Contents

PREFACE xxiii
FOREWORD xxvii

1 Production in Modern Radio 1

The Durability of Radio 3

TUNING IN TO TECHNOLOGY • ARE TRADITIONAL MEDIA DEAD? NO—EVERYTHING OLD IS NEW AGAIN 4

Sound of the Station 6

Formats 6

RADIO RETRO • RADIO CAPTURES LISTENERS—AND IMAGINATIONS 7

TUNING IN TO TECHNOLOGY • A TIVO™ FOR RADIO? 8

Reaching a Specific Audience 8

How Target Audiences Affect Format 8

How Formats are Constructed 9

INDUSTRY UPDATE • COUNTRY RADIO AND THE NEW MEDIA 10

Networks 11

RADIO APPS • 12

Other Programming Developments in Radio 12

Satellite Radio Comes of Age 12

TUNING IN TO TECHNOLOGY • WEB RADIO 14

THINK ABOUT IT • ETHICAL ISSUES IN MODERN RADIO 16

FOLLOW THE MONEY • TRENDS IN RADIO REVENUE 17

Noncommercial Radio 17
Economics of Radio 17
TUNING IN TO TECHNOLOGY • ARE TEXT MESSAGES RADIO'S NEW CASH COW? 19
The Role of the Producer in Modern Radio 19
Summary 21
YOU'RE ON! • TECHNIQUES FOR EFFECTIVE ON-AIR PERFORMANCE: THE ROLE OF THE ANNOUNCER IN MODERN RADIO 22

2 The Console 24

Function of the Console 24
Amplification 25
Routing 25
Mixing 25
Understanding Console Function: Some Hypothetical Examples 25
Hypothetical Console A *26*
Hypothetical Console B *30*
Hypothetical Console C *33*
Hypothetical Console D *36*
RADIO RETRO • POTTING DOWN ON THE OLD POT 37
Summary of the Hypothetical Consoles 38
Understanding Console Function: Actual Consoles 38
Analog Consoles 39
Digital Consoles 39
Operation of the Console 41
Mix-Minus and Phone Modules 43
The Virtual Console 43
Submixing 46
Routers and Patchbays 46
Summary 48
Applications 49
Exercises 50

3 Playback Devices and Console Sources 51

Digital Audio Files 52
Compact Discs 53
Recordable CDs and DVDs 56

CD Players 58

Super Audio CDs, Audio DVDs, and HD Surround Sound Broadcasts 59

The Digital Cart Machine 60

MiniDisc 61

RADIO RETRO • TURNTABLES—THE KING OF ANALOG DEVICES 62

Remote Inputs 63

Summary 64

Applications 64

Exercises 65

4 Digital Recording and Recording Devices 66

Sampling 67

Disk Drive Recording 70

Digital Audio Workstations 72

Digital Cart Machines and Digital Recorders 73

Magnetic Tape 74

Digital Audiotape 75

Workings of the Digital Tape Machine 75

MiniDisc Recording 76

TUNING IN TO TECHNOLOGY • DIGITAL SOUND AND AUDIO COMPRESSION 79

RADIO RETRO • ANALOG TAPE MACHINES 80

Summary 82

Applications 82

Exercises 83

5 Microphones and Sound 84

The Basics of Sound 85

The Elements of Sound 85

The Nature of Sound: Frequency 87

The Nature of Sound: Amplitude 88

Other Characteristics of Sound 89

Summary of the Basics of Sound 90

The Microphone: How It Works 91

Electronics of the Microphone 91

TUNING IN TO TECHNOLOGY • THE SHAPE OF SOUND 92

Pickup (Polar) Patterns of the Microphone 94

RADIO RETRO • THE KING OF MICROPHONES 95
Frequency Response of Microphones 99
Review of Microphone Workings 101
Physical Types of Microphones 101
Hand Held 101
Studio, Mounted 101
Headset 101
Lavalier 103
Shotgun 103
Review of Physical Types 103
Microphone Selection and Use 103
Selection by Mic Type 103
Selection by Pickup Pattern 104
Selection by Element 104
Selection by Frequency Response 105
Selection by Personality 105
Adding Up Selection Factors 105
Notes on Microphone Use 107
Summary 109
Applications 109
Exercises 110
YOU'RE ON! • TECHNIQUES FOR EFFECTIVE ON-AIR PERFORMANCE: MICROPHONE TECHNIQUE FOR ANNOUNCERS 111

6 Electronic Editing 112
The Basics of Editing Audio 113
Looking at the Waveform 114
Splicing and Editing a Sound File 116
Marking Edit Points 116
Nondestructive Editing 119
Recording and Editing Talent 120
Copying, Pasting, and Looping 123
Using Alternative Technologies 125
Editing with a MiniDisc 126
Dubbing 129
Advantages of Dubbing 129
Review of Dubbing 130

