

Use and Safety of TV Sets

Television (TV) sets with cathode ray tubes (CRT) have been in use for a long time. Nowadays, the CRT TV is fading out and gradually being replaced by the liquid crystal display (LCD) TV. Demand for the LCD TV has been growing since the launch of digital television broadcast in Hong Kong.

The LCD TV is capable of displaying images with higher resolution. The common input connection between AV equipment for high resolution (1080i or 1080p) is High-Definition Multimedia Interface (HDMI). The HDMI terminals can transmit both audio and visual signals in one single terminal. Output from set-top boxes, blue-ray disc players and some DVD players are provided with this type of connection.

In the CRT TV, high voltage generated by a step-up transformer is applied to the tube to trigger electronic flows. On the other hand, the LCD TV requires no step-up transformer and utilises back light to maintain the brightness of the images. Hence, the LCD TV generates less heat than its CRT counterpart.

As far as electrical safety is concerned, international standard IEC 60065 is applicable to both CRT TV and LCD TV. The twenty clauses except two in the Standard are applicable to both types of TV. These clauses include the construction requirements to protect against electric shock, insulation requirements, mechanical strength, clearances and creepage distances, electrical connections and mechanical fixing, etc. Clause 6 “hazardous radiations” and Clause 18 “mechanical strength of picture tubes and protection against the effects of implosion” of the Standard do not apply to the LCD TV.

For electrical safety, consumers should check whether the LCD TV set has been issued with a certificate of safety compliance (CSC) before buying one. The CSC certifies that the TV has been tested and passed all relevant safety requirements as stipulated in IEC 60065.

[The Electrical Blog](#) is contributed by the Electrical Division. If you would like to know more about this topic, please contact the Division Hon Secretary, Ir Geoffery L Chan at glchan@hec.com.hk