ROWE®/AMI

CD-100F LaserStar® V

Compact Disc Phonograph

Field Service Manual & Parts Catalog

Volume 1 of 2

Installation, Programming, Routine Service

PART NO. 21822636
FIRST EDITION

CD-100F

LaserStar® IV

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

Part No. 21822636
First Edition
First Printing March 1996

This page intentionally left blank.

Preface

To make installation easier, this manual describes a typical installation. This "typical" installation 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 is divided into two parts. Volume 1 (Sections 1-3) contains routine installation and service information. Volume 2 (Sections 4-8) 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 includes 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-100F, its features, and its major components, principles of operation, and step-by-step unpacking instructions. After unpacking the CD-100F, 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-100F options. After you load the titles and the discs, the CD-100F 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 **CBA–2 Maintenance** — Contains all CBA–2 maintenance information, except for the CBA–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-100F modules, except for the CBA–2 modules, which are described in Section 2.

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-100F. 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

Features 1-2
General Features: 1-2
Service Features: 1-2

Unpacking Instructions 1-3
Exterior 1-3
Doors 1-3
Shipping Bolts, Clips, And Tape 1-3
Title Page Assembly 1-4
Mechanism 1-5
CD Unpacking 1-5, 1-6

Visual Inspection 1-6
Phonograph Leveling 1-6
Handy Case 1-6
Warranty Registration Card 1-6

Major Components Of The CD-100F 1-6
CD Selection System 1-7
Keyboard 1-7
Central Control Computer 1-7
Memorec 1-7
Autoplay 1-7

Principles Of Operation 1-8
Audio System 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 1-9
CD Changer Mechanism 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 1-12
Main Power Supply 1-12

SECTION 2 — INSTALLATION AND PROGRAMMING

Introduction 2-1
Power On 2-1
Loading CD'S And Titles 2-2
Preparing Titles For The Title Holder 2-2
Loading The Title Holder 2-3

SECTION 2 — INSTALLATION & PROGRAMMING *(Continued)*

Procedures for Loading the Title Page Holder **2-4**
Procedures for 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-100F Pricing Works 2-8
Sample Price Changes 2-8
Checking The Pricing 2-10

Sound System Set Up **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
Selection Procedures 2-11
4-Ohm Speakers 2-12
8-Ohm Speakers 2-13
70-Volt Speakers 2-13

Sound System **2-19**
Acoustical Compensation (Equalizer Tone Controls) 2-19
What This Graphic Equalizer Does 2-19
Equalizer Settings 2-19
Procedures for Adjustment 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**

Changing The Number Of Credits Remaining **2-22**

Entering The Service Mode **2-23**
Viewing Menus 2-23
If You "Get Lost" In The Menus 2-23

Using CD-100F Commands **2-23**
Combining Menu And Command Modes 2-24
Service Mode Menu 2-26
Security Menu 2-26
Modem Menu 2-26
Audits Menu 2-26
Attract Mode Menu 2-26
Message Center Menu 2-26
Initialize Menu 2-26
Autoplay 2-27
Pricing Menu 2-27
Options Menu 2-27
More Options 1 Menu 2-28
More Options 2 Menu 2-28
Reports Menu (Optional) 2-28
Status Menu 2-28
Remote Menu (Optional) 2-28

SECTION 2 — INSTALLATION & PROGRAMMING *(Continued)*

How To Make Programming Changes **2-29**
Keyboard Controls 2-29
Security Levels 2-30
Factory Security Level 2-30

Programming Autoplay, Premiums, Priorities, And Lockouts **2-53**
Autoplay Programming Modes **2-54**
Lockout And Timed Lockout Modes **2-55**
Editing Autoplay, Premiums, Priorities, And Lockouts **2-55**

Timed Free Play And Timed Lockout Scheduling Tutorial **2-55**
What Multiple Lockout On/Off Times Do 2-55
What Multiple Freeplay On/Off Times Do 2-55

Rowe Message Center Programming **2-58**
Inserting Or Changing Messages 2-59
Setting The Daily Message Display Time(s) 2-63
Setting The Master On/Off Date 2-65

Enhanced Autoplay Tutorial **2-65**
Autoplay 2-65
Differences Between Standard And Enhanced Autoplay 2-65

Setting Up Enhanced Autoplay **2-66**
Using Reset +9 In The Category Menu 2-69
Disc Mode 2-69
Category Mode 2-69
Day Of The Week 2-70
Event 2-70
Time 2-70
Categories 2-70
Delay 2-70
Channel 1 And Channel 2 Volume (Optional) 2-70

Working Example of Enhanced Autoplay **2-71**

SECTION 3 — ROUTINE SERVICE

Introduction **3-1**
Doing An Audit **3-1**
Collecting Audit Figures **3-1**
Entering The Service Mode 3-1
Cash Audits 3-2
Play Audits 3-2
Non-Resettable Audits 3-2
Most Popular Disc 3-2
Least Popular Disc 3-2
Most Popular Selection 3-3
Clearing The Audit Values 3-3
Clear Cash 3-3
Clear Plays 3-3
Clear Selection Popularity 3-3

