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SPECIFICATIONS

GENERAL

DEPTH	26-1/2 in. (67.3 cm.)
WIDTH	41-1/2 in. (105.4 cm.)
HEIGHT	51 7/8 in. (131.76 cm.)
SHIPPING WEIGHT (DOMESTIC)	384 lbs. (151.96 Kg.)
NET WEIGHT	365 lbs. (166 Kg.)
POWER REQUIREMENTS	120 VAC, 60 Hz., 365 watts 4.2 amps. 220/240 VAC, 50 Hz., 430 watts 2.7 amps.

RECORD CHANGER MECHANISM

CAPACITY	100 records
RECORD SIZE	7 inches
SPEED	45 RPM

CREDIT AND PRICING SYSTEM

ACCUMULATOR TYPE CREDIT SYSTEM - $1 & $5 BILLS, DOLLAR COINS, & HALF DOLLARS OPTIONAL

COINS ACCEPTED	Nickels Dimes Quarters
TOTAL CREDIT ACCUMULATIONS	255
PRICING	See pricing, page 11

SOUND SYSTEM

CARTRIDGE

TYPE	Shure Dynetic variable reluctance
FREQUENCY RESPONSE	20 to 20,000 Hz.
CHANNEL SEPARATION	25 db @ 1,000 Hz.
NOMINAL COMPLIANCE	20 x 10^{-6} cm/dyne
TRACKING FORCE	3-4 grams
OUTPUT	7 mv.
STYLUS	1 mil, diamond

POWER AMPLIFIER

125 watt Stereo

FTC Rating, 4 Ohm Loads @ 1% THD	144 watts RMS
FTC Rating, 70V Lines @ 1% THD	126 watts RMS

PREAMPLIFIER

AVC CONTROL RANGE	20 db
TREBLE CONTROL	12 db/octave 10,000 Hz. full 6,000 Hz. moderate 3,000 Hz. low
BASS CONTROL	Compensates for bass loss at low volume levels 12db per octave.

SELECTION SYSTEM

CAPACITY . . . . . 200 selections

TRANSFORMER PACKAGE

POWER LEVELS FOR PHONOGRAPH SPEAKERS. .1, 4, 16, 64 watts
PROVIDES 70-VOLT LINE FOR EXTENSION SPEAKERS

SPEAKER SYSTEM	WOOFER	MID/RANGE	TWEETER
SPEAKER DIAMETER . .	10 inches	5 3/4 inches	1 inch
VOICE COIL DIAMETER.	1-1/2 inches	1 inch	Dome
IMPEDANCE.	8 ohms	8 ohms	1 inch

CROSSOVER. . . . . 650 Hz.
SYSTEM FREQUENCY RESPONSE. . . . . .50 to 20,000 Hz. ±4db

LIGHTING

DOORS. . . . . Fluorescent, 30 watts, 36 inch (T-8), 7-00601-12
Fluorescent, 15 watt, 18 inch (T-8), 7-00600-22

FUSES AND CIRCUIT BREAKERS

MAIN POWER SUPPLY

120VAC CIRCUIT (Transformer Primary Only)	2 Amp Circuit Breaker,	7-00733-15
120VAC CIRCUIT.	10 Amp Circuit Breaker,	7-00734-25
+28VDC CIRCUIT.	5 Amp Slo-Blo Fuse (2)	7-00721-06
+8VDC CIRCUIT.	5 Amp Slo-Blo Fuse	7-00721-06

AMPLIFIER
Stereo - 125W

120VAC CIRCUIT.	3 Amp Circuit Breaker	7-00733-17
DC CIRCUIT.	5 Amp Fuse, Type MTH-5 (4)	7-00720-10

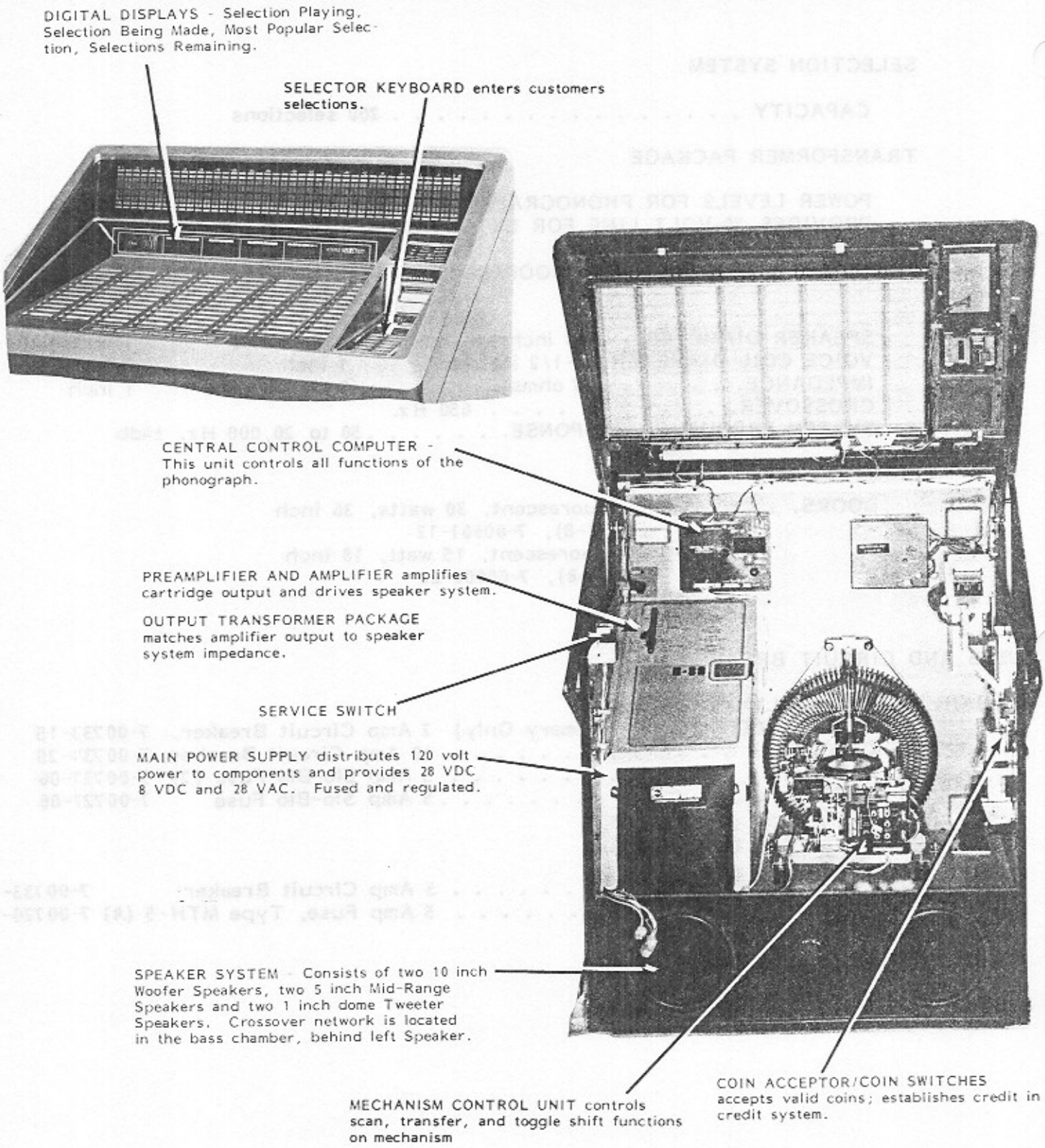


FIGURE 1. PHONOGRAPH MAJOR COMPONENTS

SECTION 1-SYSTEM DESCRIPTION

INTRODUCTION

This section of the Service Manual is intended to provide a general description of the R-89 Phonograph. It will help you familiarize yourself with the various components of the machine and understand its basic principles of operation.

