

3D TV -- Without the Glasses (w/ Video)

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Image source: Wittkowsky via Wikimedia Commons

(PhysOrg.com) -- Even with "[active shutter](#)" 3D technology for television sets, the wearing of special glasses is still required in order to get the proper experience. They aren't those red and blue or red and green 3D glasses that we are used to seeing from the 50s and 60s, but you still have to wear glasses. Now, though, efforts are being made for a 3D television viewing experience without the glasses: the Full Parallax 3D TV.

The idea behind Hitachi's Full Parallax 3D TV is called integral photography with overlaid projection. [Tech-On!](#) describes the set up for this 3D television:

Specifically, it consists of 16 projectors and a lens array sheet to cover them. The lens array sheet ensures parallax in any direction (not only in the horizontal direction). Because of parallax, the 3D image seen by the user differs in accordance with the angle from which the screen is viewed.

In order to get a display that doesn't require special glasses of some kind, the total pixel count requires the multiplication of the pixel count in the 3D image by the number of viewpoints showing different images. The 3D effect requires different viewpoints, but as the number of viewpoints increases, the resolution decreases.

Adding more projectors could solve the problem, and that is why the Parallax has so many projectors. There are also efforts underway to increase the pixel count by using micro-projectors based on lasers, increasing the [projector](#) count by even more.

It is clear that efforts are being made to bring a more realistic experience to television viewers. And, as technology advances, it becomes even more possible.

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