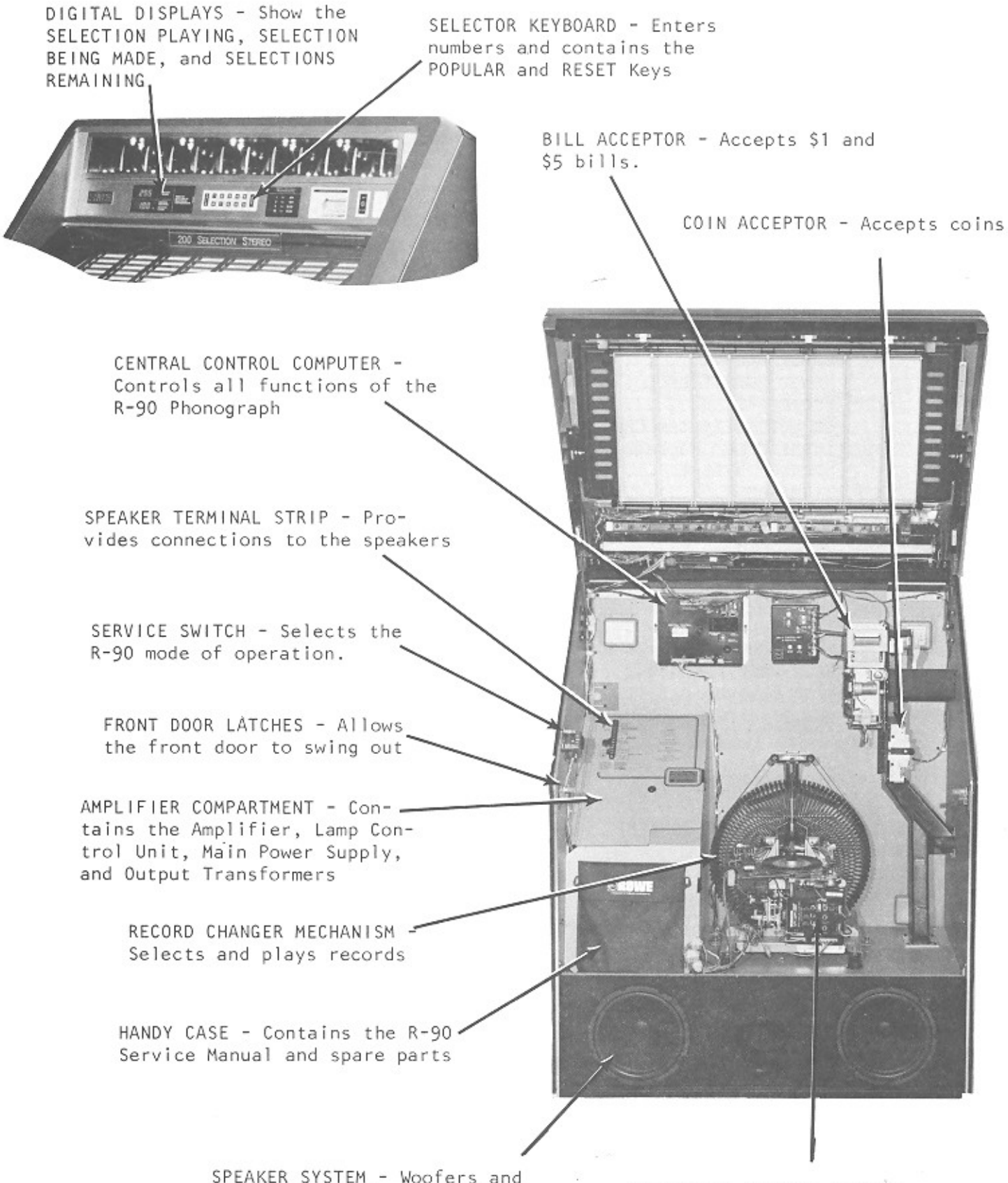

Figure 1-1. R-90 Major Components

SECTION 1-SYSTEM DESCRIPTION

INTRODUCTION

The Rowe R-90 is a 200 selection stereo phonograph. The R-90 is 100% microprocessor controlled.