The Rowe Model R-89 Phonograph is a Stereo Phonograph that can hold up to 100 45 rpm records for a total of 200 possible selections. It is designed to meet the needs of the people who will be using it in the field. Incorporating some of the latest technology in electronics, the R-89 is completely microprocessor-based and solid state controlled, providing a reliable and well designed unit that will prove easy to operate and maintain. It can be ordered with a variety of accessories and options. Some of the features that can be included as standard equipment or added as options later are: a bill acceptor, a bill stacker and a video interface and monitor for playing the latest and most popular video tapes.

MAJOR COMPONENTS

The major components of the R-89 Phonograph are the record selection system, the central control computer, the audio reproduction system, the record changer mechanism, light display controller and the main power supply. A description of each of these and their primary functions are given below.

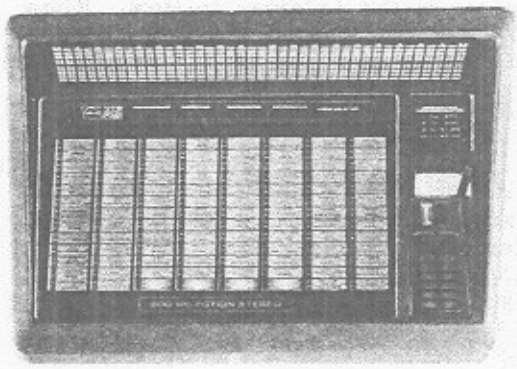
RECORD SELECTION SYSTEM

Record selections are made via a series of buttons and LED displays located on the top door of the Phonograph. The buttons are referred to as the Keyboard and are labeled from 1 to 10, Popular and Reset. The Keyboard is also used for programming certain features of the Central Control Computer. The Selector System LED's display the Selection Being Made, the Selections Remaining, the Selection Playing, and the Most Popular Selection.

To make a selection deposit money in the Phonograph to establish credit. When credit has been established the Make Selection display will light and the Selections Remaining display will show the number of selections available for the amount of money deposited. Enter from the Keyboard the number of the selection you have chosen from the songs listed on the title rack. As the digits are entered on the keyboard the LED will display them. Only valid selection numbers will be displayed. If numbers other than those designated as acceptable are entered, they will not be displayed. It is not necessary to Reset if an invalid number has been entered, the Phonograph will not accept an invalid number.

The Reset button can be used to remove a partially entered selection number from the Selection Being Made display. Once the last digit has been entered the selection is made and cannot be changed.

The Popular Button can be used to select the song which has been chosen the most often from the playlist. The tally is kept until the Phonograph is serviced and the computer memory is cleared. Pressing the Popular button a second time will play the second most popular song. The process can be continued until the credit is exhausted. The computer will begin the sequence with the Most Popular Selection. (If selections are entered manually from the Keyboard and then are duplicated by pressing the Popular Selection button, the selection is not repeated. The duplication of selections is thus avoided.)



THE CENTRAL CONTROL COMPUTER

Located on the rear wall of the cabinet is the Central Control Computer, the brain of the Phonograph. This unit directs all of the activities of the Phonograph: It is especially useful for such tasks as keeping track of the amount of money received, assuring that the proper amount of credit is given for money received, monitoring the selections made to determine the record played most often and the one played least often. The computer will also store up to 255 credits per customer. The total number of selections made can be monitored and compared with the total amount of coins and money taken in.

MEMOREC

The Memorec function of the Central Control Computer is a record keeping function. It has these features: 1. It records the Total Selections made, 2. Records the number of times each side of the record (one selection) has been chosen. 3. Records the total amount of money deposited in the machine. Selections made with the Popular Selection button are not totaled with the records that are chosen from the list of songs on the title rack and entered manually on the Keyboard. The selections made with the Popular Selection button are included in the count for the Total Selections made, however. The Memorec does not count the selections made by the AutoPlay feature as a part of the Total Selections Made.

AUTOPLAY

Another function of the Central Control Computer is the AutoPlay feature. When the Phonograph has not had a selection made within a predetermined time the computer will choose records from a predetermined list and it will play them to stimulate customer interest in the phonograph. The choice of records, the record sequence and the interval at which the computer will automatically play a selection can be predetermined by the owner of the phonograph or the person who services it. For instructions on how to set the AutoPlay function, refer to the section of this manual on installation and programming.

THE AUDIO REPRODUCTION SYSTEM

The components of the Audio Reproduction System are: The Stylus and Cartridge, the Stereo Preamplifier, the Output Transformers, the Power Amplifiers and the Speaker System.

THE STYLUS AND CARTRIDGE

Located on the tone arm of the Record Changer mechanism, the Stylus and Cartridge unit translate the groove modulations into equivalent electrical voltage. These voltages are conducted through shielded cable to the Preamplifier.

THE PREAMPLIFIER

The Preamplifier amplifies the low voltages it receives to higher levels of voltage that can be utilized to drive the Power Amplifiers. Automatic Volume Control circuitry adjusts for different recording levels in records. Treble and bass controls are provided on the Preamplifier to compensate for differences in room acoustics and noisy records. The D.C. operated Volume Control circuit allows simple installation of remote volume controls. External inputs are provided for custom sound installations.

THE AMPLIFIER

The Power Amplifiers amplify the Preamplifier outputs to voltage levels suitable to drive the Speakers. They are capable of producing 62.5 watts per channel (125 watts total) at the 70 volt line connections. Protection is included for inpu transients and faulty loading.

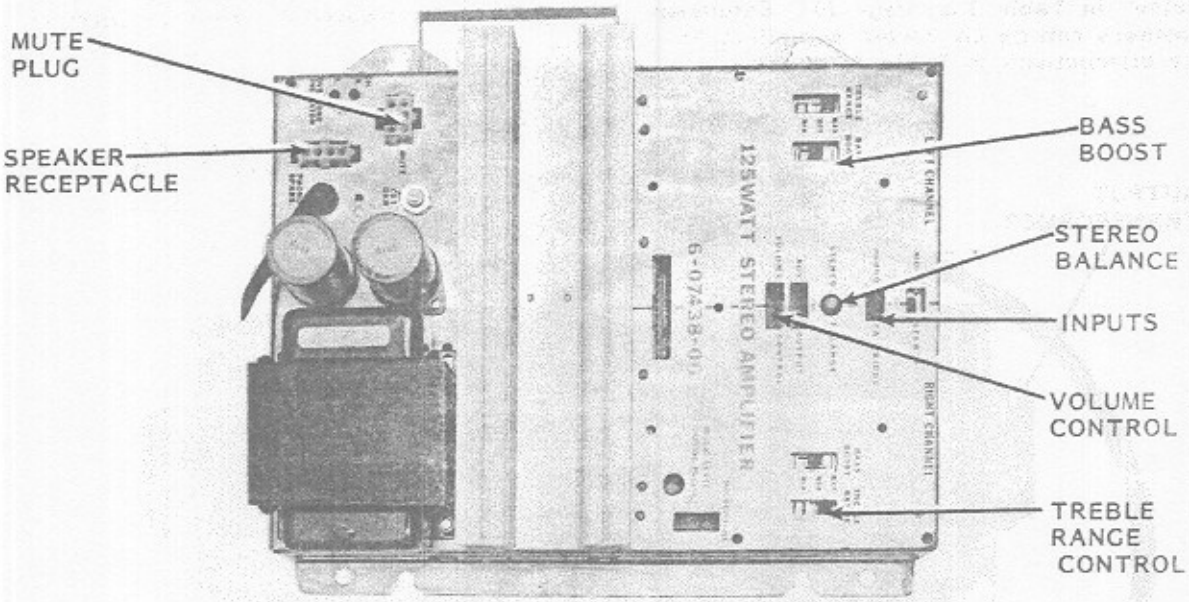


FIGURE 2. 125 WATT STEREO AMPLIFIER COMPONENTS

THE OUTPUT TRANSFORMER

The Output Transformer steps up the Power Amplifiers output voltages to 70 volts for extension speakers. It also provides taps for obtaining several different power levels for both phonograph and low impedance extension speakers. Phonograph speaker power is selected by connecting the proper leads as explained in Table 3 on page 20. Extension speakers can be connected according to the instructions in Table 5, page 21.

