

2.6 31626 AUDIO TRANSFORMER BASICS

1. Audio Transformer Basics
 - 1.1 Basic Principles and Terminology
 - 1.2 Magnetic Fields and Induction
 - 1.3 Windings and Turns Ratio
 - 1.4 Excitation Current

2. Realities of Practical Transformers
 - 2.1 Core Materials and Construction
 - 2.2 Winding Resistances and Auto-Transformers
 - 2.3 Leakage Inductance and Winding Techniques
 - 2.4 Winding Capacitances and Faraday Shields
 - 2.5 Magnetic Shielding

3. General Application Considerations
 - 3.1 Maximum Signal Level, Distortion, and Source Impedance
 - 3.2 Frequency Response
 - 3.3 Insertion
 - 3.4 Sources with Zero Impedance
 - 3.5 Bi-Directional Reflection of Impedances
 - 3.6 Transformer Noise Figure
 - 3.7 Basic Classification by Application

4. Audio Transformers for Specific Applications
 - 4.1 Equipment-Level Applications
 - 4.2 Microphone Input
 - 4.3 Line Input
 - 4.4 Moving-Coil Phono Input
 - 4.5 Line Output
 - 4.6 Inter-Stage and Power Output
 - 4.7 Microphone Output
 - 4.8 System-Level Applications
 - 4.9 Microphone Isolation or Splitter
 - 4.10 Microphone Impedance Conversion
 - 4.11 Line to Microphone Input or Direct Box
 - 4.12 Line Isolation or Hum Eliminators
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 - 4.14 Telephone Isolation or Repeat Coil
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5. Measurements and Data Sheets

- 5.1 Testing and Measurements
- 5.2 Transmission Characteristics
- 5.3 Balance Characteristics
- 5.4 Resistances, Capacitances, and Other Data
- 5.5 Data Sheets.
- 5.6 Data to Impress or to Inform?
- 5.7 Comprehensive Data Sheet Example

6. Installation and Maintenance

- 6.1 A Few Installation Tips
- 6.2 De-Magnetization

References Books:

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