

Contents

Foreword	6
Part One: Electric Guitars and Amplifiers	8
Chapter I: What is Tone?	9
Studio Ears	9
It's All in the Fingers	9
Other Factors in the Search for Tone	10
The Room	10
The Microphone	10
Change Your Tone	10
Tone Killers	11
Distortion	11
Effects Pedals	11
Chapter 2: The Evolution of the Electric Guitar and Amplifier	12
The 1890s: Development of Steel Strings	13
The 1920s: Picks and Pickups	13
The 1930s: Birth of the Electric	14
The 1940s: The Instrument Evolves	16
The 1950s: Breakthrough Developments	18
The 1960s: Amps and Distortion	23
The 1970s: Big Amps and Boutiques	25
The 1980s: Mass Production, Improved Effects	26
The 1990s: Wireless Goes Mainstream, Amp Modelers Debut	28
The 2000s: Modelers, Reissues Recreate the Classics	29
Chapter 3: Tonal Characteristics of an Electric Guitar	31
The Guitar Body	32
The Wood	32
The Finish	34
The Neck	35
Neck Attachment	35
The Fretboard	37
Hardware	38
The Bridge	38
The Tailpiece	40
Pickups	41
Types of Pickups	41
Factors Affecting Pickup Sound	42
Intangible Factors	43
Other Types of Pickups	44
Strings	46
The Guitar Pick	46
Cables	46
Capacitance	47
Conductor Material	47
Strand Interaction	47
Conductor Size	47
Shielding	47
Cable Length	47
Vintage Versus Modern	48
Evaluating a Guitar	48
Chapter 4: Tonal Characteristics of Guitar Amplifiers	50
Tube Amplifiers	51
Tubes	52
Tube Amp Circuitry	56

Three Ways to Tweak your Tube Amp	60
Bad Signs.....	62
Why Do Vintage Amps Sound So Good?.....	63
Solid-State Amplifiers.....	64
Amplifier Modeling.....	65
Sonic Attributes.....	65
Hybrid Amps	67
Boutique Amplifiers.....	68
Chapter 5: Speakers and Cabinets.....	70
Speaker Cabinets.....	71
Types of Speaker Cabinets.....	71
Cabinet Components	72
Cabinet Size.....	72
Construction Materials	73
Construction Methods.....	74
Manufacturing Inconsistencies	75
Cabinet Buzzes.....	75
Speakers	76
Speaker Parameters.....	76
Speaker Manufacturers	77
Chapter 6: Electric Guitar Miking Techniques.....	81
Microphone Technique 101.....	82
Choosing the Best Place in the Room.....	82
Choosing the Right Mic	83
Mic Placement.....	84
Electric Guitar Miking Set-Ups.....	86
Single-Mic Techniques	86
Two-Mic Techniques	87
Three-Mic Techniques	88
More Complex Techniques	90
Recording Direct.....	91
Using a DI.....	91
Recording Through an Effects Box	93
Recording.....	94
The Signal Path.....	94
Recording Levels	94
Chapter 7: Electric Guitar Production Techniques.....	96
Production from a Player's Perspective.....	97
The Reason for Tone Controls	97
Using a Variety of Guitars and Amplifiers	98
The Importance of	99
Well-Maintained Equipment	99
Laying In with the Rhythm Section.....	100
Common Guitar Production Techniques.....	102
Doubling	102
Layering Guitars.....	103
Battle of the Guitar Tracks.....	104
Clean Guitars	104
Reamping.....	105
Guitars in the Mix	107
Compression	107
Equalization.....	108
Studio Effects.....	109