Clip:ap_clip2: History of HD TV

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Television began here in the 1930s in the Alexandra Palace studios. The very early systems had been part mechanical and part electronic but what was needed for broadcast was a wholly electronic system, something which captured the image electronically, broadcast it and then reconstructed it electronically. Electronic materials were clearly going to be at the heart of that story. The breakthrough came when EMI developed this television camera, the Emitron.

A glass envelope contains a photosensitive target material in vacuum. Light is focussed on to it while it is scanned by a beam of electrons. The current that passes through varies with the optical image providing the electronic signal.

The camera for 405 line television put an electronic material inside a vacuum tube. Integrated electronics has come some way now and in fact you're watching me on a system of 625 line television which was recorded using an integrated electronics solid state camera. But the new emerging standard is for a high definition television picture with 1250 lines. It's interesting that the first cameras developed for this have again put an electronic material inside a vacuum tube. But it's only a matter of time before integrated electronics takes over here as well.

And this is the high definition television set. Some things never change, it's a cathode ray tube again just as it was in the 1930s. Only this time because quite a long tube was necessary, technology's improved since then, it had to be mounted vertically so that we'd start at the bottom with a beam of electrons, come up, they'd strike a phosphorescent screen and then you'd view it through a mirror like this. Displays for HDTV are the focus of our programme.