THE SPEAKER SYSTEM

The Speaker System consists of a Crossover Network, two 10 inch Woofers, two 5 inch Mid-Range and Two 1 inch dome Tweeter Speakers. This Speaker System is completely stereo, utilizing specially designed drivers for wide frequency response and good coverage. The Crossover Network has been redesigned and relocated in the bass chamber.

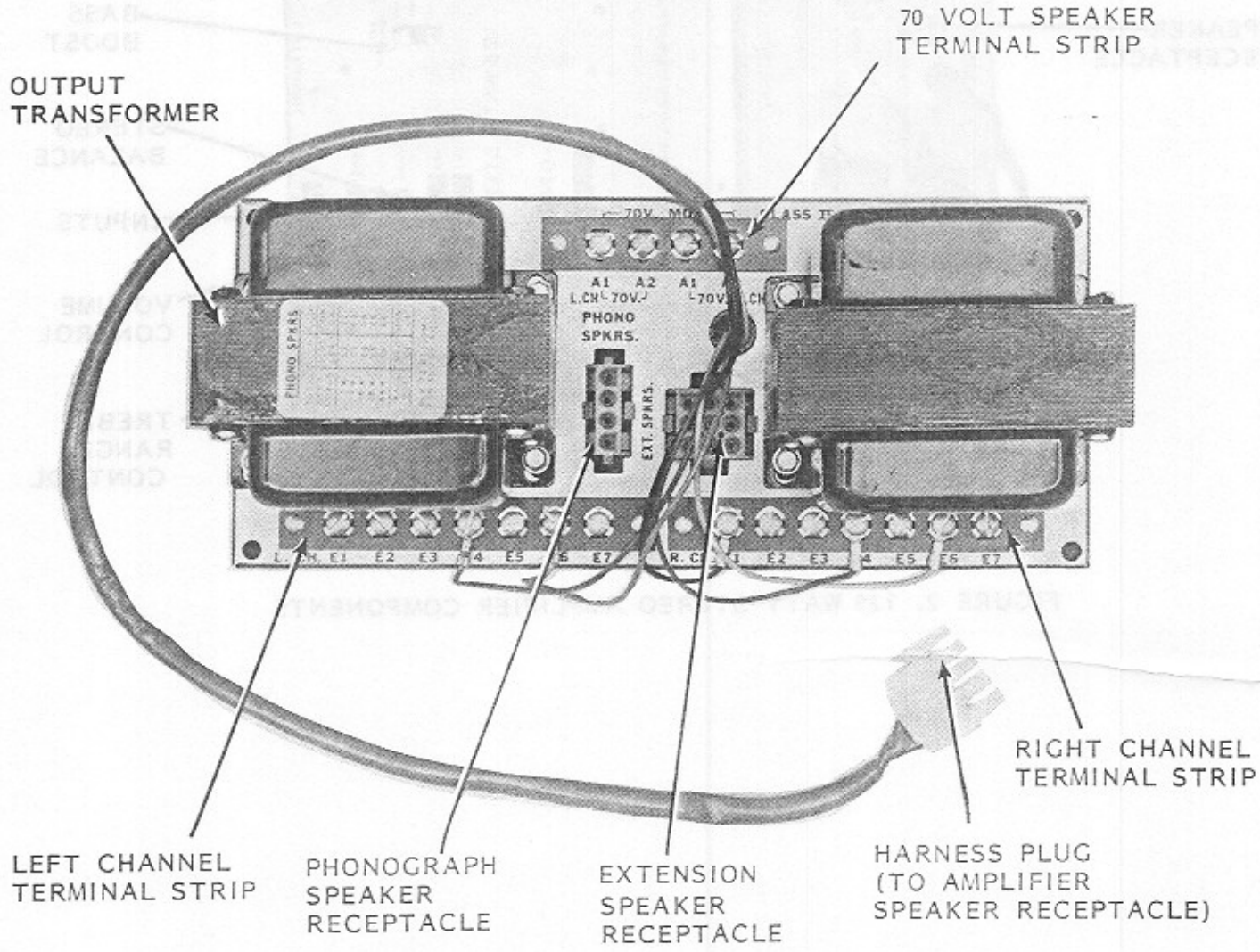


FIGURE 3. OUTPUT TRANSFORMER PACKAGE COMPONENTS

THE 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. The following paragraphs list and briefly explain the function of the main components that make up the Mechanism.

Identification and location of each major component is shown in Figure 4, page 6.

MAGAZINE, BELT AND TRANSFER ARM

The record magazine stores 100 7-inch 45 rpm records in a circuilar cage. A seamless belt around the cage keeps records in position. The rollers permit the transfer arm to clear the belt when removing and returning records to the magazine and also maintain belt tension.

PLAY COUNTER

The play counter is mounted to the left of the turntable and accumulates the total number of plays on the phonograph.

MONEY COUNTER

The Money Counter is mounted on the left side of the turntable and it registers the total money deposited in the phonograph.

OPTICAL SWITCH

The Optical Switch is in front of the record magazine and straddles the magazine gear. There are two sensors in the switch. One sensor indicates when record "99" is in gripping position. This sensor is called the Home Sensor. The other sensor counts the number of gear teeth that pass by during scan to tell which record is in gripping position. This sensor is called the Index Sensor.

MECHANISM CONTROL UNIT.

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

SPRAG ASSEMBLY

This assembly operates the record magazine in position. It is located at the center of the record changer mechanism, immediately in front of the record magazine and below the record transfer arm. The magazine motor rotates the record magazine. The solenoid operated Sprag Assembly locks the magazine in place.

TONE ARM ASSEMBLY

The tone arm assembly plays records after they are positioned on the turntable by the record transfer arm. The tone arm contains a stereo cartridge with a diamond stylus that is designed to track at three to four grams pressure. The stylus plugs into the cartridge for easy replacement. Four receptacles in the tone arm assembly mate with a plug to connect the cartridge to the pre-amplifier via 4-conductor shielded cable.

TURNTABLE MOTOR

The turntable motor is a constant speed 300 RPM (at 60Hz.) synchronous motor. The turntable is driven with a belt to obtain the proper turntable speed with minimum wow and flutter. (For 50Hz. locations, a larger diameter motor pulley is used and a wiring change must be made on the motor terminal strip (See Section 6).

Because Rowe may purchase motors from more than one manufacturer, and because each motor requires a slightly different run capacitor, it is best to consult the Rowe Factory Service Dept. for wiring instructions when converting from one line frequency to the other.