Summary 130
Applications 130
Exercises 131

7 Recorded Program Production 133

Recorded versus Live, On-Air Production 133
Complexity 133
Scheduled Airtime 134
Convenience 134
Layout of a Production Studio 134
Equipment in the Production Studio 135
Sound Treatment in the Production Studio 137
Working in a Production Studio 138
RADIO RETRO • THE DEVELOPMENT OF AUDIOTAPE, OR HOW TO SPEND MORE TIME ON THE GOLF COURSE 139
Music 139
Sources of Music 139
Choosing Music for Production Work 141
Styles of Music 142
Recorded Voice 144
Miking Multiple Speakers 144
Communicating with Speakers 147
Sound Effects 149
Combining Elements in Production 149
INDUSTRY UPDATE • A SIMPLE AND INEXPENSIVE WAY TO CREATE PROFESSIONAL PODCASTS 150
Summary 161
Applications 161
Exercises 162

8 Live, On-Air Production 163

Typical Airshift 164
Duties of the On-Air Producer 164
THINK ABOUT IT • ETHICS AND RADIO PROMOTIONS 167
Typical Schedule 167
Sound of the Station 167
Pace 168
Content 169

Announcing Style 169

Blending the Sound Sources 169

RADIO RETRO • HELLO EVERYBODY IN RADIOLAND, THIS IS YOUR ANNOUNCER SPEAKING 170

Suggestions for Live, On-Air Production 170

Console Operation 170

INDUSTRY UPDATE • WHAT TO DO ... BUT MORE IMPORTANTLY, WHAT NOT TO DO 171

Establishing a Routine 171

Planning in Advance 172

Being Aware of False Endings 172

Listening to the Air Monitor 172

Clearing Equipment 173

Planning for the Worst 173

Working with Satellite and Network Services 173

The Satellite Feed 174

Programming from Satellite 174

Online and CD Services 175

How to Use Service Material 176

Summary 177

YOU'RE ON! • TECHNIQUES FOR EFFECTIVE ON-AIR PERFORMANCE: AD-LIBBING 178

Applications 179

Exercises 180

9 More about the Computer in Radio Production 181

Computer Basics 181

Computer-Generated Effects 183

Computer-Assisted Editing 185

INDUSTRY UPDATE • CREATING PRODUCTION BEDS • SONICFIRE PRO AND GARAGEBAND 188

Computers in Automation and Satellite Services 193

RADIO RETRO • EARLY AUTOMATION—RADIO IN A CAN 194

Computers in the Programming Function 198

EMERGING ETHICAL ISSUES IN ONLINE MEDIA 199

Interactive Media and Radio Programming 200

Summary 201
Applications 202
Exercises 202

10 Achieving an Effect 204

What is an Effect? 204
Kinds of Effect 205
How Production Elements Support a Theme 205
Creating Excitement 206
Creating Immediate Identification 206
Evoking an Emotion 207
Summary of Effects 207
How a Producer Uses Production Elements 207
Music 208
Sound Effects 209
Coloration of Sound 210
Timing and Pace 211
Voice Quality 212
The Sound of Words 213
Copywriting 213
Using Elements of Sound to Achieve an Effect 213
INDUSTRY UPDATE • ACHIEVING AN EFFECT AND THE BOTTOM LINE: PRODUCTION PROMOTION 214
Recording a Voice 215
Recording Music 216
Summary 218
Applications 218
Exercises 219

11 Drama and Dramatic Elements in Radio Production 221

The Structure of Drama 222
Action 222
Dialogue 222
Plot 222
Beginning, Middle, and End 222
Conflict 222
Suspense 223
Exposition 223

Dramatic Elements in Commercial Production 223
Capturing Attention 223
Compressing Time 224
Dramatic Elements in News Production 225
Technical Considerations of Radio Drama 226
Giving the Illusion of Place 226
Giving the Illusion of Movement 226
Making the Background a Fabric of Believability 226
Mic Techniques to Achieve Illusions of Place and Movement 227
Sound Design 228
Summary 229
Applications 229
Exercise 230

12 Commercial Production 231
What Makes a Commercial Effective? 232
Elements of Effective Radio Advertising 233
A Shoe Store Advertisement 234
A Car Dealership Advertisement 234
A Humorous Pizza Commercial 235
Practical Approaches to Radio Commercials 236
RADIO RETRO • YOU CAN'T SELL THAT ON THE AIR 239
Execution of Radio Commercials 240
Suggestions for Producing Effective Commercials 243
INDUSTRY UPDATE • THE HOME SOUND STUDIO: TECHNOLOGY MAKES BIG-TIME SOUND AVAILABLE TO SMALL PRODUCTION AGENCIES 243
Know Your Audience 244
Avoid Gimmicks 244
Summarize the Thrust 244
Don't Blast the Listener 244
Read the Spot to the Client or, Better Yet, Play a Good Demo 244
Don't Force Humor 245
GET TO THE POINT • RADIO COPYWRITING IS ON AN ECONOMY KICK: TEN WAYS TO DO MORE WITH LESS 246
Achieve High Technical Quality 246
Don't Overuse a Particular Piece of Music 246

