

Implications of Digital Conversion for Virginia's Schools

Introduction

On February 17, 2009, broadcast television will undergo a major change as all stations switch to digital transmission and abandon the analog signal that has sent television signals to American homes, schools, and businesses since the 1930s. Not since the introduction of color television in 1953 has there been such a significant change in the technology that sends commercial and public television signals all over the country. With this new technology, the broadcasting industry can free up valuable airwave space to provide exciting new options for television viewers, the most anticipated of which is high-definition television (HDTV). The expanded spectrum will enable viewers to receive better pictures, enhanced sound, and more channels. Public safety officials and first responders will have access to the increased spectrum as well.

There are several categories of television reception: analog TV with antenna only, TV with cable or satellite service, and digital-equipped TV. Televisions that are connected to cable or satellite services and digital televisions that are already equipped with digital tuners will not be affected by the transition from analog to digital television reception. Although they may not realize it, between 85 and 90 percent of consumers currently have televisions that can receive digital signals. Only older analog televisions that receive a signal through an antenna will require converter boxes. These converters cost as low as \$50, and the federal government is now issuing coupons—up to two per household—for \$40 converters.

Virginia Public Broadcasting Stations

Virginia's public broadcasting stations (http://www.doe.virginia.gov/VDOE/Technology/DOEhour/PTV_REG.htm) provide educational programming and other activities to enhance K-12 education through the Regional Schools Contracting and Planning Committee (RSCPC). Each station is prepared for the digital conversion process and the potential

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effects on K-12 public education. The Virginia General Assembly has been aware of the financial aspects of converting from analog to digital. In fiscal year 2001, bonds were issued to assist local public television stations with the mandated conversion.

Virginia's public broadcasting stations actively have informed, advised, and planned with the divisions they serve to ensure that schools continue receiving programming and resources without interruption. Additionally, the educational services staff at each station has conducted visioning discussions to explore the potential uses of multiple channels to deliver a wider range of resources in various formats. Each Virginia public television station will offer individual schools or divisions technical information and recommendations regarding the transition from analog to digital.

Potential Impact on Teaching and Learning in Virginia

- The transition from analog to digital for HDTV in schools will affect only divisions with schools that are antenna based. Divisions using cable will be assisted by their service providers.
- Digital television (DTV) allows public broadcast stations to broadcast multiple channels simultaneously, producing a greater variety of learning resources.
- DTV allows for interactive video and data services, including closed captioning that is incompatible with analog television and expanded types of educational resources for students with special audio needs.
- DTV can increase the number of programs broadcast and provide interactivity via the Internet.

- Data broadcasting services provide high-speed access to educational content on the Internet.
- New interactive TV services can enable the viewer to access information independent of the TV channel.
- When broadcasters are not transmitting HDTV, multiple channels of standard-definition television (SDTV) can be transmitted simultaneously.
- PBS can broadcast programs with supplemental data simultaneously. Students will be able to download supplemental educational and interactive material related to a program while it airs.
- Although lower in quality, SDTV picture quality will be improved when viewed on high-definition televisions.

Recommendations for Virginia Public Schools

- Review materials provided by local public broadcast stations and local cable service providers.
- Review materials on the Federal Communication Commission's DTV Web site: <http://www.dtv.gov/>.
- Discuss all division concerns with the local public broadcast station and cable or satellite service provider.
- Educate parents and community members about the digital conversion by disseminating information through meetings, school-to-home communication, and school information cable channels.

Glossary

Definitions of related terms may be found in the following selected glossaries:

- Digital Television (DTV). *Glossary*. Washington, DC: Federal Communications Commission. <http://www.dtv.gov/glossary.html>.
 - HDTV Info Port. *HDTV-glossary for non-techs*. N.p.: Author. <http://www.hdtvinfoport.com/HDTV-Glossary.html>.
 - KCTS. *Digital TV: Glossary of digital television terms*. Seattle, WA: Author. <http://www.kcts.org/digital/glossary/index.asp>.
 - Maine Public Broadcasting Network. *Digital television glossary*. Bangor, Lewiston, Portland, ME: Author. <http://www.mpbc.org/dtv/glossary.html>.
 - WHYY TV. *WHYY digital television glossary*. Philadelphia, PA: Author. <http://www.whyy.org/tv12/glossary.html>.
 - WOSU Public Media. *Digital TV glossary*. Columbus, OH: WOSU Author. <http://www.wosu.org/television/digital/digital-tv-glossary/>.
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Resources

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All Web sites were available as of 15 December 2007.



www.doe.virginia.gov/VDOE/Technology

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