SECTION 3 — ROUTINE SERVICE *(Continued)*

Changing CD's And Titles **3-4**
Preparing Titles For The Title Holder 3-4
Changing Discs 3-4

Complete Audit Command List **3-6**
Collecting Money **3-10**

Preventive Maintenance **3-10**
CD Player Laser Lens 3-11

Coin Mech (Optional) **3-12**

FREQUENTLY USED FIGURES AND TABLES

Volume 1

Extension Speaker Worksheet *(Table 2-1)* 2-12

Amplifier Overload Check *(Table 2-2)* 2-15

Speaker Connections *(Figure 2-7)* 2-16, 2-17

Volume & Cancel Control Diagrams *(Figure 2-8)* 2-18

Service Mode Map *(Figure 2-10)* 2-25

Keyboard Controls *(Table 2-4)* 2-29

Menu And Command Descriptions *(Table 2-5)* 2-31

Command Index *(Table 2-6)* 2-48

Audit Commands *(Table 3-1)* 3-6

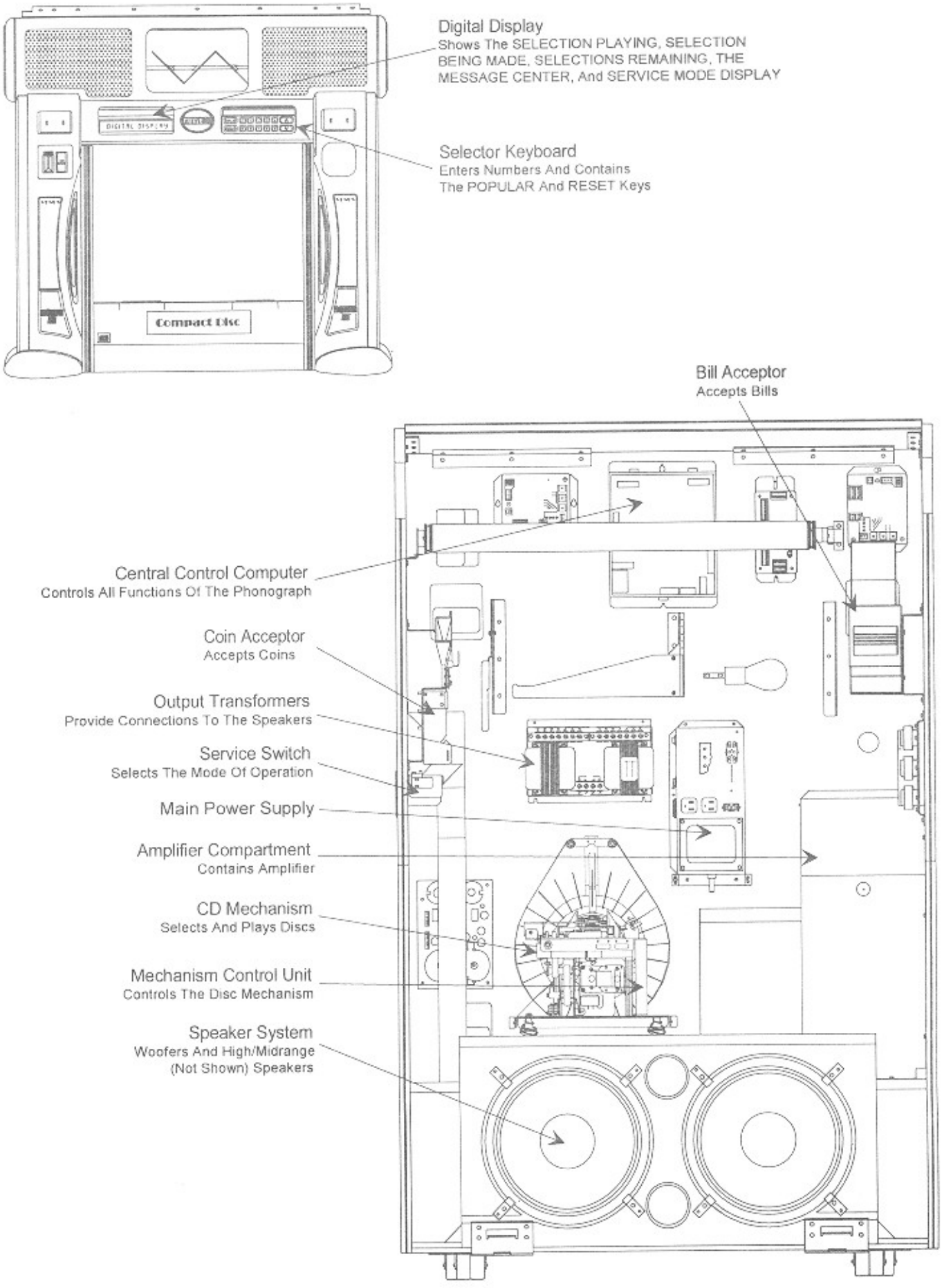

Figure 1-1. CD-100F Major Components