Keep the Message Simple 247
Avoid These Five Common Mistakes in Commercials 248
Production Applications in Station Promotion 248
Summary 250
Applications 250
Exercises 251
YOU'RE ON! • FITTING YOUR COPY INTO THE ALLOTTED TIME—HOW ANNOUNCERS CAN READ TO TIME 252

13 News Production 253
News Gathering 254
News Writing 255
News Assembly 256
Choosing Stories and Story Order 256
Choosing Sound Elements 256
A Quick Primer on Radio News Writing 257
Script Conventions for Radio 258
Paper and Print 258
The Header 261
The Story 262
Tape Cues 262
Story Tags 264
Lead-In to Voice Reports 266
Punctuation 268
Words 269
Jargon and Technical Words 270
Active versus Passive 270
"Says" and the Use of Present Tense 270
Numbers and Abbreviations 272
Numbers 272
Symbols and Abbreviations 272
Names 272
News Reading and Reporting 273
News and Public-Affairs Programming 274
Newscasts 274
Exclusively Local News 274
Local News with Wire Copy 275
News with Wire Copy and Network Audio 277

Talk Shows 279
Special Events 279
Production Techniques for News and Public Affairs 279
Interviewing 280
Story and Actuality Editing 280
Using Sound Sources in Radio News Production 281
Using the Telephone to Maximum Benefit 281
Using Modern News-Gathering Technology 282
Making the Newscast a Cohesive, Unified Whole 284
Summary 284
Applications 285
YOU'RE ON! • TECHNIQUES FOR EFFECTIVE ON-AIR PERFORMANCE 286
Exercises 292

14 Remote and Sports Production 293
Remote Radio Equipment 294
Telephone Lines 295
TUNING IN TO TECHNOLOGY • GETTING THE SIGNAL FROM HERE TO THERE 296
Other Equipment for a Remote 298
Planning the Remote 300
Signing Contracts 301
Preparing the Site 301
Preparing the Equipment 302
Preparing a Communication System 302
The Sports Remote 303
Baseball 304
Hockey 304
Football 304
Basketball 305
Field Sports 305
A Final Note 305
RADIO RETRO • CALLING THE GAME YOU DON'T REALLY SEE 306
Summary 307
Applications 307
Exercises 308

15 Advanced Radio Production 309

Multichannel Recording 309

Input Modules 312

Output Buses 314

Monitor Controls 315

A Further Note about Multichannel Consoles 315

Role of Multitrack Recording 316

Stereo 317

Recording Music 317

RADIO RETRO • THE BIRTH OF MULTITRACK RECORDING 318

Total-Sound Recording Microphone Techniques 318

Isolated-Component Recording 320

Electronic Equipment and its Use in Radio Production 322

Equipment 322

Techniques 327

Summary 331

Applications 333

Exercises 333

16 Production, Programming, and the Modern Format 335

The Audience and the Format 336

The Audience 336

Methods of Measuring Audience 337

Calculating How Efficiently a Station Reaches Its Audience 340

Paying for Efficiency 340

The Specifics of the Radio Format 343

Defining Current Formats 343

RADIO RETRO • WHERE DID FORMATS COME FROM? 344

The Major Formats 344

The Latest Trends in Formats 345

Filling the Niche: Today's Trends 348

On-Air and Off-Air Production in the Modern Format 349

Production and Tune-Out 349

Production for Adult Contemporary 351

Production for Album-Oriented Rock 351

Production for Country 352

Production for News/Talk 353

Production for CHR/Top 40 353

Production for Urban/Churban/Rhythmic Top 40 354

Putting a Format On Air 355

The Format and the Sound Hour 355

TUNING IN TO TECHNOLOGY • NEW MUSIC AND COLLEGE RADIO 356

Constructing the Playlist 356

Summary 358

Exercises 358

17 Radio and the New Digital Infrastructure 360

Items on the Infinite Dial 360

Radio and the Long Tail 363

How the Infinite Dial and the Long Tail Can Create a Market 363

A Turn of the Infinite Dial 363

Summary 364

Applications 365

Exercises 366

18 Entrepreneurial Radio 367

The New World of the Media Entrepreneur 367

Monetizing Internet Media Content 368

Google's Role in Media Entrepreneurship 368

Other Monetization Models 369

Services for Internet Radio 371

Summary 371

Applications 372

Exercises 373

APPENDIX A: A PLAY BY RICHARD WILSON 375
APPENDIX B: A CAPSULE HISTORY OF RADIO: PAST MEETS FUTURE FOR THE MODERN PRODUCER AND PROGRAMMER 383
GLOSSARY 399
SUGGESTED READINGS 411
WEB LINKS 415
INDEX 419