

Contents

Part I Theory

1	Amps, Pre-Amps, Pre-Pre-Amps	3
2	RIAA Transfer/Anti-RIAA Transfer	9
3	Noise Basics	17
3.1	Noise in Components and Other General Noise Effects	17
3.2	Noise in Bipolar Junction Transistors (BJTs)	36
3.3	Noise in Field Effect Transistors (FETs)	55
3.4	Noise in Valves (US: Tubes)	71
3.5	Noise in Operational Amplifiers (Op-Amps)	86
3.6	Noise in Instrumentation Amps (In-Amps)	93
3.7	Noise in Transformers (Trafos)	106
3.8	Noise of Vinyl Records (VRs) – On how much Phono-Amp SN is Needed?	125

Part II Best Practice

4	Noise in MM Cartridges	149
5	Noise in MM Cartridges – Mathematical Calculation Course	171
6	Noise in MC Phono-Amps	181
7	Noise in MC Phono-Amps – Mathematical Calculation Course	205
8	RIAA Networks	227
9	RIAA Networks – Mathematical Calculation Course	255

Part III Noise Measurement System

10 System Overview 279

11 Measurement Amps 285

12 Measurement Filters and Networks 291

Part IV The RIAA Phono-Amp Engine

13 Overview 303

14 Module 1 309

15 Module 2 311

16 Module 3 313

17 Engine Performance 319

Part V Book-Ending Sections

List of Figures 329

List of Tables 339

Constants, Abbreviations, Symbols 341

Index 345

Epilogue 351