



**CD-100B**

***LaserStar***<sup>®</sup>

***Compact Disc  
Phonograph***

---

**Field Service Manual  
& Parts Catalog**

**Volume 1 of 2**

**Installation, Programming, Routine Service**

**PART NO. 21822617  
FIRST EDITION**

**Rowe extends to the original operator of this equipment the following warranty:**

All parts are guaranteed to be free of defects in material and workmanship for the specific periods which follow. Rowe agrees to repair without charge during such period any part which proves defective upon examination by Rowe. All costs of shipping an allegedly defective part to or from Rowe's offices shall be borne by the original operator.

<b>Phono Mechanism Moving Parts</b>	<b>5 Years</b>
<b>Electronic Circuit Boards</b>	<b>2 Years</b>
<b>Electrical and Mechanical Parts</b>	<b>1 Year</b>
<b>Lamps and Styli</b>	<b>90 Days</b>
<b>CD Players, VCR's, Monitors, and CD Decks</b>	<b>1 Year</b>

In the case of parts supplied to Rowe as components, Rowe extends the same warranty period as extended by the original manufacturer.

The above warranty applies provided that all parts of the machine have been serviced properly as directed in the service manual, and provided the alleged defective part, upon examination by Rowe, shall prove to be thus defective.

This warranty will not apply to any machine or any part which has been subjected to any accident, abuse, or misuse.

ROWE INTERNATIONAL, INC. EXTENDS NO WARRANTY, EXPRESSED OR IMPLIED, TO PURCHASERS OR USERS OF ITS PRODUCTS EXCEPT AS HEREIN SET FORTH, WHETHER BY OPERATION OF LAW OR OTHERWISE.



### **WARNING:**

When servicing, do not approach the laser exit with the eye too closely. In case it is necessary to confirm laser beam emission, be sure to observe from a distance of more than 10 inches from the surface of the objective lens on the optical pick-up block.

This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

# CD-100B

## **LaserStar**<sup>®</sup> *Compact Disc Phonograph*

### Field Service Manual And Parts Catalog

Volume 1



 **ROWE**

ROWE INTERNATIONAL, INC.

1500 UNION AVE, SE • GRAND RAPIDS, MI 49507-1884  
(616) 243-3633

Printed in USA

Part No. 21822617  
First Edition  
Second Printing December 1991

This page intentionally left blank

## Preface

To make installation easier, this manual describes a typical installation. This "typical" installation only includes loading the title rack and discs, setting up the sound system, and in some situations, modifying the pricing.

If you wish to make further programming changes, make them using the information that follows the basic installation. This manual contains all of the information that was previously available in the *Enhanced Features Supplement*. If you have a copy of the Enhanced Features Supplement, you may use it with a CD-100, but do not use it with a CD-100B.

Because this manual has become so large, we have split it into two parts. The split is between Sections 3 and 4. The first half, Volume 1, contains routine installation and service information. The second half, Volume 2, contains troubleshooting charts, schematics, and other maintenance information. Please take time to read this page and review the *Table of Contents* in both volumes.

The *Troubleshooting* section has been expanded to include schematics, component lists, and board layouts for all serviceable modules.

This service manual is divided into eight sections:

### Volume 1

**Section 1**     **System Description** — Introduces you to the CD-100B, its features, and its major components, principles of operation, and step-by-step unpacking instructions. After unpacking the CD-100B, you should continue the installation process by following the title rack loading and programming instructions in *Section 2*.

**Section 2**     **Installation And Programming** — Continues the installation process with disc and title rack loading instructions, programming references, and step-by-step programming and pricing instructions. Whether you are familiar with previous Rowe phonographs or not, pay special attention to the pricing and programming.

Programming and pricing have been set at the factory, so you may not wish to change any of the CD-100B options. After you load the titles and the discs, the CD-100B is ready to play.

**Section 3**     **Routine Service** — Provides routine service instructions for collecting money, doing cash and play audits, resetting phonograph totals, and doing preventive maintenance.

### Volume 2

**Section 4**     **OBA-2 Maintenance** — Contains all OBA-2 maintenance information, except for the OBA-2 replacement parts, which are in the *Parts Catalog*.

