

Background

First there was digital television, called "the latest breakthrough in television." Now, digital radio is catching on as a popular form of broadcasting. The Federal Communications Commission (FCC) has moved a step closer to bringing digital radio to millions of Americans.

What is Digital Radio

Digital radio is the transmission and reception of sound that has been processed using technology comparable to that used in compact disc (CD) players. In short, a digital radio transmitter processes sounds into patterns of numbers, or "digits"—hence the term "digital radio." In contrast, traditional analog radios process sounds into patterns of electrical signals that resemble sound waves.

- FM digital radio is capable of providing clear sound comparable in quality to CDs. Digital receivers provide significantly clearer sound than conventional analog radios, just as CDs sound clearer than record albums.
- AM digital radio is capable of providing sound quality equivalent to that of standard analog FM, and sounds dramatically better than analog AM. Some broadcasters believe that digital broadcasting may bring music back to the AM band.
- Digital radio reception is more resistant to interference, and eliminates many imperfections of analog radio transmission and reception. There may be some interference to digital radio signals in areas that are distant from a station's transmitter.

Digital Radio Technology

In 2002, the FCC selected in-band, on-channel (IBOC) technology as the technology AM and FM broadcasters use for digital radio broadcasting. Broadcasters have begun IBOC transmission on an interim basis while formal transmission standards are developed.

Digital Radio Technology (cont'd.)

Transition to digital radio requires broadcasters to install new equipment. During the transition, broadcasters will operate in a "hybrid" mode, broadcasting the same programming using both analog and digital signals within a single AM or FM channel. Many FM broadcasters now offer two or more digital channels. The new digital technology will not require allocation of additional radio spectrum and will have minimal impact on present broadcast services. Consumers will continue to receive their current analog stations with minimal disruption.

Although the FCC has moved a step closer to bringing digital radio to you, at this time radio broadcasters are not required to convert to "all-digital" broadcasting.

Advantages for Listeners

Digital radio offers a number of consumer advantages over traditional analog radio, including:

- Better audio quality, more robust signals, and new auxiliary services, such as multiple audio programming channels, audio-on-demand services, and interactive features.
- Enhanced radio designs with simplified functions. Simply select the station you want from the call letters or names displayed on the digital radio liquid crystal display (LCD) and the computer within the radio will do the rest.

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Advantages for Listeners (cont'd.)

- Potential to introduce new data and information services that will be displayed on the radio's small screen when "all-digital" operations are introduced. For example, a station could send background information about a band when that band's music is playing. Advertisers could send information about discounts and sales. Listeners could program their radios to receive customized weather reports, news, or stock quotes.

Do I Need a New Radio to Receive Digital Quality?

Yes. A digital receiver is required to receive digital signals. Listeners can use their digital receiver, however, to tune to stations that are not broadcasting in digital.

Early models are expected to cost more than analog radios, but the FCC has no information on how much more.

Will Digital Radio Impact Subcarrier Frequencies and Services Such as Radio Reading Services?

Many states have services, such as radio reading service, that broadcast over the subcarrier or Subsidiary Communications Authority (SCA) of a public or private radio station. These services provide information, either free or for a nominal fee, to people who are unable to read print.

Will Digital Radio Impact Subcarrier Frequencies and Services Such as Radio Reading Services? (cont'd.)

Under some circumstances, digital radio signals may interfere with the subcarriers used for radio reading services. While relatively few listeners are likely to be affected, the FCC is concerned about digital radio's potential impact on radio reading services, and expects broadcasters to work to resolve any complaints regarding interference to such services. Public broadcasters plan to replace the old analog radio reading services, which generally have limited audio quality, with new digital service.

For More Information

For information about other telecommunications issues, visit the FCC's Consumer & Governmental Affairs Bureau Web site at www.fcc.gov/cgb, or contact the FCC's Consumer Center by e-mailing fccinfo@fcc.gov; calling 1-888-CALL-FCC (1-888-225-5322) voice or 1-888-TELL-FCC (1-888-835-5322) TTY; faxing 1-866-418-0232; or writing to:

Federal Communications Commission
Consumer & Governmental Affairs Bureau
Consumer Inquiry and Complaints Division
445 12th Street, SW
Washington, DC 20554.

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10/29/08*