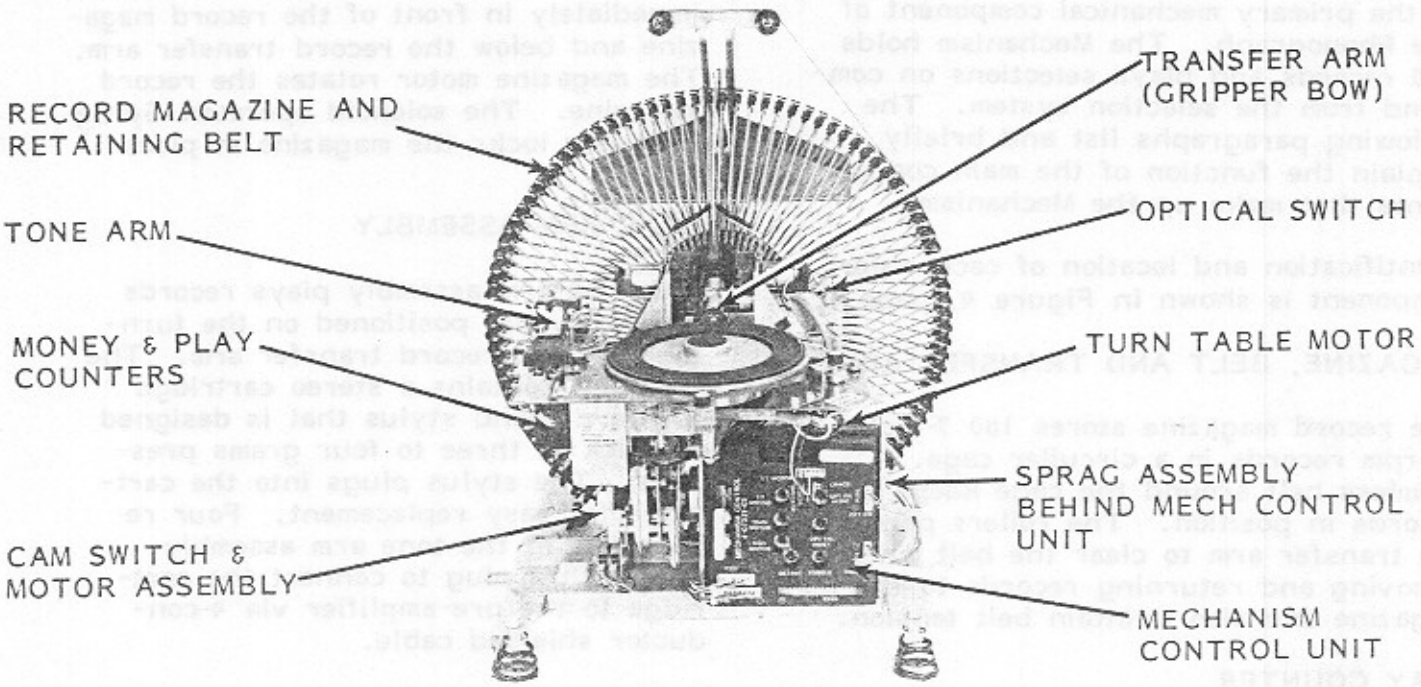


FIGURE 4: RECORD CHANGER MECHANISM

LIGHT DISPLAY CONTROLLER UNIT

The Light Display Controller Unit, located at the back of the enclosed compartment on the left side of the interior of the Phonograph, controls the light display of the bar graphics assemblies on the Top and Front doors. The bar graphics may be set to display a shifting pattern of either bars of light or individual dots of light, that respond to the music as it is playing, or set to display a shifting pattern of either bars or dots that repeats continuously while the Phonograph is in standby mode. The graphics display may be switched between the dot pattern and the bar graphics pattern as desired. The graphics bar may also be set to display all the lights in a continuous burning non-flashing mode while the Phonograph is in standby or Mute condition.

Two switches control the function of the display. The Display Mute Switch controls the graphics pattern in standby mode-it may be set for Continuous or Flashing mode. The Display Type Switch controls the graphics pattern as it responds to the music-it may be set for dot or bar graphics. When the Mute Display Switch is set to Flashing, the Display Type Switch may be used to choose either the bar or the dot pattern for the standby mode. To set the Light Display function, locate the Controller at the back of the enclosed compartment and set the switches to the settings desired. Five switch combination are possible:

(Standby Mode) 1. Flashing: Dot Graphics, 2. Flashing: Bar Graphics, 3. Continuously Lit, (Responsive Mode) 4. Dot Graphics, and Bar graphics.

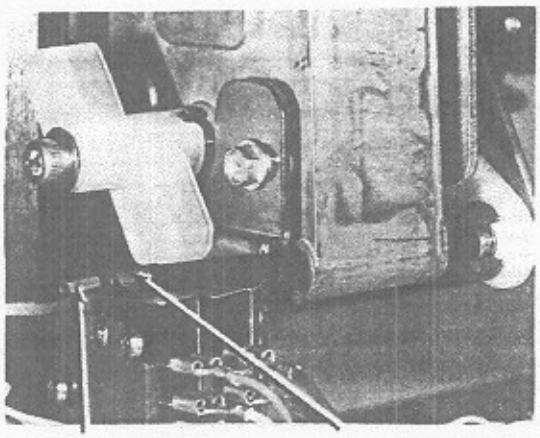


FIGURE 5. CAM SWITCH AND MOTOR ASSEMBLY COMPONENTS

Cam Switch and Motor Assembly. (See Figure 5). The cam switch and motor assembly consists of the transfer motor, cam, and two cam switches. A nylon cam operates the cam switches.

THE MAIN POWER SUPPLY

Located in the enclosed compartment on the left of the interior of the phonograph the Main Power supply distributes unregulated +28 VDC, 28 VAC and regulated +8 VDC to the phonograph components. The power is controlled by a rocker switch located on the rear of the cabinet 120 volt AC receptacles are provided for the amplifier, light, accessories and service equipment. The AC receptacles and transformer primary are protected by the 10 amp circuit breaker CB1, while circuit breaker CB2 protects the transformer primary only. Both of these circuit breakers can be reset from the front panel.

