IEEE DTV Transition FAQ
November 17, 2008

Q: What is the DTV transition?
A: The transition from analog to digital television (DTV) is the most significant advancement in television since color television was introduced to the market in 1954. The actual full-power transition from analog television to ***exclusive*** use of digital television formally began in May 1999 and will be completed on June 12, 2009 at 11:59 pm when all full-power analog signals will be required by Congressional law (Digital Television Transition and Public Safety Act of 2005) to be turned off.

Q: Will digital television be better than analog television?
A: Built into the digital television transmission signal is extra information that is used for error correction, thus preventing the noisiness, "ghosting" and "speckles" sometimes seen when using an analog signal. Digital signals will produce a clean detailed picture with CD-quality sound even as the signal gets weaker or more distorted until it reaches the threshold where it becomes unusable.

Q: Is digital television more expensive than analog television?
A: No. Traditional, non-cable television programs will continue to be free to the public.

Q: If I currently have cable service, is there anything else I need to do to prepare for the switch?
A: If you have cable service, there is nothing else you would need to do when the full power analog signals are turned off. However, if other TV sets in the house are *not* connected to cable and they receive their signals with an antenna, *each* of these sets will need a converter box to independently receive off-air digital signals.

Q: What is a digital converter box?
A: A digital TV converter box hooks up to a conventional analog TV set, allowing it to receive digital broadcasts.

Q: Will my current television still work with off-air signals after June 12, 2009?
A: Yes, as long as you have a digital converter box and an *appropriate* antenna. In general, if your antenna works well with analog signals, it will possibly work well with digital signals that are in the same television band (low-VHF, high-VHF, or UHF).

Q: What specific techniques can I use to determine if my current television antenna is acceptable for digital reception or whether a new antenna is required?
A: In general, if your current antenna (outdoor or indoor) provides good or excellent reception quality, that antenna should be acceptable for DTV reception. This presumes that the current antenna covers the *same* television bands (low-VHF, high-VHF, UHF) that are being used by the digital stations.

To help in this determination, you can easily identify (1) weak signals by seeing a snowy picture, (2) impulse noise from motorized devices in the home (e.g., vacuum cleaners, popcorn poppers, etc.) by seeing white speckles on the screen, (3) "ghosted" signals by seeing multiple images shifted horizontally on the screen, and (4) interference from other analog signals by seeing diagonal stripes on the screen. Observing these analog transmission artifacts on an analog television set can provide some insight into potential digital reception on *similar* channels.

Q: Is there such a thing as a "digital" antenna or an "HDTV" antenna?
A: No. While the box in which the antenna is sold may be called "DTV Antenna" or "HDTV Antenna", the analog and digital television signals share the same frequency bands (low-VHF, high-VHF, and UHF) and therefore can be picked up (i.e., received) with the same antenna.

Q: How can I determine what channels I will receive?
A: DTV uses a *virtual* channel numbering system that links the digital channel to the TV station's legacy analog channel. This provides two advantages:
(1) a station gets to keep its branding (e.g., Action 7 News, Sports Center 5, etc.) even though a different actual RF channel is used for digital, and
(2) it is more convenient for you to make the change to digital.
DTV receivers make the connection between the analog and digital channels when it scans the entire television spectrum looking for digital signals, and then stores this relationship in its electronic memory much the same way that the phone company stores a call forwarding telephone number in its electronic memory.

To determine what actual DTV channels are currently in use, go to www.antennaweb.org. More information can also be found at: www.fcc.gov/cgb/consumerfacts/dtvantennas.html.

Q: What general types of antennas are best to use for DTV reception?
A: Just as for analog television reception, a good outdoor antenna is the best option, an attic antenna (if there is not a metal roof) is the next best option, and the last option that should be considered is an indoor antenna.

Not all antennas on the market are designed to cover all three television bands. Some are VHF only (CH 2 – CH 13) while others are UHF only (CH 14 – CH 69). Some individually cover the upper VHF band (CH 7 – CH 13) and the UHF band

(CH 14 – CH 69). Yet others cover all three television bands (CH 2 – CH 69), and are referred to as all-band or "combo" antennas.

After the transition to all-digital transmission ends, the same antenna that currently provides acceptable analog reception may also provide acceptable DTV reception in the same television band. However, this is not guaranteed.

Q: What should I consider when purchasing a new antenna for DTV reception?
A: If you know that there will be no VHF (2-13) DTV signals after June 12, 2009, then a smaller UHF-only (14-69) antenna may be the most desirable. However, if it is determined that there will be high-VHF (7-13) in addition to UHF digital channels, then a high-VHF/UHF combo antenna would be best, which is still smaller than a complete VHF/UHF (2-69) combo antenna.

It is very important to know what actual television channels will be used for digital transmission after June 12, 2009 in order to make an informed decision on antenna selection. For information on what digital television channels will be used locally after full-power analog television is turned off on February 17, 2009, go to: www.antennaweb.org

Q: What are the most important features and accessories to look for when purchasing a converter box?
A: The first important *optional* feature is add-on scanning. Add-on scanning, unlike complete channel scanning that deletes all the channel information from the converter box's memory, adds to its list any new channels that are found and includes their information in the converter box's memory.

The second *optional* feature is direct RF tuning. Sometimes a digital channel that is difficult for the DTV receiver to decode (perhaps due to antenna mis-adjustment) is not found during an initial channel scan. If you know the actual RF channel of a digital station, you can enter the actual digital RF channel into the converter box, and it will directly tune to that RF channel while the viewer adjusts the antenna to get reception.

The third optional feature is antenna pass through. This feature allows the signal from the antenna to pass through directly to the television when the converter box is turned off. This is important if you live in a community that is served by a combination of full power and low power television stations.

More information for specific converter boxes can be found at:

www.consumerreports.org/cro/electronics-computers/televisions/digital-tv-converter/overview/dtv-converter-box-guide.htm

en.wikipedia.org/wiki/Comparison_of_CECB_units

www.fcc.gov/cgb/consumerfacts/converterboxfeatures.html.

Q: How can I increase the chance of reliable indoor reception when using an antenna?

A: The higher the receive antenna is off the ground, the better chance for reliable reception. Sometimes using an amplified indoor antenna (antenna with built-in amplifier) will help if the signals are weak. Also placing the antenna near a window that faces in the direction of the transmitter sites will help as will opening any metal blinds that may be present on the windows or patio walk-in door.

The FCC has issued a number of very helpful consumer advisories on the DTV transition at: www.dtv.gov/publications.html.