

# AUDIOTRENDS

L E A R N I N G C E N T R E

## Direct View Television

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Even just a few years ago, a TV was a TV. But nowadays it is not that simple! Not only is there multiple choice in both brand and screen size, but the consumer can also buy different technologies—front and rear Projection systems, as well as ‘traditional’ CRT sets or what we call here Direct View.

This latter term is now being more consistently applied to the traditional television that most of us are used to having in the lounge-room. These sets, since their inception in the 1930’s, (Loewe in Germany were one of the first) utilise a CRT or Cathode Ray Tube. Main advantages include large choice, low price, bright picture, plus they are usually very reliable.

### How A CRT/Direct View Television Works – Very Simply!

You will probably be familiar with how a movie is projected onto a screen. A powerful light shines through a series of ‘still’ images contained on a reel of film. Every piece of each image is projected simultaneously onto the screen. Television is not this simple.

In fact, no technology has yet been developed that allows for an entire image to be captured, transmitted, received and then displayed simultaneously – not even live broadcasts. Instead tiny portions of the image are scanned by the camera and then ‘painted’ onto the television display in perfect coordination. It only takes 1/50th of a second for a ‘basic’ 50Hz (50 cycles per second) TV to

‘paint’ a complete screen. In other words, the picture is replaced or refreshed 50 times per second. Interestingly, the German TV manufacturer Loewe introduced 100Hz technology in the early 90’s. This doubles the refresh rate to 100 times per second and virtually eliminates the ‘flicker’ associated with 50Hz sets.



### Television Standards – Old and New

Analog Television transmissions started in Australia in 1956 and for around 45 years, the system (cameras, transmitters and television receiver) was only capable of dividing an image into 625 horizontal or ‘interlaced’ lines. Basically, this 625-line ‘interlaced’ scan rate means that a television screen is made up of 625 horizontal lines that ‘refresh’ in an interlaced pattern. (In other words, lines 1, 3, 5, etc. would refresh and then lines 2, 4, 6, etc. would refresh.) This electronic interlacing was done to minimise image flicker – progressive scan was not possible in those days! The standard of the day also established a 4:3 aspect

ratio (the ratio of screen width to height) similar to a movie theatre screen.

- **Size:** Main disadvantage is size, or lack of it. The largest sets are now 86cm. There were a couple of 95cm CRT televisions over the years, but these have mostly lost favour with manufacturers because of the significant extra associated costs and huge increase in weight.
- **Picture Quality:** These traditional sets have the advantage of over 70 years of development and thus they currently are the standard by which all new technologies are being judged.



- **Room and Lifestyle:** Again, because television has been in Australian homes for around 50 years, architects have been making provision for the TV – even if it has just been in the corner! The CRT design is also a good performer in a relatively bright room with daylight



conditions, although like everything else, not much good in strong, direct light.

- **Price:** No doubt about it, but a CRT TV is the hands down winner when it comes to both price and especially value for money. If only they were bigger!
- **Audio Trends Recommendations:** For Direct View Televisions, we highly recommend products from the much respected manufacturers — **Loewe** and **Toshiba**. For several decades they have been admired by television viewers for excellence in television design. Both have products that will satisfy the most discerning and fastidious eyes. See our web site for current pricing.

However, since the beginning of time, mankind has always wanted something bigger—and even a 95cm picture for a serious Home Cinema is no where near big enough – for most anyway!

## AudioTrends Showroom

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