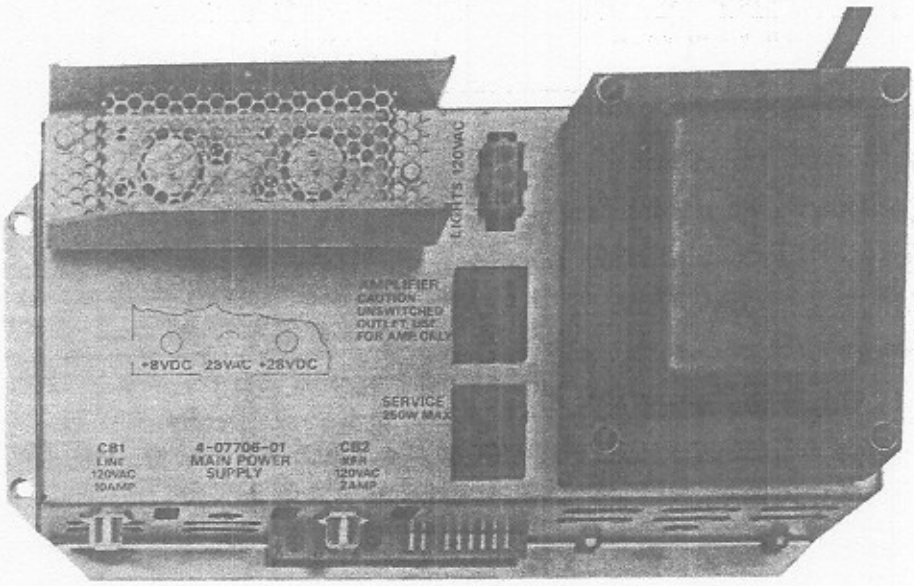


FIGURE 6. MAIN POWER SUPPLY

TABLE 1. ACCESSORY EQUIPMENT

PART NO.	DESCRIPTION	FUNCTION
6-50570-13	One & Five Dollar Bill Acceptor Kit (Includes Bill Stacker)	Accepts valid one & five dollar bills.
2-66946-04	Phono Paging System	Paging System not affected by A.V.C. All Plug-in unit, complete with microphone and 50 feet of microphone cable. Allows use of phono sound system for paging.
2-64014-01	Paging Adapter Kit	Adapts paging equipment for R-83 thru R-86 phonographs for use with R-87 and later phonographs.
2-66974-02	Amplifier Accessory Kit	Provides access to auxiliary inputs and outputs of the preamplifier. Inputs will accept signals from most background music sources such as tape players and AM or FM radios. Outputs available to drive slave amplifiers before or after volume control.
2-67003-01	125 Watt Amplifier Harness Kit	Three Adapter Cables to interchange-combo line plugs with Universal plugs.
3-06322-01	Remote Volume & Cancel Control	Remote stereo volume control and cancel button. Does not include cable.
6-08980-04	Remote Volume Power Switch & Cancel Control	Volume Control incorporates on-off switch. 115V only.
3-06322-09	Dual Remote Volume Control	Controls volume of each channel separately. Does not include cable.
2-08199-07	Remote Volume and Cancel Control Cable	For connecting remote volume control to phonograph 3-conductor cable, 50 ft. length.
2-08199-08	Remote Volume and Cancel Control Cable	For connecting remote volume control to phonograph 4-conductor cable, 50 ft. length.
6-65047-07	Service Kit	Includes Central Computer, Mech. Control, Power Supply Board and Fuses.
6-07447-01	Extension Speaker (Model EX 350)	32 watt, two channel system includes 3-1/2" tweeter and 10 inch bass speaker.
6-09025-01	WRF Wallette Wallbox	Remote control unit for solid state phonograph. R-89 and video takes nickels, dimes, quarters and half dollars.
2-66989-05	Wallbox Adaptor Harness Kit (WRF)	For making internal connections in phonograph to allow installation of WRF Wallbox.
4-06891-01	Auxiliary Power Supply	Permits operation with WRA, WRB, WRC, WRD & WRE, WRF Wallboxes.
0-05080-00 Belden No. 8447 Columbia No. 4082	7 Conductor Cable	For connecting WRF to phonograph. (Not supplied by Rowe)
2-66995-03	Security Bar Kit	Heavy steel bar locks in place over cash box door.
2-67025-01	Conversion Kit	Converts WRE to WRF Wallette

SECTION 2 - INSTALLATION & PROGRAMMING

INTRODUCTION

This section contains information that will help you to install the phonograph on location. It should be read carefully before proceeding further with the unpacking and installation process.

The phonograph is shipped in a single carton, pre-assembled. All of the major components are in place. The instructions for removing the shipping apparatus should be carefully followed. The hardware that is removed should be saved and stored in the event it becomes necessary to move the phonograph in the future.

ACCESSORIES BAG

Inside the Handy Case is a small plastic bag called the Accessories Bag. It contains slip-on terminals used in connecting accessories to the phonograph; it also contains an assortment of spare parts and fuses. It is recommended that you store the Service Manual and the accessory bag inside the phonograph cabinet. These items will then be readily available when needed.

WARRANTY REGISTRATION CARD

A postage-paid Warranty Registration Card is included with the Phonograph. This card should be returned to the manufacturer to register the phonograph and insure that any in-warranty repairs that may be needed will be performed.

UNPACKING INSTRUCTIONS

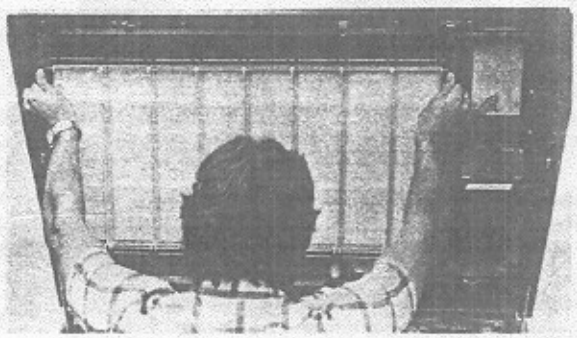
Carefully inspect the interior and exterior of the phonograph to insure that no damage occured during transit. If damage is detected, the carrier who delivered the phonograph should be contacted immediately to examine it. Regardless of the exterior condition of the shipping cartons, the carrier should be called and notified of damage. Do not destroy the packing material or boxes until the carrier's agent has examined them. Damage claims are the responsibility of the cosignee. Do not return shipping-damaged merchandise until after your claim has been established. Once your claim has been established, merchandise may be returned to your Rowe distributor for repair. The invoice amount for repair charges can then be collected from the carrier.

Step 1: Remove the Packing Case

a. Remove the shipping carton with care. Do not use shipping hooks or any sharp instrument that would mar or damage the finish of the phonograph cabinet.
b. Remove the plastic covering the phonograph.

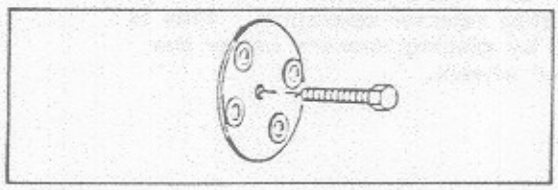
Step 2: Open the Phonograph Cabinet

a. Locate the red key-bag taped to the glass on the top door and unlock the front door.
b. Remove the shipping brackets, release the door latches and open the doors.

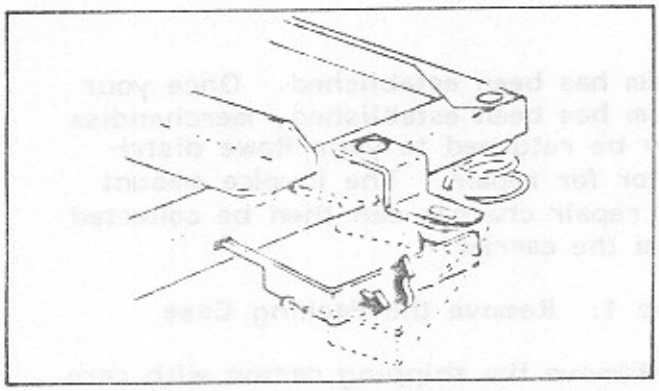


Step 3: Remove the Shipping Apparatus

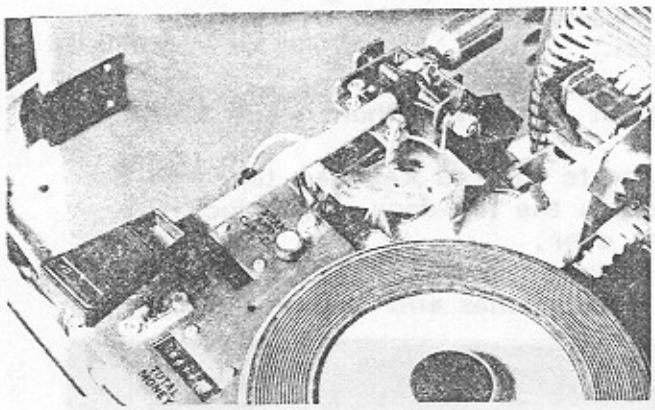
a. Remove shipping bolt from rear of cabinet as shown.



b. Rotate record changer tie-down brackets away from mechanism support frame as shown. Lift up and remove.



c. Remove rubber bands and shipping block from tone arm.



d. Remove turntable hold-down clip. Replace screw.
e. Remove stylus cover from cartridge and stylus.
f. Save shipping hardware for future use.
g. Remove the rubber band, wire hook and warning tag that hold the sprag lever.
h. Remove adhesive tape.
i. Remove the tape from the magazine belt and pulley.
j. Check that all plugs are firmly seated in their respective receptacles.