MAJOR COMPONENTS

Figure 1-1 shows the major R-90 components. Take a minute to familiarize yourself with these components.

Table 1-1 lists the accessories that you may have in addition to the standard R-90 phonograph.

Record Selection System

Record selections are made by entering the three digit selection number on the Selector Keyboard (Keyboard).

The Keyboard (See Figure 1-2.) consists of 12 keys, ten digit keys (0-9), and two special keys. The RESET key allows the customer to re-enter his selection, if he has changed his mind or made a mistake. The POPULAR key selects the most played selection since the phonograph was last serviced. Pressing the POPULAR key a second time will select the second most popular selection. Pressing the POPULAR key a third time will select the third most popular selection and so on.

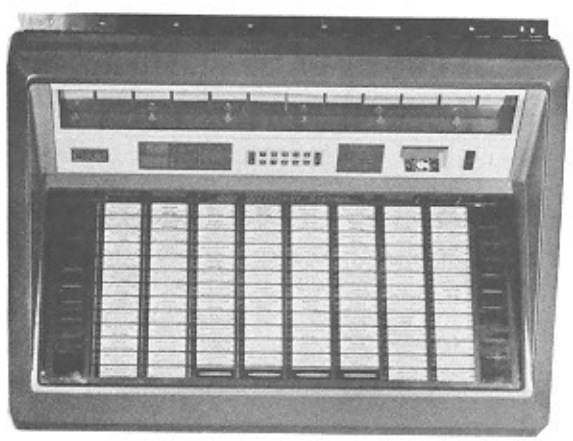

Figure 1-2. R-90 Keyboard

Central Control Computer

The Central Control Computer (C.C.C.) keeps track of all of the phonograph's activities and determines what the various components are to do next. The C.C.C. regulates the following functions:

- Counting money that has been collected
- Keeping credits for selections not yet played
- Calculating the most popular selection list
- Remembering the operator's programmed values

Memorec

Memorec is the part of the C.C.C. that remembers the:

- Total selections made (not including the Autoplay selections)
- Number of times each selection was played
- The total amount of money deposited in the phonograph

Memorec adds selections made by the POPULAR key to the total selections count, but not to the individual selection count.

Autoplay

When no selections have been made for a predetermined time, the Autoplay feature will play selections from a programmed list. The choice of which selections are chosen, the selection sequence, and the selection interval can be programmed by the owner or service person.

Light Display

The Lamp Control Unit is located on the left side of the Amplifier Compartment. This unit controls both the Top and the Front Door Light Displays. A four-position switch (located on the Lamp Control Unit) selects the operating mode. The switch positions are:

- Continuous - Lights are always on (do not flash).
- Light - Lights are all on (do not flash) during mute and flash with music.
- Continuous Flash - Lights flash in a set pattern during mute and flash with music.
- Flash Off - Lights are all off during mute and flash with music.

PRINCIPLES OF OPERATION

Audio System

The audio system consists of the electronic components that transform the recorded sound into music. The major components of the audio system are the:

- Stylus and cartridge
- Stereo amplifier
- Output transformers
- Speaker system

Stylus and Cartridge

These two components translate the grooves in the records into a left and right channel signal.

Stereo Amplifier

The Amplifier Assembly (Figure 1-3) contains two major sections, the preamplifier (preamp) and the power amplifier (amp).

Preamp

The preamp increases the signal from the cartridge, corrects for varying recording levels (automatic volume control or AVC), adjusts the volume manually, and modifies the record tone (through the BASS and TREBLE controls).

Two-Wire Volume Control

A Rowe innovation, the two-wire volume control simplifies complex installations and reduces cost. A special preamplifier design permits volume control wiring using any unshielded two-wire cable.

