



VoiceAge[®]
www.voiceage.com

The World's Premier Supplier of Speech and Audio Codecs



AMR-WB+ for more programs to more customers on more networks with more quality

AMR-WB+ audio compression technology delivers outstanding audio quality in both mono and stereo with unrivaled bandwidth efficiency at rates ranging from 48 kbps for stereo down to a remarkable 6 kbps for mono.

AMR-WB+ audio compression allows content providers to offer

- More programs to
- More users over
- More networks

While demanding less of network and device resources:

- Less transmission bandwidth
- Less processing power
- Less battery power consumption on mobile devices

Much More Content • More Choices • More Listeners • Less Bandwidth

	CONTENT TYPE(S)
News	Speech Dominant
Traffic, weather	Speech Dominant
Sports	Speech Dominant
Talk shows	Speech Dominant
Entertainment	Speech / Music
Music	Music

AMR-WB+
Hi-Fi Audio Compression



MEDIA SERVER

Radio
Mobile TV
Podcast



Over More Networks • DVB-H/MediaFLO • DMB-T (DAB) • 2.5/3G/4G • WiMAX • Internet

Content is bandwidth

Whatever the technology, whatever the application, it's content that draws and retains customers. So to be able to deliver the most programming, content and service providers need to use their network capacity with the utmost efficiency:

- Broadcasters need to maximize the number of programs in their available bandwidth
- Internet-based streamers need to maximize the number of ports they support while keeping their network costs under control
- Cellular providers need to send the signal to the greatest number of users per cell

More effective audio compression means more service bandwidth available –

- ✓ More bits available to improve video quality
- ✓ More users can be supported with the available capacity
- ✓ More channels of programming, more on-demand content, and more downloads can be delivered over a given network
- ✓ More networks can be supported with one codec – no transcoding is needed!
- ✓ More playtime between battery recharges/swaps on mobile devices

AMR-WB+

Hi-Fi Audio Compression

The ideal audio codec for multimedia streaming and broadcast at home and on the go

Reach more customers today!



Superior quality demonstrated in multiple independent reports –

- 3GPP testing showed AMR-WB+ provides a 25% - 40% BW efficiency for low bit rate high-quality audio delivery
- ITU-T test results showed higher average MUSHRA scores than eAAC+ at both 24 and 32 kbps for speech, music & mixed mono content
- NPR (National Public Radio) testing ranked AMR-WB+ as the best audio codec for low to very low bit rate (≤ 24 kbps) digital radio services
 - Also showed AMR-WB+ reduces listener fatigue – even for long listening periods
- Neural Audio testing proved AMR-WB+'s effectiveness and ease of use in audio processing (3D, surround sound, enhancement pre-processing for broadcast applications)
- Selected by the US Library of Congress for audio books for the visually impaired

AMR-WB+ is extremely robust for both cellular and IP transmission. Its adaptive bit rates allow AMR-WB+ to use lower bit rates if wireless network conditions degrade so more bits can be used for channel coding: the content is protected and the signal isn't dropped. Its RTP payload format defined by the IETF supports interleaving for robust streaming and forward error correction for enhanced robustness.

Delivering more content with outstanding audio

In recent comparative subjective testing (MUSHRA) of AMR-WB+ and MP3 (Lame open source), experienced listeners rated AMR-WB+ as consistently delivering **quality that's better or equivalent to MP3 at just one-third the bit rate**. All the content samples were consistent with typical broadcast and streaming applications as shown in the diagram on the reverse side of this page.