Step 4: Level the Phonograph

Level the phonograph cabinet left-to-right and front-to-back to ensure proper slug rejector operation. This is done by placing spacers under the caster wheels.

PROGRAMMING THE CREDIT AND SELECTION SYSTEM

The Rowe R-89 Phonograph uses the capacities of the Central Control Computer to make some valuable features available to you. By using the Keyboard, the Central Control Computer allows you to retrieve information stored in its memory, change the prices charged for selections and program which selections the Phonograph plays through the AutoPlay function.

The following sections will explain the various features that are built into the phonograph and help you to use the Keyboard to take advantage of the flexibility that those features provide.

PROGRAMMING FEATURES

The Phonograph uses the Keyboard, the LED displays, and the displays on the Memorec unit in setting-up and maintaining the pricing, credit and AutoPlay functions of the Central Control Computer. The Central Control Computer stores all its information in specific memory locations. To program a feature or inquire about information in the Computer you must access the proper memory location at which the computer has that information stored. A chart with the memory locations is included on page 14. (An alternate method for retrieving information from the Memorec is discussed under the Routine Service section of this manual).

ENTERING THE PROGRAMMING MODE

1. Place the Phonograph in the Service mode by setting the switch on the Control Console to the Service position. The Control Console is located on the upper left side of the cabinet. (See note 1 page 13).

2. Hold down the Popular button while typing the built in security code-000. (The security can be changed to a number of your choosing. Instructions are included below for doing this.) The Selections Remaining display will show the prompt character (Ξ).

3. When you are at the prompt you may choose the memory location you wish to examine or change. Enter the location number from the Keyboard. The Selections Remaining LED will display the location number and the Selections Being Made LED will show the contents of the location. The contents of the location may now be programmed by entering new data and then pressing the Popular Key.

NOTE: If you make an error when typing in data, press the Reset key then type in the correct data. If you wish to skip several locations or repeat a location, press and hold the "RESET" key, until the prompt character appears. Type in the desired location number and proceed as previously instructed.

The Displays will then index to the next location and show the contents of it.

When you reach location 99 the machine will automatically exit from the programming mode. To exit the programming mode at any time, first press and hold the "RESET" key until the prompt character appears. Then type "99".

Exit programming mode by typing memory location 99 (≡ 99).

SECURITY

To protect the phonograph program from tampering, a three digit security code may be entered into the computer. The security code preset by the factory is 000.

To change the security code:

1. Place the Phonograph in the Service mode.

2. Depress the Most Popular Selection button while typing the security code 000.

3. When the prompt appears in the display, type in memory location 58 and change the setting to the security code you wish to use.

Note: If you change the security code and forget the number, the number can be changed back to the default number (000). Depress the Most Popular Selection button and type in the number 0 twelve times. This will set the memory location back to 000. A new security code can be entered.

If, after using the phonograph and the security code for some time, the code you designated does not work, try the 000 code. If this is successful the security code system has been tampered with. Memory location 58 will contain 000, and the code you entered will have been erased. The security code will not need to be changed as it has not been discovered.

PRICING

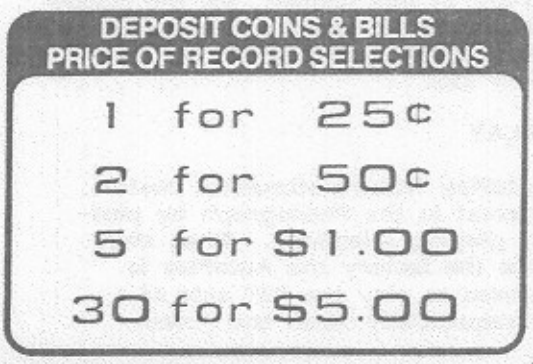
Built into the R-89 is the ability to adjust the prices charged for record selection. When shipped from the factory the prices are set as follows:

First Credit Level: 1 Selection for .25
Second Credit Level: 2 Selections for .50
Third Credit Level: Not Used
Fourth Credit Level: 5 Selections for $1.00
Fifth Credit Level: 30 Selections for $5.00

1	1	1	1	2	2	2	2	3	3	3
3	4	4	4	4	5	5	5	5	6	6
6	6	7	7	7	7	8	8	8	8	9
9	9	9	10	10	10	10	11	11	11	12
12	12	13	13	13	14	14	14	15	15	15
20	20	20	25	25	25	30	30	30	35	35
35	40	40	40	45	45	45	60	60	60	65
65	65	80	80	80						

UNIVERSAL PRICE SHEET

STANDARD PRICE CARD



Enclosed in the Handy Case is an Alternate Pricing Decal that may be substituted for the Standard Price Card. The Handy Case also contains the Universal Price Sheet with printed prices which can be peeled off and applied to the appropriate slot in the Alternate Price Card. Using the Keyboard of the R-89 the pricing structure of the Phonograph may then be adjusted to match the new prices.

TO SET THE PRICES:

1. Depress the Most Popular Selection button while typing the security code number.

2. At the prompt, press and release the Most Popular Selection button. The location 00 will display in the Selections Remaining LED and the contents of 00 will display in the Selections Being Made LED. 00 is the location of the First Record Credit Level. Five Record Credit Levels are available. Their location numbers are 00 to 04.

3. Enter the prices in dollars and cents at the desired locations. Press and release the Most Popular Selection button. The data currently in the display will be stored in that location and the next location with its contents will be displayed. The maximum amount that can be set is 9.95.

4. The contents of locations 05 to 09 determine the amount of credit to be given for each level of credit. Enter the number of selections to be given. 255 is the maximum number.

5. Extra credit may be given the customer for tendering a dollar bill. To give credit in this fashion, set the number of extra credits in memory location 26. The number of extra credits given can extend from 0 to 255.

AUTOPLAY

The AutoPlay feature stimulates customer interest in the Phonograph by periodically playing selections. When shipped from the factory the AutoPlay is programmed to play the "B" side of a record sequentially when the Phonograph has not had a selection made for twenty minutes. This feature may be programmed. The interval may be set for any length of time between 0 and 255 minutes; the selections may be programmed to play specific records in a specific sequence, a sequence of the "A" side of the record or a sequence of the "B" side of the record. (The sequence of the "B" side of the record is the default- the setting with which it arrives from the factory.)

To program the AutoPlay Function

1. Set the switch on Control Console to Service mode.

2. Depress the Most Popular Selection key and enter the three digit security code.

3. Set memory location 32 to 0 if the AutoPlay function is not desired, to 1 for playing record side "A" sequentially, to 2 for playing record side "B" sequentially, to 5 for playing a program of specific selections.

4. If programming specific selections into the AutoPlay function enter the selection numbers into memeory locations 59-73. Begin with location 59 and set as many of the 15 selections as desired. Locations that are not used should be set to 0.