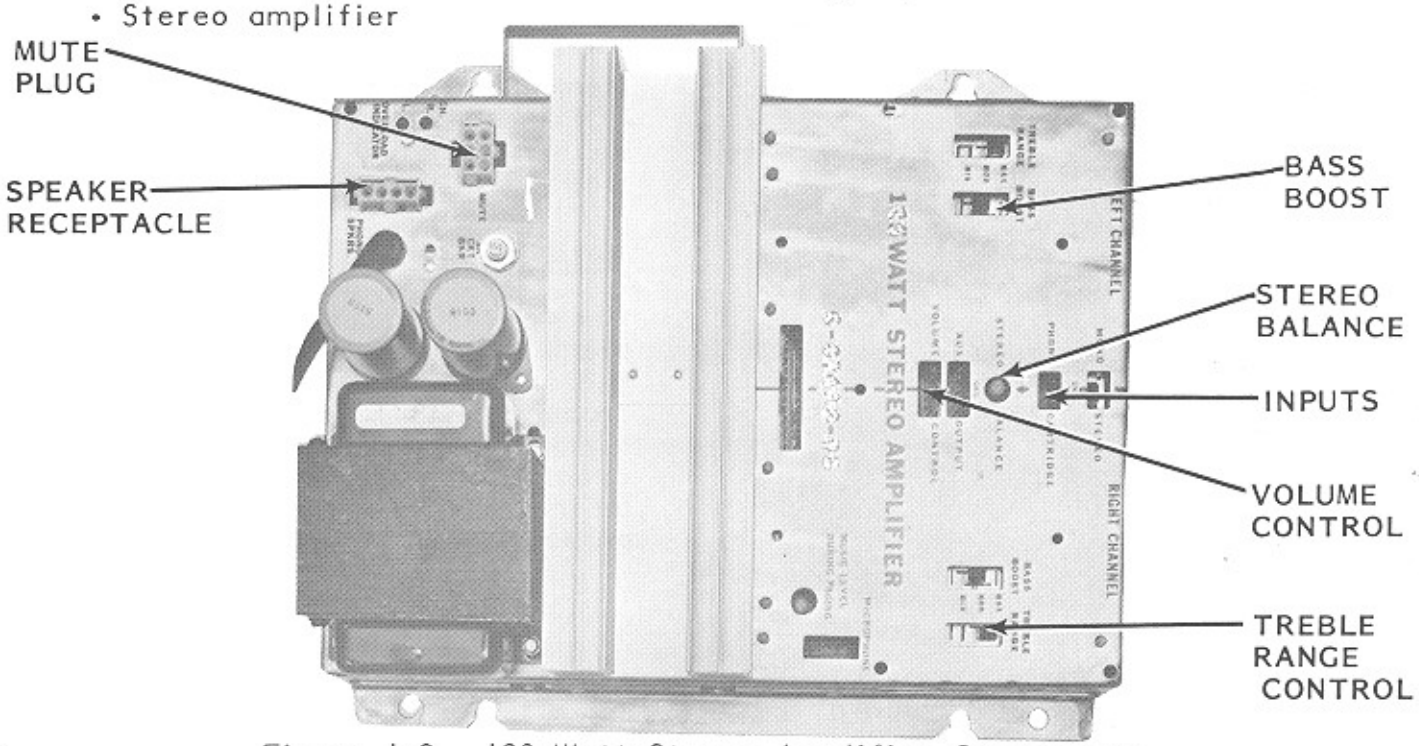

Figure 1-3. 130 Watt Stereo Amplifier Components

Power Amplifier

The power amplifier converts the preamp signal to a signal that can be used by the phonograph speakers.

Output Transformers

The output transformers (Figure 1-4) "step up" the power amplifier's output voltage so that remote speakers may be used efficiently. The output transformers, also, provide connections (taps) for selecting different power levels and impedances (loads) for the speakers.

The Speaker System

The speaker system consists of two specially designed speaker systems. Each channel consists of one 10-inch woofer and one 5-inch mid/high range speaker and a series crossover network.

