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# HD Radio: Radio for the 21st Century

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HD Radio™ is a new technology that enables AM and FM radio stations to broadcast programs digitally, a tremendous technological leap from analog. HD Radio has propelled the medium into the digital space, and marks the most significant advancement in radio broadcasting since the introduction of FM stereo more than 50 years ago.

HD Radio has provided expanded programming choices, radically improved audio quality, and new wireless data and text services. Its anticipated impact on consumers is so significant that HD Radio received top honors with CNET's "Next Big Thing" Award at the 2005 International Consumer Electronics Show.

Signal fading, static, hisses, and pops are a thing of the past as HD Radio delivers FM quality sound on AM and CD quality sound on FM. Real-time text messages including song title and artist, weather, news, and traffic alerts, and local information for nationally advertised brands are revolutionizing the way consumers experience AM and FM radio. Surround sound, a "buy" button, and traffic data overlaid on in-car navigational systems are on the way. And, as always, it's FREE.

Multicasting, the ability to deliver several programs or formats over one position on the FM spectrum, is a primary driver in consumer adoption and a tremendous growth factor for the medium. Highly specialized programming on alternate channels deliver tightly targeted audiences, creating more opportunities for advertisers to integrate their brand with program content, and connect on an even deeper level with their customers.

Last December, in an unprecedented move, several radio companies forged the HD Digital Radio™ Alliance to accelerate the rollout. The Alliance members have committed over \$200 million in commercial inventory on their own stations in 2006 to promote HD Radio and the new HD2 multicast channels. Moreover, Alliance member stations are coordinating the formats on the new HD2 multicast channels to ensure a variety of program choices within the HD2 multicast markets. More information is available at [www.hdradio.com](http://www.hdradio.com).

To date, 3,000 U.S. radio stations covering all major markets and reaching 90% of Americans, have committed to upgrading their stations. Nearly 1,000 stations are already broadcasting their primary signal in HD Radio including stations in all top 50 markets. More than 600 stations are multicasting additional HD2 channels in 68 markets, all in the Top 100. Some stations are experimenting with HD3 multicast channels.

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With the ability to offer unprecedented new content, HD2 channels bring fresh sounds to the airwaves. Formats currently on HD2 channels include (but are not limited to):

- Blues
- Comedy
- Christian CHR, Christian Rock, Christian AC
- Spanish Oldies
- All Financial
- In-depth News
- Old School Hip-Hop, New Hip-Hop
- Indie Rock, Chick Rock, Deep Rock Tracks, Ultra New Rock
- Disco, Party Mix
- Pride (Gay)
- Coffehouse
- All Beatles
- True Alternative, Extreme
- Classic Country, Future Country
- Chick Rock
- Love Songs
- Neo-Soul
- Urban Live Talk

The high-end Polk I-Sonic Entertainment System and the Boston Acoustics' Receptor HD tabletop radios are widely available, as is Yamaha's home component receiver. Additional home component units are on the way from Audio Design Associates, Day Sequerra, and Rotel. A table-top transportable version from Radiosophy with optional converter car kit will also debut this year.

RadioShack is the first major national retail chain to support the HD Radio rollout with a staggered launch of HD digital Radio receivers across the country. The first phase, in May 2006, included all RadioShack stores in Dallas/Fort Worth and less than 20 pilot stores in such markets as New York City, Los Angeles, Chicago, Philadelphia, Houston, and Washington, D.C. The latest expansion includes nearly 250 New York metro RadioShack stores and coincides with growing customer demand for HD Radio receivers.

Additional national retailers include Crutchfield and Tweeter, plus online retailers Amazon.com, eBay, Froogle, Shopzilla, and Yahoo!. In addition, numerous local and regional retailers across the country offer HD Radio products.

BMW is the first car manufacturer to offer HD Radio receivers as a factory installed option in its 2006 "6" and "7" Series models. Nine additional automotive brands, representing 49 different vehicle models, are committed to launch the technology within the next few years.

After-market auto receivers from Alpine, Kenwood, JVC, Eclipse, Sanyo, and Panasonic are selling in retail stores across the country. New automotive after-market technology will debut later in 2006 allowing consumers to easily convert their existing analog car radios to receive digital HD Radio signals.

The conversion to HD Radio is unique in that the process allows the nation's 13,000 radio stations to easily switch to digital without service disruption and while maintaining their current dial positions and station brand equity. HD Radio technology uses the existing infrastructure and spectrum, and at the same time, preserves the existing analog service for as long as necessary.

This means a seamless transition for the more than 200 million radio listeners across the country. “Backward and forward” compatibility allows the reception of traditional analog broadcasts from stations that have yet to convert and digital broadcasts from stations that have already converted. Consumers can continue listening to their favorite local AM/FM stations on existing analog radios as well as on new HD Radio receivers, allowing for a smooth evolution to a digital world.

### **The Benefits of HD Radio**

- Expanded programming choices with HD2, HD3, etc.
  - Multicasting allows the broadcast of more than one program over one position on the FM spectrum
- Enhanced audio quality
  - AM digital will have FM audio quality
  - FM digital will have CD audio quality
- Improved reception
  - Static-free, crystal clear reception, without pops, hisses or fades
- New wireless data services
  - Scrolling text displayed on radio screen including song titles, artist names, traffic updates, weather forecasts, sports scores and more.
- Advanced data services:
  - Surround sound
  - On-demand audio services
  - Store-and-replay (listeners store a radio program for replay later)
  - Overlaying real-time traffic information on a navigational map
  - A ‘buy’ button
- A unique and easy conversion process
  - No service disruption
  - Same dial position
  - Maintain station brand equity
- A seamless transition for consumers
- Smooth evolution to a digital radio world
- It's FREE! No subscription fees.

All of these enhancements to local AM and FM radio are designed to better serve the listening public while offering tremendous growth opportunities for advertisers, broadcasters, manufacturers, retailers, and automotive manufacturers. HD Radio levels the playing field with other digital technology, allowing stations to compete more aggressively for Time Spent Listening (TSL) and share of audience.

The Federal Communications Commission (FCC) approved HD Radio technology in 2002. The commercial rollout of the technology began in 2003 when AM and FM stations began digital broadcasts and continued with the launch of HD Radio receivers at the Consumer Electronics Show in January 2004. For now, until the market reaches maturity, stations will simultaneously broadcast analog and digital signals in much the same way that television transitioned from black-and-white to color.

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