Special Command Modes

With the Phonograph in Service mode the special commands shown below can be used.

1. The number of times a selection has been made since the last time data was cleared from the memory can be determined by typing in from the Keyboard 1XX or 2XX. XX can be any two digit number from 00 to 99 which, when added to the first digit in the box matches a selection number currently installed in the Phonograph. The selection number you type in will display on the Selection Being Made LED. The number of times that selection has been made will display on the Selection Playing LED.

2. The 5XX series of commands are entered from the Keyboard and cause totals kept in Memorec to display on the LED'S. The totals that can be displayed range from 0000 to 9999.

500 Number of times audio selection has been made using the Most Popular button.
501 Total number of record selections.
504 Total number of Autoplay selections.
505 Number of #1 coins received (5¢).
506 Number of #2 coins received (10¢).
507 Number of #3 coins received (25¢).
508 Number of #4 coins received (50¢).
509 Number of #1 bills received ($1.00).
510 Number of #2 bills received ($5.00).
511 Total collection in nickels.
512 Total Wallbox collection in nickels.

3. 7XX series commands are also entered from the Keyboard. These are primarily used to clear the Memorec totals.

700 Adds 25¢ credit. (Also set location 28 to 255 to retain credits).
701 Clears credits.
702 Clears Autoplay selections.
799 Clears regular selections.
750 Clears Memorec money totals. (See note 97.
999 Returns phono to normal operating mode when door is completely closed (See Note 1).

Note 97

If a 0 is entered at memory location 97 the Memorec Reset Switch can be used to clear the 5XX totals. (The totals can be reset manually by anyone who has access to the inside of the Phonograph cabinet.)

If a 1 is entered at memory location 97 the Memorec Reset Switch will not clear the 5XX totals- a 750 command must be entered from the Service mode. (The totals can be cleared from the Keyboard).

If a 2 is entered at memory location 97 the totals cannot be reset except from the programming mode. The totals are reset when memory location 97 is typed at the prompt. (The totals cannot be cleared except by someone who has access to the security code.)

Note 1

Factory setting for location 56 is 0. If location 56 is set to 255 you can completely close the front door and still program or audit the phono. Simply put control console switch to service position for 2 seconds and then close the door. When you are finished auditing or programming type 999 to return phono to normal operation mode. Set factory location 56 to 255 if you want to use this feature.

PROGRAMMING CODES

Factory Setting	Location Number	Description
25	00	First Record Credit Level - Enter in Dollars and Cents - Max = 9.95
50	01	Second Record Credit Level
75	02	Third Record Credit Level
100	03	Fourth Record Credit Level
500	04	Fifth Record Credit Level
1	05	First Record Credits - Enter number of plays for first record credit level - Max = 255
2	06	Second Record Credits
0	07	Third Record Credits
5	08	Fourth Record Credits
30	09	Fifth Record Credits
1	20	Coin Switch #1 Value - Enter value of coin or bill which
2	21	Coin Switch #2 Value activates the appropriate device in
5	22	Coin Switch #3 Value number of nickels
10	23	Coin Switch #4 Value (1 = 5¢, 2 = 10¢, 20 = $1, etc.)
20	24	Bill Value
05	25	Coin Switch Multiplier - Set to 5 for U.S. currency.
00	26	Bill Bonus - Number of extra credits for a bill (0 to 255)
00	27	Free Play - Set to 255 for free play, else to zero.
255	28	Retain Credits on power if = 255 - Cancel if = 0.
00	29	Set to 255 to prevent selection of records with 3rd digit = 8/9 otherwise set to zero.
255	30	255 = Records only, 000 = Video
02	32	Autoplay Style - 0 = None, 1 = Record Side A, 2 = Record Side B, 5 = Programmed
20	33	Autoplay in minutes Max = 255, Default = 20
00	35	Phono I.D. number last 2 digits (Of 4 digit I.D.#)
00	36	Phono I.D. number 1st 2 digits
00	56	Service sw. overide 255 = Stays in service 0 = No overide
255	57	Fifo Record Flag. 0 = Conventional 255 = Fifo
0	58	Program Security Code. Used to enter programming mode.
0	59	Programmed Autoplay Selection #1
0	60	Programmed Autoplay Selection #2
0	61	Programmed Autoplay Selection #3
0	62	Programmed Autoplay Selection #4
0	63	Programmed Autoplay Selection #5
0	64	Programmed Autoplay Selection #6
0	65	Programmed Autoplay Selection #7
0	66	Programmed Autoplay Selection #8
0	67	Programmed Autoplay Selection #9
0	68	Programmed Autoplay Selection #10
0	69	Programmed Autoplay Selection #11
0	70	Programmed Autoplay Selection #12
0	71	Programmed Autoplay Selection #13
0	72	Programmed Autoplay Selection #14
0	73	Programmed Autoplay Selection #15
0	97	Clear Memorec 5XX Totals - Note 97

Note 97 0 = Clear if memorec reset switch is pushed.
1 = Do not clear if reset switch is pushed but clear if code "750" is entered in service mode.
2 = Do not allow either 0 or 1 above but clear when = 97 occurs. in programming mode.

Remember - Always press "Popular" key to enter data when programming.

OPERATIONAL INFORMATION

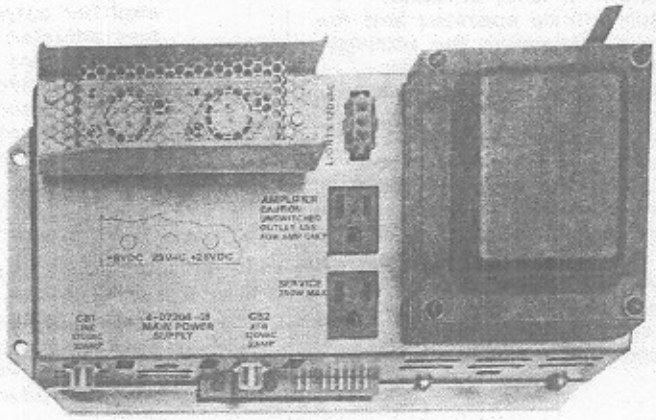
STATUS LAMPS

Red indicator lamps are connected to various strategic points in the phonograph circuit to indicate status of power and signal circuits.

Power Supply

+ 8 Volts DC
+28 Volts DC
28 Volts AC

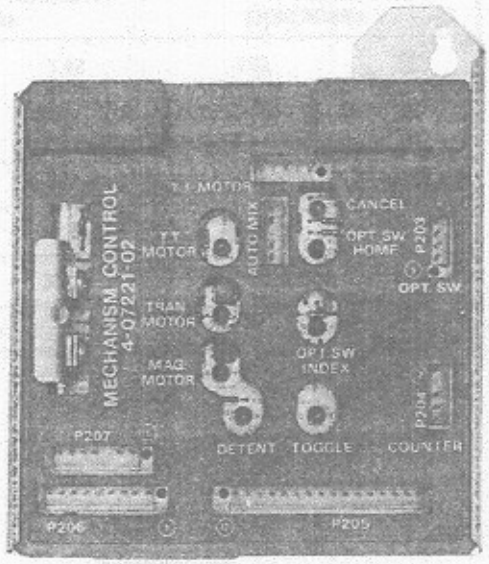
Shows presence of respective voltage and implies that there is no short on the lines.



