

# HIFI TECHNOLOGY

## ABSTRACT

**High fidelity** (often shortened to **Hi-Fi** or **hi-fi**) is the high-quality reproduction of sound. High-fidelity equipment has inaudible noise and distortion, and a flat (neutral, uncolored) frequency response within the human hearing range

Hi-Fi paper presents a sufficiently low bit rate Hi-Fi audio coding technique with low computation designed for transmitting real-time high-quality audio signal over wireless channel.

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Current hi-fi audio CODECs employ entropy coding such as run-length and Huffman code, where important parameters required decoding are assumed to be error-free. Otherwise, the frame will be distracted making it susceptible to noisy wireless channel. As a result, we identify such parameters and protect them using channel coding that can connect up to 29 bits (one of every seven bits).

High fidelity contrasts with the lower quality sound produced by inexpensive audio equipment, AM radio, or the inferior quality of sound reproduction that can be heard in recordings made until the late 1940s. In lo-fi music, such defects are themselves aspects of the music.

Some modern hi-fi equipment can be digitally connected using fibre optic TOSLINK cables, USB ports (including one to play digital audio files), or Wi-Fi support.

Another modern component is the *music server* consisting of one or more computer hard drives that hold music in the form of computer files. When the music is stored in an audio file format that is lossless such as FLAC, Monkey's Audio or WMA Lossless, the computer playback of recorded audio can serve as an audiophile-quality source for a hi-fi system. There is now a push from certain streaming services to offer hi-fi services.

Streaming services typically have a modified dynamic range and possibly bit rates lower than audiophiles would be happy with. Tidal has launched a hi-fi tier that includes access to FLAC and Master Quality Authenticated studio masters for many tracks through the desktop version of the player. This integration is also available for high-end audio systems.