**Section 5**     **Troubleshooting** — Provides troubleshooting charts, error code and disc condition descriptions, troubleshooting procedures, block diagrams, schematics, circuit board layouts, and component lists. This section also contains the sequence of operation.

**Section 6**     **Mechanical Adjustments** — Details the mechanical checks and adjustment procedures for all of the CD-100B's modules, except for the OBA-2 modules, which are described in *Section 4*.

**Section 7**     **Miscellaneous** — Contains specifications, fuse and circuit breaker locations, and a resistor color code chart.

**Section 8**     **The Parts Catalog** — Lists and illustrates all replaceable modules in the CD-100B. The Accessory Equipment List is at the end of this section.

This manual is intended for owners, route operators, and technicians. This manual provides all field and shop related service and maintenance material. Accessories and their installation and service are discussed in the corresponding accessory instructions (or manuals).

## Table of Contents

### SECTION 1 — INSTALLATION AND SYSTEM DESCRIPTION

Introduction .....	1-1
<b>Features</b> .....	1-2
General Features: .....	1-2
Service Features: .....	1-2
<b>Unpacking Instructions</b> .....	1-3
Exterior .....	1-3
Doors .....	1-3
Shipping Bolts, Clips, And Tape .....	1-3
Title Rack .....	1-3
Mechanism .....	1-5
CD Unpacking .....	1-5
<b>Visual Inspection</b> .....	1-6
<b>Phonograph Leveling</b> .....	1-6
<b>Handy Case</b> .....	1-6
<b>Warranty Registration Card</b> .....	1-7
<b>Major Components Of The CD-100B</b> .....	1-7
CD Selection System .....	1-7
Keyboard .....	1-7
Central Control Computer .....	1-8
Memorec .....	1-8
Autoplay .....	1-8
<b>Principles Of Operation</b> .....	1-8
<b>Audio System</b> .....	1-8
CD Player .....	1-8
Stereo Amplifier .....	1-8
Preamp .....	1-8
Power Amplifier .....	1-8
Two-Wire Volume Control .....	1-9
Output Transformers .....	1-9
The Speaker System .....	1-10
<b>CD Changer Mechanism</b> .....	1-10
Magazine .....	1-10
Play Counter .....	1-10
Money Counter .....	1-10
Optical Switch .....	1-10
Cam Switch And Motor Assembly .....	1-11
Sprag Assembly .....	1-11
CD Modules .....	1-11
Mechanism Control Unit .....	1-11
Main Power Supply .....	1-11

### SECTION 2 — INSTALLATION AND PROGRAMMING

Introduction .....	2-1
Power On .....	2-1
Lifting The Title Rack .....	2-1

## Table of Contents

### SECTION 2 — PROGRAMMING (Continued)

<b>Loading CD'S And Titles</b> .....	2-2
Preparing Titles For The Title Rack .....	2-2
Loading The Title Rack .....	2-3
<b>Step-By-Step Instructions</b> .....	2-4
Loading Discs .....	2-5
Setting Title Page Limits For The First Time .....	2-7
Pricing .....	2-7
To set Alternate Disc prices: .....	2-8
How CD-100B Pricing Works .....	2-8
Sample Price Changes .....	2-8
Checking The Pricing .....	2-10
<b>Sound System Set Up</b> .....	2-10
Extension Speaker Operation .....	2-10
70-Volt Speakers .....	2-11
Low Impedance Speakers .....	2-11
Selecting Speaker Power .....	2-11
General Instructions .....	2-11
Step-By-Step Instructions .....	2-11
4-Ohm Speakers .....	2-12
8-Ohm Speakers .....	2-13
70-Volt Speakers .....	2-13
<b>Sound System</b> .....	2-19
Acoustical Compensation (Equalizer Tone Controls) .....	2-19
What This Graphic Equalizer Does .....	2-19
Equalizer Settings .....	2-19
If the Room Requires A Trade-Off .....	2-20
Step-By-Step Instructions .....	2-20
Soft And Highly Absorbent Rooms .....	2-20
Average Or Moderately-Absorbent Rooms .....	2-21
Hard And Non-Absorbent Rooms .....	2-21
Paging .....	2-22
<b>Changing The Number Of Credits Remaining</b> .....	2-22
<b>Entering The Service Mode</b> .....	2-23
Viewing Menus .....	2-23
<b>If You "Get Lost" In The Menus</b> .....	2-23
<b>Using CD-100B Commands</b> .....	2-23
Combining Menu And Command Modes .....	2-24
Service Mode Menu .....	2-26
Security Menu .....	2-26
Audits Menu .....	2-26
Attract Mode Menu .....	2-26
Initialize Menu .....	2-26
Autoplay .....	2-27
Pricing Menu .....	2-27
Options Menu .....	2-27
More Options 1 Menu .....	2-27
More Options 2 Menu .....	2-28

