
CONTENTS

Preface ix

Acknowledgments xi

Chapter 1. Introduction to Laser-Based Disc Players 1.1

- 1.1. The Laser Disc Scene / 1.1
- 1.2. Introduction to the CD System / 1.2
- 1.3. Introduction to the CDV System / 1.16

Chapter 2. Encoding, Decoding, and Optical Readout 2.1

- 2.1. Encoding a CD / 2.1
- 2.2. Channel Modulation (Cutting the Master) / 2.4
- 2.3. Decoding the CD / 2.8
- 2.4. CD and CDV Optical Pickups (Readouts) / 2.12
- 2.5. CDV Track Formats / 2.20

Chapter 3. User Controls, Operating Procedures, and Installation 3.1

- 3.1. Operational Safety Checks / 3.1
- 3.2. Transit or Shipping Restraints / 3.2
- 3.3. External Connections / 3.2
- 3.4. General Operating and Installation Notes / 3.4
- 3.5. Basic CD Player User Controls / 3.10
- 3.6. Basic CDV Player User Controls / 3.12

Chapter 4. Test Equipment, Tools, and Routine Maintenance 4.1

- 4.1. Safety Precautions during Service / 4.1
- 4.2. Test Equipment / 4.7
- 4.3. Tools / 4.8
- 4.4. Periodic Maintenance and Disc Care / 4.9

Chapter 5. Typical CD Player and CD-ROM Circuits 5.1

- 5.1. Relationship of CD Player Circuits / 5.1
- 5.2. Mechanical Functions / 5.2
- 5.3. Laser Optics and Circuits / 5.5
- 5.4. Laser Signal Processing / 5.8
- 5.5. Audio Circuits / 5.9
- 5.6. Autofocus / 5.11
- 5.7. Laser Tracking / 5.14
- 5.8. Turntable Motor Circuits / 5.16
- 5.9. Antishock Circuits / 5.18
- 5.10. Jump Circuits / 5.19
- 5.11. Introduction to CD-ROM / 5.21

Chapter 6. Typical CDV Player Circuits	6.1
<hr/>	
6.1. Relationship of CDV Player Circuits / 6.1	
6.2. Power-Supply Circuits / 6.5	
6.3. Mute Circuit / 6.5	
6.4. Spindle-Motor Start-up / 6.7	
6.5. System Control / 6.9	
6.6. Start-Up and Laser Control / 6.12	
6.7. Servo Systems / 6.15	
6.8. Focus Servo / 6.17	
6.9. Tracking and Slider Servo / 6.21	
6.10. Tilt Servo / 6.26	
6.11. Disc Signal Processing / 6.27	
6.12. Video Processing / 6.31	
6.13. Spindle Servo / 6.36	
6.14. Video Distribution, NR, and OSD / 6.40	
6.15. Digital Memory / 6.43	
6.16. Analog Audio / 6.44	
6.17. Digital Audio, Analog and Digital Select, and Bilingual / 6.46	
6.18. Helium-Neon Laser Circuits / 6.49	
Chapter 7. Mechanical Operation, Adjustment, and Replacement	7.1
<hr/>	
7.1. CD Vertical Front-Load Mechanical Section / 7.2	
7.2. CD Horizontal Front-Load Mechanical Section (Single Load Motor) / 7.15	
7.3. CD Horizontal Front-Load Mechanical Section (Two Motors) / 7.26	
7.4. CDV Mechanical Section / 7.29	
Chapter 8. CD Player Troubleshooting and Adjustment	8.1
<hr/>	
8.1. The Basic CD Troubleshooting Functions / 8.1	
8.2. The CD Troubleshooting Approach / 8.4	
8.3. CD Electrical Adjustments / 8.5	
8.4. Mechanical Troubleshooting Approach / 8.11	
8.5. Laser Troubleshooting Approach / 8.14	
8.6. Signal-Process Troubleshooting Approach / 8.16	
8.7. Audio Troubleshooting Approach / 8.17	
8.8. Autofocus Troubleshooting Approach / 8.18	
8.9. Laser-Tracking Troubleshooting Approach / 8.20	
8.10. Turntable Troubleshooting Approach / 8.22	
Chapter 9. CDV Player Troubleshooting and Adjustment	9.1
<hr/>	
9.1. The Basic CDV Troubleshooting Functions / 9.1	
9.2. The CDV Troubleshooting Approach / 9.2	
9.3. CDV Electrical Adjustments / 9.2	
9.4. CDV Trouble Symptoms Related to Adjustment / 9.35	
9.5. Power-Supply Troubleshooting Approach / 9.37	
9.6. Spindle-Drive Troubleshooting Approach / 9.40	
9.7. System-Control Troubleshooting Approach / 9.41	
9.8. Servo Troubleshooting Approach / 9.43	
9.9. Video and TBC Troubleshooting Approach / 9.44	
9.10. Audio Troubleshooting Approach / 9.45	
9.11. Digital-Memory (Special Effects) Troubleshooting Approach / 9.45	
9.12. Helium-Neon Laser Troubleshooting and Adjustment / 9.46	