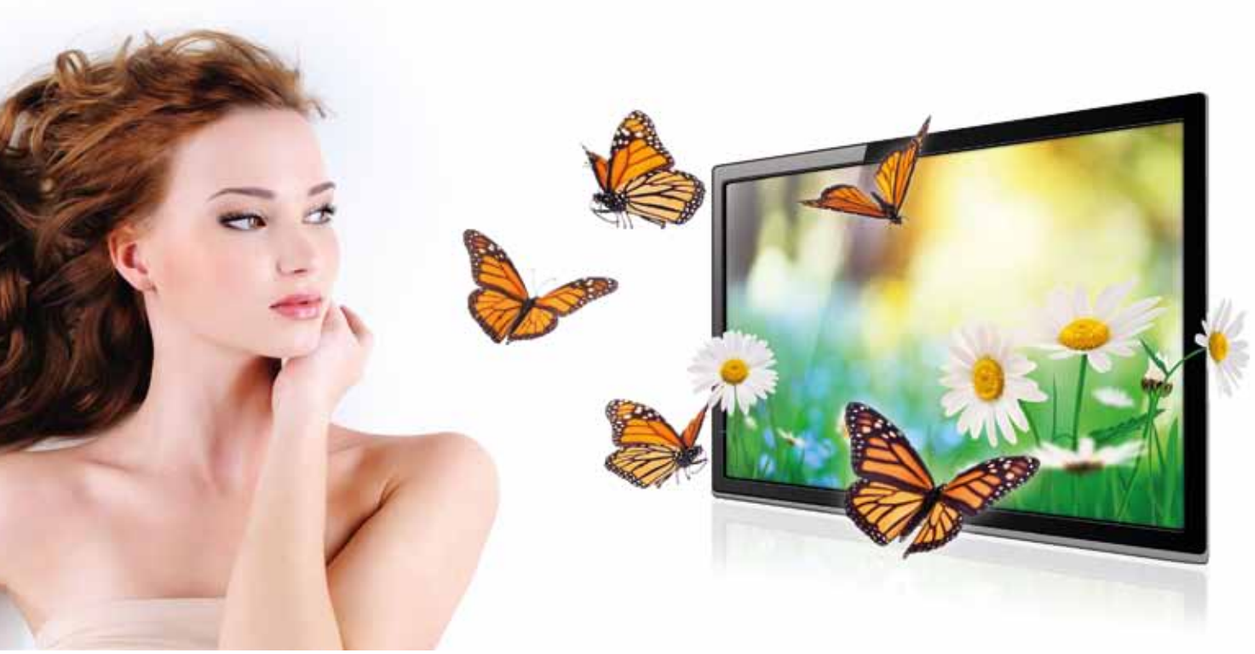

3DZ Tile Format

the ideal format for all types of display

3D TILE FORMAT Improves **Glasses-Free** Viewing

Glasses-free 3D displays (autostereoscopic) are based on a depth map of the scene which is generated by Left and Right frames. A depth map generated on the broadcasting side is more accurate than the one produced on the end-user apparatus, such as TV or STB. The map can advantageously be inserted into the HD frame, which also carries the 3D Tile Format. In this case the 3D HD frame is called 3DZ Tile Format.

Introducing the depth map in the 3D HD full frame simplifies the computation made by the Glasses-free 3D display, resulting in a better view of the 3D images and a reduction of the cost of the display.

TRIAXES® 3D video & photo software

group of companies elccard

Sisvel Technology, in collaboration with Triaxes, a Russian company specialized in software and hardware solutions for autosteroscopic displays, has recently developed an evolution of 3D Tile Format, called 3DZ Tile Format.

The 3DZ Tile Format has been developed to simplify and to improve the performance of “glasses-free” 3D televisions. These devices generate internally a great number of intermediate images that are sent to a special TV panel. In order to do this, the television needs a depth map, namely a “gray scale” representation of the depth of the scene. This map may be produced within the television, but this operation requires a rather complex software. On the contrary, if the map is generated at the broadcaster’s premises, more complex and accurate algorithms can be used without affecting the cost of the receiver.

In the Tile Format it is possible to exploit the right bottom empty space of the composite frame in order to broadcast a depth map having a resolution which is one half of that of the picture, both horizontally and vertically. This is considered by the experts as the best resolution for a depth map, because a full resolution of the map would be more noisy. In conclusion the 1080p full HD frame of the 3DZ Tile Format will provide in an optimized way the necessary information to display 3D contents either on stereoscopic TV with glasses or on autostereoscopic TV (without glasses). Consider also that the Tile format allows the 2D vision on regular HD TV (the so called 2D backward compatibility) since its original version.

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3D Tile Format **DepthGate** **3DZ Tile Format**

The pictures show how the various types of display use the information contained in the 3DZ Tile Format.

Common 2D displays use only the Left picture, while stereoscopic displays use both the Left picture and the Right one (reconstructed from the three tiles) and autostereoscopic displays use the Left picture and the depth map.

3D Tile Format **DepthGate** **3DZ Tile Format**