## Table of Contents

### SECTION 2 — PROGRAMMING *(Continued)*

Reports Menu (Optional) .....	2-28
Status Menu .....	2-28
<b>How To Make Programming Changes</b> .....	2-29
Keyboard Controls .....	2-29
Security Levels .....	2-30
Factory Security Level .....	2-30
<b>Programming Autoplay, Premiums, Priorities, And Lockouts</b> .....	2-50
<b>Autoplay Programming Modes</b> .....	2-51
<b>Lockout And Timed Lockout Modes</b> .....	2-51
<b>Editing Autoplay, Premiums, Priorities, And Lockouts</b> .....	2-51
<b>Timed Free Play And Timed Lockout Scheduling Tutorial</b> .....	2-52
What Multiple Lockout On/Off Times Do .....	2-52
What Multiple Freeplay On/Off Times Do .....	2-52
<b>Enhanced Autoplay Tutorial</b> .....	2-54
Autoplay .....	2-54
Differences Between Standard And Enhanced Autoplay .....	2-55
<b>Setting Up Enhanced Autoplay</b> .....	2-55
<b>Setting Up Enhanced Autoplay Schedules (Commands 48 and 49)</b> .....	2-55
Using Reset+9 In The Category Menu .....	2-59
Disc Mode .....	2-59
Category Mode .....	2-59
Day Of The Week .....	2-60
Event .....	2-60
Time .....	2-60
Categories .....	2-60
Delay .....	2-60
Channel 1 And Channel 2 Volume (Optional) .....	2-60
<b>Working Example of Enhanced Autoplay</b> .....	2-67

### SECTION 3 — ROUTINE SERVICE

<b>Introduction</b> .....	3-1
<b>Lifting The Title Rack</b> .....	3-1
<b>Doing An Audit</b> .....	3-2
<b>Collecting Audit Figures</b> .....	3-2
Entering The Service Mode .....	3-2
Cash Audits .....	3-3
Play Audits .....	3-3
Non-Resettable Audits .....	3-3
Most Popular Disc .....	3-3
Least Popular Disc .....	3-3
Most Popular Selection .....	3-4



## Table of Contents

### SECTION 3 — ROUTINE SERVICE *(Continued)*

Complete Audit Command List .....	3-9
Collecting Money .....	3-13
<b>Preventive Maintenance</b> .....	3-13
CD Player Laser Lens .....	3-14
<b>Coin Acceptors (optional)</b> .....	3-14
Coin Switch .....	3-14
Checks And Adjustments .....	3-16
Coin Lever .....	3-16
Contact Pressure And Gap .....	3-16
<b>Door Spring Replacement</b> .....	3-17
<b>Glass Replacement</b> .....	3-18

---

### FREQUENTLY USED FIGURES AND TABLES for Volume 1

Audit Commands <i>(Table 3-1)</i> .....	3-9
Command Index <i>(Table 2-5)</i> .....	2-45
Extension Speaker Worksheet <i>(Table 2-1)</i> .....	2-12
Keyboard Controls <i>(Table 2-3)</i> .....	2-29
Menu And Command Descriptions <i>(Table 2-4)</i> .....	2-31
Service Mode Map <i>(Figure 2-11)</i> .....	2-25
Speaker .....	
Connections <i>(Figure 2-8)</i> .....	2-17
Overload Check <i>(Table 2-2B)</i> .....	2-15
Power <i>(Table 2-2A)</i> .....	2-15
Volume Control Diagrams <i>(Figure 2-9)</i> .....	2-18