

Lossless audio compression standards

Andrei Buruntia Paul Cazan

21/03/2018

Outline

Basic principles of lossless compression

- Framing

- Intra-channel decorrelation

- Entropy coding

- Compression algorithm characteristics

- Intra-channel decorrelation

- Entropy coding

- Compression algorithm characteristics

- Second Subsection

Performance evaluation

Encoder/decoder design

Existing standards

- Comparison

Some more technical considerations

- Arithmetic complexity

- Bit rate variability

Outline

Basic principles of lossless compression

Framing

Intra-channel decorrelation

Entropy coding

Compression algorithm characteristics

Intra-channel decorrelation

Entropy coding

Compression algorithm characteristics

Second Subsection

Performance evaluation

Encoder/decoder design

Existing standards

Comparison

Some more technical considerations

Arithmetic complexity

Bit rate variability

Outline

Basic principles of lossless compression

- Framing

- Intra-channel decorrelation

- Entropy coding

- Compression algorithm characteristics

- Intra-channel decorrelation

- Entropy coding

- Compression algorithm characteristics

- Second Subsection

Performance evaluation

Encoder/decoder design

Existing standards

- Comparison

Some more technical considerations

- Arithmetic complexity

- Bit rate variability

Outline

Basic principles of lossless compression

- Framing

- Intra-channel decorrelation

Entropy coding

- Compression algorithm characteristics

- Intra-channel decorrelation

- Entropy coding

- Compression algorithm characteristics

- Second Subsection

Performance evaluation

Encoder/decoder design

Existing standards

- Comparison

Some more technical considerations

- Arithmetic complexity

- Bit rate variability

Outline

Basic principles of lossless compression

Framing

Intra-channel decorrelation

Entropy coding

Compression algorithm characteristics

Intra-channel decorrelation

Entropy coding

Compression algorithm characteristics

Second Subsection

Performance evaluation

Encoder/decoder design

Existing standards

Comparison

Some more technical considerations

Arithmetic complexity

Bit rate variability

First Slide Title

Optional Subtitle

- ▶ My first point.
- ▶ My second point.

Outline

Basic principles of lossless compression

- Framing

- Intra-channel decorrelation

- Entropy coding

- Compression algorithm characteristics

Intra-channel decorrelation

- Entropy coding

- Compression algorithm characteristics

- Second Subsection

Performance evaluation

Encoder/decoder design

Existing standards

- Comparison

Some more technical considerations

- Arithmetic complexity

- Bit rate variability

Outline

Basic principles of lossless compression

Framing

Intra-channel decorrelation

Entropy coding

Compression algorithm characteristics

Intra-channel decorrelation

Entropy coding

Compression algorithm characteristics

Second Subsection

Performance evaluation

Encoder/decoder design

Existing standards

Comparison

Some more technical considerations

Arithmetic complexity

Bit rate variability

Outline

Basic principles of lossless compression

Framing

Intra-channel decorrelation

Entropy coding

Compression algorithm characteristics

Intra-channel decorrelation

Entropy coding

Compression algorithm characteristics

Second Subsection

Performance evaluation

Encoder/decoder design

Existing standards

Comparison

Some more technical considerations

Arithmetic complexity

Bit rate variability

Outline

Basic principles of lossless compression

Framing

Intra-channel decorrelation

Entropy coding

Compression algorithm characteristics

Intra-channel decorrelation

Entropy coding

Compression algorithm characteristics

Second Subsection

Performance evaluation

Encoder/decoder design

Existing standards

Comparison

Some more technical considerations

Arithmetic complexity

Bit rate variability

Second Slide Title

- ▶ First item.

Second Slide Title

- ▶ First item.
- ▶ Second item.

Second Slide Title

- ▶ First item.
- ▶ Second item.
- ▶ Third item.

Second Slide Title

- ▶ First item.
- ▶ Second item.
- ▶ Third item.
- ▶ Fourth item.

Second Slide Title

- ▶ First item.
- ▶ Second item.
- ▶ Third item.
- ▶ Fourth item.
- ▶ Fifth item.

Second Slide Title

- ▶ First item.
- ▶ Second item.
- ▶ Third item.
- ▶ Fourth item.
- ▶ Fifth item. Extra text in the fifth item.

Outline

Basic principles of lossless compression

- Framing

- Intra-channel decorrelation

- Entropy coding

- Compression algorithm characteristics

- Intra-channel decorrelation

- Entropy coding

- Compression algorithm characteristics

- Second Subsection

Performance evaluation

Encoder/decoder design

Existing standards

- Comparison

Some more technical considerations

- Arithmetic complexity

- Bit rate variability

Outline

Basic principles of lossless compression

- Framing

- Intra-channel decorrelation

- Entropy coding

- Compression algorithm characteristics

- Intra-channel decorrelation

- Entropy coding

- Compression algorithm characteristics

- Second Subsection

Performance evaluation

Encoder/decoder design

Existing standards

- Comparison

Some more technical considerations

- Arithmetic complexity

- Bit rate variability

Outline

Basic principles of lossless compression

- Framing

- Intra-channel decorrelation

- Entropy coding

- Compression algorithm characteristics

- Intra-channel decorrelation

- Entropy coding

- Compression algorithm characteristics

- Second Subsection

Performance evaluation

Encoder/decoder design

Existing standards

- Comparison

Some more technical considerations

- Arithmetic complexity

- Bit rate variability

Summary

- ▶ The **first main message** of your talk in one or two lines.
- ▶ The **second main message** of your talk in one or two lines.
- ▶ Perhaps a **third message**, but not more than that.
- ▶ Outlook
 - ▶ Something you haven't solved.
 - ▶ Something else you haven't solved.

For Further Reading I



A. Author.

Handbook of Everything.

Some Press, 1990.



S. Someone.

On this and that.

Journal of This and That, 2(1):50–100, 2000.