

Low-Power Stations, Translators and the Digital Television (DTV) Transition

While federal law mandates that all full-power television stations must cease to broadcast in analog after 11:59 p.m. on February 17, 2009, low-power television broadcast stations (LPTV), Class A television stations, television translator stations and television booster stations (low-power facilities) are not covered by the law. These stations may continue to broadcast in analog after the February 17, 2009, digital conversion deadline for full-power television stations.

Viewers making the transition to receive digital stations who wish to continue watching low-power analog programming must purchase specific equipment.

Why is this a problem?

- **Confusion.** Many consumers do not know the difference between full-power and low-power stations or whether the signals they receive are full- or low-power. The issue is further confused by these low-power stations remaining in analog as full-power stations switch to digital.
- **Some consumers watch both full-power and low-power stations.** While the audience of Class A or low-power community broadcaster stations runs approximately 800,000 nationally, some viewers in rural areas receive their network programming from low-power translator transmitters, which re-transmit a station's signal at long distances from the main transmitter. A household could theoretically watch community broadcasting from a low-power station, receive low-power network programming from a translator and receive full-power network programming from other full-power transmitters. After the transition, these households will need a way to easily switch between analog low-power programming (from the community station and low-power translator) and digital full-power programming (coming directly from the transmitter).
- **Converter boxes.** The federal government is offering \$40 coupons toward the purchase of digital-to-analog converter boxes to allow viewers to watch digital programming on their existing analog televisions. However, many of these converter boxes do not make provisions for sending analog antenna signals to the television. Therefore, if a consumer who watches low-power analog television purchases one of these converter boxes in order to watch the new digital programming, he or she would have to disconnect the box to watch the low-power analog programming.
- **Converter boxes with analog pass-through exist, but this is not a mandatory feature.** Some of the coupon-eligible converter boxes have an analog pass-through feature, which allows analog antenna signals to flow through the box to the television when the box is turned off. But the federal government did not require this feature for the certification of converter boxes, and the majority of boxes do not have this capability.

Is there a solution?

Consumers wishing to receive analog low-power stations that are still active in their area after the transition have three options:

- 1) Purchase a new set with both analog (NTSC) and digital (ATSC) tuners and connect it to a suitable antenna. This is the option for viewers who wish to watch analog and digital programming interchangeably.
- 2) Purchase a converter box with analog-antenna pass-through capability and connect it to a suitable antenna. The converter box radio frequency (RF) output is then connected to the antenna input of the TV. Consumers can simply turn the converter box power off and use the television tuner to select the low-power analog station channels they are used to watching. They can turn the box on to watch a digital channel and tune the DTV channels using the tuner in the converter box.
- 3) Purchase a converter box that can receive both analog (NTSC) and digital (ATSC) signals. Note that because these boxes are generally used for HD television sets, they run well over \$100. These boxes are also not eligible for purchase with a converter box coupon from the federal government.
- 4) Consumers who purchase a converter box without the analog-antenna pass-through capability and wish to watch both digital and low-power analog programming, must purchase an antenna splitter and/or an antenna A/B switch and make some additional connections. Viewers can then switch back and forth between analog reception directly with the television or digital through the converter box. An A/B switch and splitter and additional antenna cables are inexpensive and can be found at most consumer electronic retailers. There are three possible ways to make the connections:
 - A. The antenna is connected to the input of the antenna splitter and one of the outputs of the splitter is connected to the antenna input on the converter box. The other output of the splitter is connected to one input of the A/B switch, with the other input of the A/B switch being connected to the RF antenna output of the converter box. The output of the A/B switch is connected to the antenna input on the TV set. The TV is set to "antenna" for its source. Low-power analog stations can then be watched using the tuner in the TV set. To watch digital stations, the TV is set to channel 3 or 4 and the converter box is used to tune the digital channels.
 - B. The antenna is connected to the input of the antenna splitter and the two outputs of the splitter are connected to the antenna inputs on the converter box and on the TV set. The converter box output is then connected to the TV using the "line" or "video and audio" connections. In this case, no A/B switch is required. To watch low-power analog stations, the TV is set to "antenna" for its source and uses the tuner in the TV set. The converter box is used to tune digital stations, using the "line" input on the TV.
 - C. In fringe reception areas, the small loss of signal strength through the antenna splitter may be undesirable, in which case the splitter in arrangement B can be replaced with an A/B switch, which must also be changed over when switching from analog to digital reception.

For more information about NAB's DTV transition education campaign, please contact Vinnie Mascarenhas at (202) 429-5358, or via email at vmascarenhas@nab.org.



An initiative of the National Association of Broadcasters