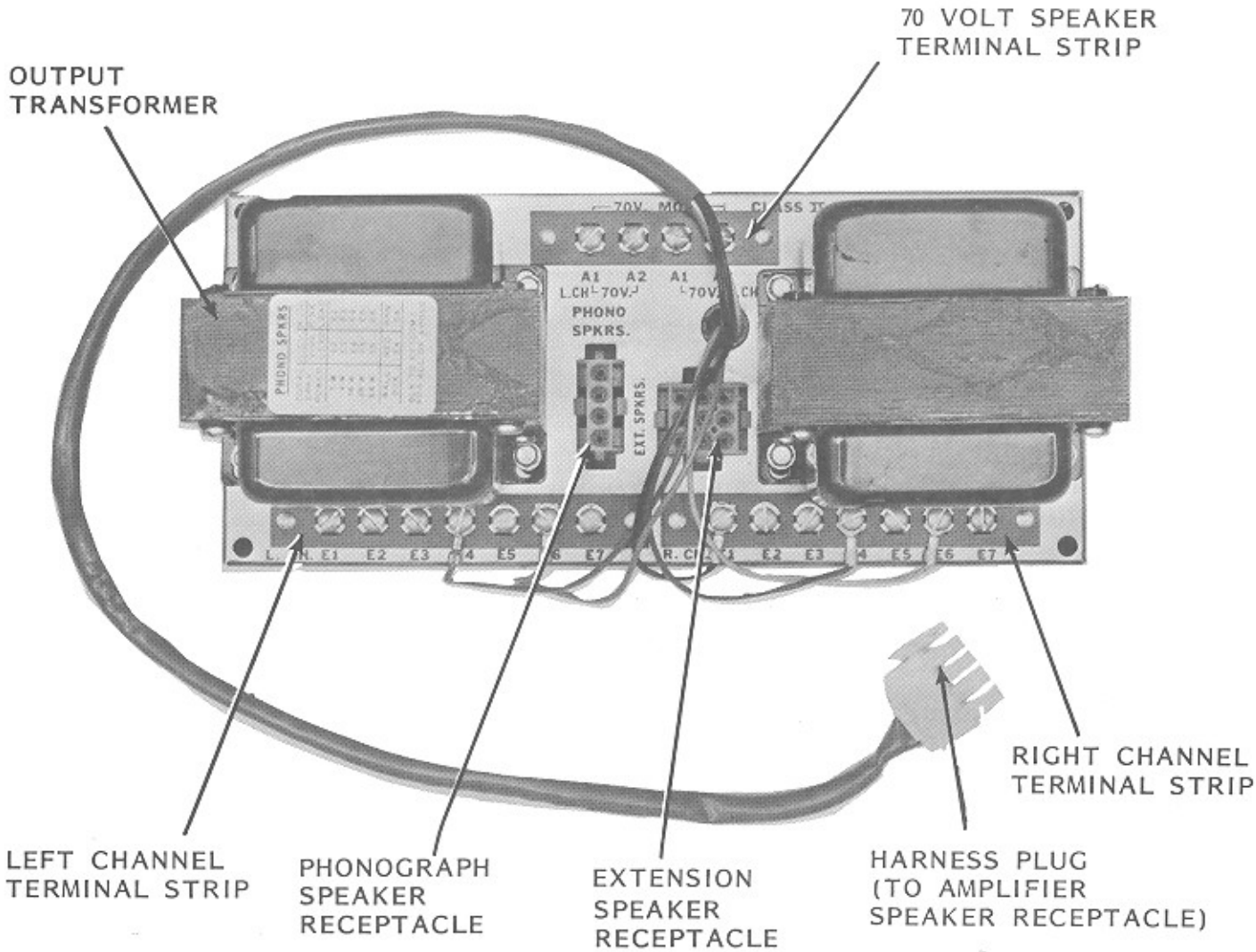

Figure 1-4. Output Transformer Package Components

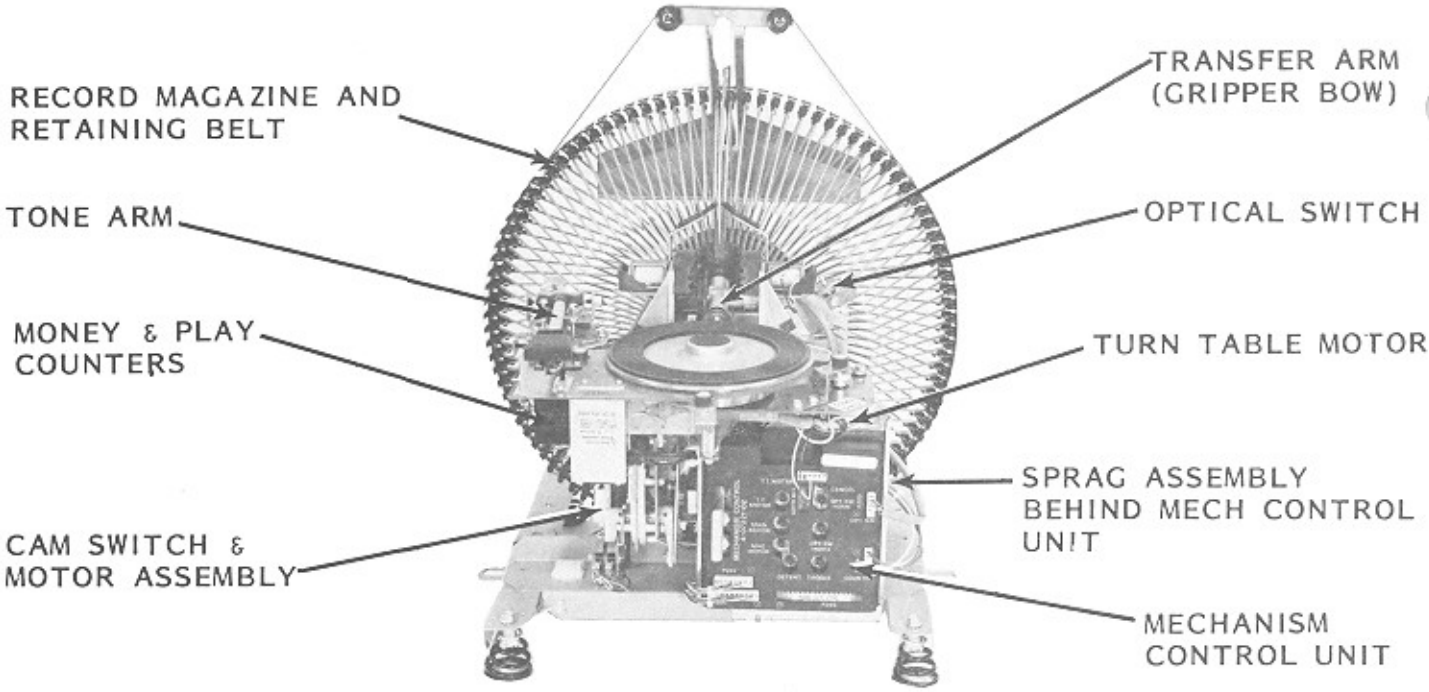

Figure 1-5. Record Changer Mechanism

Record Changer Mechanism

The Record Changer Mechanism, also referred to as "the Mechanism", is located in the center of the cabinet's interior. It is the primary mechanical component of the Phonograph. The mechanism holds 100 records and plays selections on command from the selection system (Refer to Figure 1-5 for the location of each of the magazine components.).

Magazine

The record magazine stores 100 7-inch 45 RPM records in a circular cage.

Play Counter

The play counter accumulates the total number of plays on the phonograph.

Money Counter

The Money Counter registers the total money deposited in the phonograph.

Optical Switch

The optical switch senses the record magazine position so that the C.C.C can determine which record is in gripping position.

Cam Switch And Motor Assembly

The cam switch and motor assembly (See Figure 1-6.) consists of the transfer motor, cam, and two cam switches.

