

# Experiencing DTV on the LCD TV

## What is DTV?

DTV stands for Digital Television, the latest standard and the future of television broadcasting. Unlike analog TV, DTV is broadcast digitally to transmit an audio and video signal for movie-like picture quality and surround sound. HDTV, your ticket to movie theater experiences on your home TV set, is a Digital TV (DTV) format. There are many benefits to DTV, as we will explain below.

In addition, on February 1st, 2006, Congress passed a law mandating that all analog TV broadcasts must cease on February 17, 2009. At present, many television stations have begun broadcasting programs digitally.

## Benefits of Digital Television

### Improved image and sound quality

Digital signals are not prone to interference during transmission, resulting in high fidelity signals all the way to the TV set for immaculate colors, incredible image sharpness and great sound. With DTV we can say goodbye to “ghosting” and “snow” on the TV screen and noise from the speakers. In addition, DTV supports high quality picture formats such as HDTV, meaning you will be able to enjoy movie-like programming right in the comfort of your own living room!

### Interactive programming

With analog TV, we could do very little else with our TV programs other than change the channel. DTV provides us with an interactive viewing experience, a good example of which is the ability to order whichever program we please directly through the TV. That was impossible in the analog TV age.

## DTV Picture Quality Levels

There is more than one DTV picture quality level or format. SDTV is the basic, and HDTV is currently the highest. This means that while HDTV is most definitely a DTV format, not all DTV is presented in HDTV format.

### SDTV (Standard Definition TV)

SDTV is the basic quality level for digital TV. It can support up to 480 interlaced lines (480i) of resolution at 60Hz refresh rate and multi-channel digital surround sound e.g. Dolby Digital 5.1. The aspect ratio for SDTV is either traditional 4:3 or widescreen 16:9.

### EDTV (Enhanced Definition TV)

EDTV is an enhanced version of SDTV. It can provide 480 progressive lines (480p) of

resolution at 60 Hz refresh rate for better image clarity and color. Multi-channel digital surround audio is also supported. The aspect ratio for EDTV is either traditional 4:3 or widescreen 16:9.

### **HDTV (High Definition TV)**

The HDTV standard provides the highest picture resolutions (including 720p and 1080i) and quality, as well as digital surround audio. In addition, the widescreen 16:9 format means TV programming feels much more movie-like.

Of the picture quality levels introduced above, HDTV is the most attractive and sets a new standard for video and audio quality on the TV. Furthermore, though analog TV also supports SDTV resolutions, the high fidelity video and digital surround audio offered by DTV is hard to match.

## **Why LCD TVs are great for DTV**

### **Purely digital**

Unlike traditional analog TVs, the liquid crystal display (LCD) technology in LCD TVs is purely digital. Degradation-prone conversion between analog and digital signals is therefore not required in an LCD TV during DTV signal reception as long as the connection is digital, thereby delivering pristine image clarity and color.

### **High picture resolution in the widescreen format**

Current LCD TVs support at least the resolution of 640x480, which enables it to display an EDTV picture. The majority of LCD TVs available support 1280x720 or above, meaning they are HDTV 720p compliant, or in other words, HDTV ready. HDTV ready LCD TVs are typically built in the 16:9 widescreen format allowing them to produce the highest picture quality level DTV can offer.

### **Digital connectivity**

Many LCD TVs are equipped with digital ports/connectors such as DVI, IEEE 1394 and HDMI. Each is fully capable of receiving HDTV video signal transmissions, and the HDMI connector in particular can carry a maximum of 8 digital audio channels simultaneously. In addition, LCD TVs also provide analog connectors that work with existing non-high definition devices such as DVD players, VCRs, game consoles and camcorders.

## **Other equipment needed to receive DTV broadcasts**

### **Antenna**

If you want to receive over-the-air DTV broadcasts, you will need an antenna. Specially designed antennas are not required – in fact existing designs used for analog TV broadcasts are suitable for use with DTV.

**DTV tuner**

A DTV tuner, which can take the form of a set-top box, is used to decode digital broadcast signals for LCD TVs that are not integrated with their own digital tuners. LCD TVs featuring their own integrated DTV tuners (also called ATSC tuner, digital tuner, etc), do not require the help of an additional DTV tuner.

**Digital cable tuner or Cable card**

Cable subscribers typically receive a digital cable tuner from their cable provider, which are used to decrypt digital cable broadcasts. The external digital cable tuner also takes the form of a set-top box and may be integrated with a DTV tuner.

Please note that certain LCD TVs are Digital Cable Ready (DCR), meaning that an external digital cable tuner is not required. Rather, a cable card from the cable provider must be inserted into the cable card slot.

**Satellite antenna and receiver**

If you wish to receive satellite DTV programming, you will need a satellite antenna as well as a satellite receiver. Please contact a content provider for more details and instructions.

**HDTV tuner**

As mentioned above, HDTV is a DTV format, but not all DTV ready LCD TVs are HDTV ready. To view HDTV quality DTV programs, please make sure the LCD TV is either integrated with an HDTV tuner (integrated HDTV), or that it is equipped with the digital set-top box with an HDTV tuner built-in.

**DTV stations**

There are already a large number of DTV stations on the air providing DTV programming. Please visit the link below for a list of DTV stations in your area:

<http://www.fcc.gov/mb/video/files/dtvonair.html>