

10 things you need to know about...



Stereoscopic 3D TV

- 1** Today's 3D Television systems are 'First Generation 3D TV' that need '3D' glasses
But there is more ahead for 3D television, with future generations being developed over the coming decades. Each generation will come ever closer to our natural viewing experience.
- 2** The first 3D television broadcasts used 'Frame Compatible' (FC) formats
3D TV broadcasting began with the 'Frame Compatible' formats. They were specified by the DVB project in February 2011. The specification can be downloaded from www.dvb.org.
- 3** The FC format is arranged to 'look like' an HDTV signal to an HDTV set top box
The particular FC format a broadcaster uses is chosen based on the content origination and normal HD delivery formats. Different FC formats will give the best results, depending on whether 1080i or 720p is used for origination and broadcasting.
- 4** The FC formats L and R images have lower resolution than normal individual HDTV images
One way or another, some resolution of each L and R HDTV picture must be lost for current FC transmission. Nevertheless the results seen by viewers can be good; if broadcast bit rates are adequate.
- 5** There may be a case in future for formats which give 'full resolution' for each L and R image
A future 3D TV format for broadcasting might offer more resolution. It may be, for example, a 'Service Compatible' format, like the one 3D Blu Ray uses. The DVB Project is studying the need for such systems. Two full HD frames will be transmitted in this way.
- 6** 3D TV will not suit all kinds of programme content
The strongest depth effects, and the most effective 3D TV, occur when specific 'production grammar' is used. 3D TV will not replace or supersede normal HDTV, which allows a wider range of production grammar, but it will be used as an additional experience. Stereo 3D has to-date been used mostly for live special events or 3D movies.



7 More studies are needed on 3D TV and eye discomfort

Trials with the first 3D TV broadcasts have brought experience about avoiding eye discomfort, but more controlled scientific experiments, and 3D standards, are needed.

8 Standardization bodies start to define 3D standards

Several standardization bodies such as DVB, SMPTE and ITU have been working on standards for 3D TV and 3D transmission for several years. It is worthwhile following the work of these bodies if you are interested in 3D TV.

9 EBU Members are assembling 3D TV developments

While taking part in standardization discussions, and evaluating 3D TV production issues, some EBU Members have successfully made 3D productions and trial transmissions. But the majority are not announcing plans for 3D TV services yet, until more knowledge is gathered.

10 The EBU has an S3DTV Study Group, open to practitioners

The group currently largely focuses on 3D production and production training, but takes into account potential 3D quality improvement, and the evolution of production formats in the future. The group is chaired by Andy Quedsted, BBC, and managed by Yvonne Thomas, EBU.

Check it out on tech.ebu.ch!