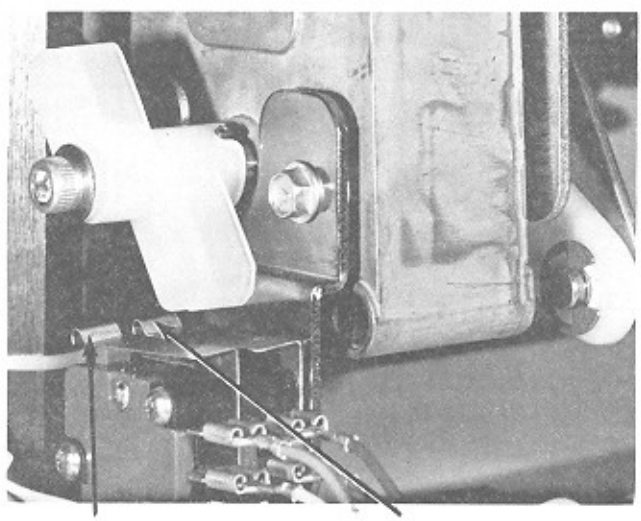

Figure 1-6. Cam Switch And Motor Assembly

Mechanism Control Unit

This solid state switching unit controls the scan, transfer and toggle shift.

Sprag Assembly

This assembly locks the record magazine in position.

Tone Arm Assembly

The tone arm assembly plays records after they are positioned on the turntable by the record transfer arm.

Turntable Motor

The turntable motor is a constant speed 300 RPM (at 60 Hz.) synchronous motor.

Main Power Supply

The Main Power Supply (See Figure 1-7.), located inside the Amplifier Compartment, distributes unregulated +28 VDC, 28 VAC, and regulated +8 VDC to the phonograph. The 120 VAC line voltage to the Main Power Supply is controlled by the Power Switch on the rear of the phonograph cabinet.

Caution: The 120 VAC AMPLIFIER OUTLET on the Main Power Supply does not shut off.

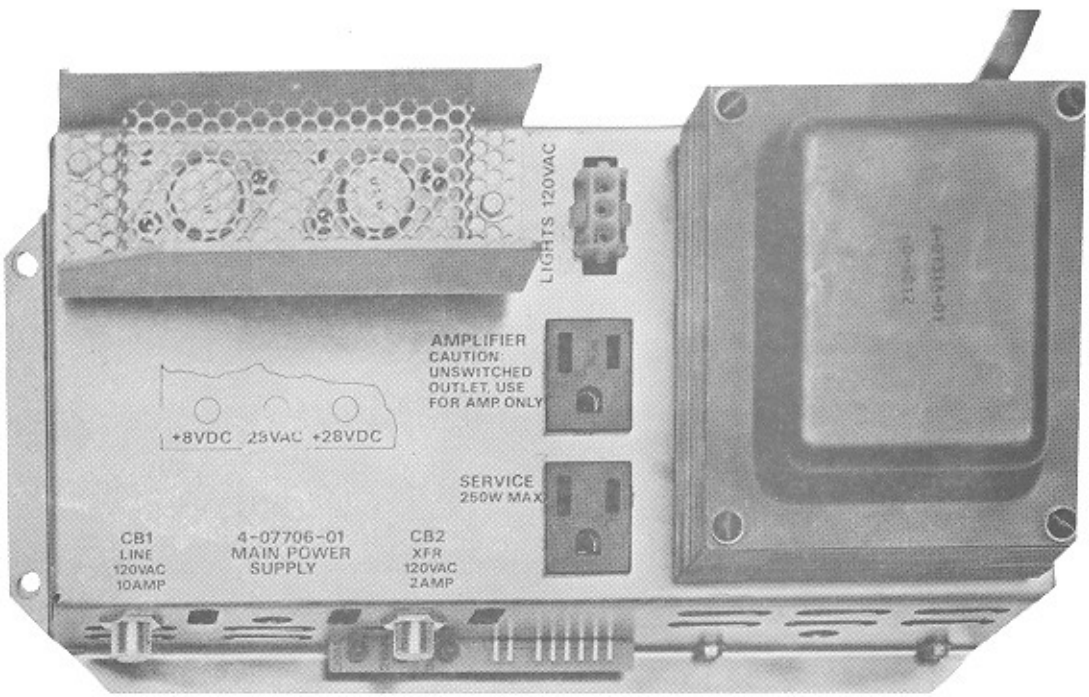

Figure 1-7. Main Power Supply