MAIN POWER SUPPLY

Mechanism Control

T.T. Motor	Lights when Turntable motor command is present. Motor should be running
Tran Motor	Lights when Transfer command is present. Transfer motor should be running.
Mag. Motor	Lights when Magazine Motor command is present - Motor should be running.
Detent	Lights when Detent command is present. Detent coil should be actuated. Detent disengaged.
Toggle	Lights when Toggle command is present. Toggle coils should be actuated. Both toggle pins moved to left.
Opt. Sw. Index	Lights when the Index section of the optical switch sees the tooth space of the magazine drive gear. Flickers when the magazine rotates.
Opt. Sw. Home	Lights when the Home section of the optical switch sees the hole in the magazine drive gear. Flashes when the magazine record position 99 passes the Transfer position.
Cancel	Lights when the cancel signal line is shorted to ground.



MECH. CONTROL UNIT

SOUND SYSTEM

ACOUSTICAL COMPENSATION (BASS AND TREBLE CONTROLS)

The pre-amplifier contains treble range and bass boost controls to compensate for room acoustics in various locations. These controls are on the amplifier chassis. The sound level at which the phonograph will be operated and the room furnishings determine the settings of these controls. A room with carpeting and drapery is a soft or highly-absorbent location. A crowded room is also highly-absorbent. These locations require higher sound levels. A room with paneled walls and a bare or tiled floor is a hard non-absorbent location. Bass boost and treble range control settings are listed in Table below. Note that more bass boost is required at low volume levels. The amplifier incorporates circuitry that provides extra bass compensation at low volume levels.

PAGING

Paging circuitry is now a part of the 6-07925-01 Preamplifier. The microphone plugs directly into the Preamplifier.

STEREO BALANCE

The stereo balance control is provided to equalize left and right channel amplifier output. This control is factory-adjusted for best performance. If adjustment is required, play a monaural selection and adjust the control for equal sound from each top speaker. When balanced, the sound will seem to come from the center of the phonograph

AMPLIFIER OPERATION WITH HIGH LINE VOLTAGE.

In locations where input line voltage to the phonograph exceeds 125 volts, use the black/red primary lead of the amplifier power transformer instead of the black/yellow lead. This results in a 10% reduction is secondary voltage.

TABLE 2 USE OF AMPLIFIER CONTROLS FOR ACOUSTICAL COMPENSATION

	ROOM ACOUSTICS					
SOUND LEVEL IN ROOM	DEAD OR SOFT HIGHLY ABSORBENT		AVERAGE - MODERATELY ABSORBENT		LIVE OR HARD NON-ABSORBENT	
	SET BASS BOOST CONTROL	SET TREBLE RANGE CONTROL	SET BASS BOOST CONTROL	SET TREBLE RANGE CONTROL	SET BASS BOOST CONTROL	SET TREBLE RANGE CONTROL
LOUD	LOW	MOD/MAX	LOW	MOD/MAX	MOD	LIM
MODERATE	LOW	MAX	MOD	MOD/MAX	MAX	LIM
SOFT	MOD	MAX	MAX	MAX	MAX	MOD

Note: Reduce Treble Range setting as required by record noise (scratch) conditions.

AMPLIFIER OPERATION WITH FM, BACKGROUND MUSIC, QUAD

This is an optional, add on accessory. See Accessory equipment section for explanation of the Amplifier Accessory Kit.

EXTENSION SPEAKER OPERATION

Care must be exercised when adding extension speakers to the phonograph to avoid poor sound. Three requirements must be met:

1. The speakers must be wired so that the power consumed by the phonograph speakers and the extension speakers, including Wallettes, does not exceed the power rating of the amplifier.

2. The extension speakers should produce the desired sound level relative to the sound level of the phonograph speaker system. This is done by adjusting the amount of power consumed by each speaker until the desired balance is reached.

3. All speakers must be connected with the correct polarity. This means that all speaker cones in the system will move in the same direction at the same time.

Several charts have been included to assist in the connection of extension speakers. Figure 7 is a chart of the entire sound system. NOTE that the left channel output of the amplifier is reversed in phase (or instantaneous polarity) with respect to the right channel. This phase reversal makes monaural extension of sound possible in a stereo system. This phase reversal is accomplished in the preamplifier. Because of this phase reversal, speaker connections to the left channel must be reversed when compared with connections to the right channel except for the 70 volt speaker connections which are in phase. (The left channel is reversed within the output transformer assembly).

Power to the phono speakers must be reduced as extension speakers are added so that the total speaker power does not exceed the power rating of the amplifier. Table 3 gives connections for different phono speaker power levels and corresponding power available for extension speakers. The phono speakers can be considered as two 8 ohm speakers-one for each channel.

Table 5 and 6 are extension speaker connection charts for different power levels. Power levels are indicated for low impedance speakers as well as for 70 volt speakers. For 70 volt speakers, the power level is set at each speaker. Low impedance speakers, i.e. 8 ohm speakers, can be used where the connecting cable is under 100 feet. The loss in 100 feet of zipcord feeding one 8 ohm speaker is 15%. For two 8 ohm speakers it would be 30%. 4 ohm speakers should not be parallel on the same speaker line because of high line losses. Instead, a separate line from each 4 ohm speaker to the phonograph should be used. To avoid prohibitive cable losses on long speaker lines, 70 volt speakers must be used. These contain built in transformers that permit setting of the desired power level.

Do not connect a low impedance speaker for more power than it can handle. For example, a 5 watt, 8 ohm speaker should not be connected to the 12.5 watt tap.

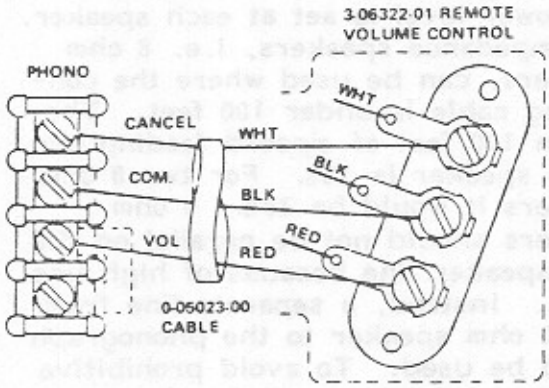
In any speaker installation, the total power of the speaker load MUST NOT EXCEED the power rating of the amplifier. In the system in Figure 4, the power of the speakers as connected is: phono, 28 watts; 8 ohm speakers, 24 watts; 70 volt speakers, 72 watts; wallette, 2.8 watts for a total of 126.8 watts. This is slightly over the 125 watt rating of the amplifier which is permissible as long as the speaker rating does not exceed the amplifier rating by more than 5%. In any installation, it is advantageous to adjust the speaker load to approximate the rating of the amplifier so that optimum bass boost will be attained at low volume.

NOTE

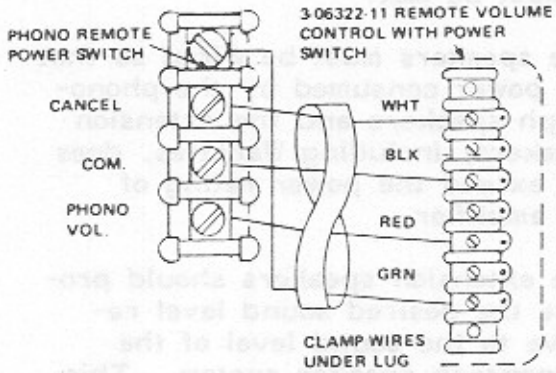
Wallette speakers are treated as 45 ohm extension speakers in Table 5. For convenience, the left channel speaker in the wallbox has been reversed in polarity.

REMOTE VOLUME AND CANCEL CONTROL

Connect the 3-06322-01 remote volume and cancel control to the Phonograph as shown below.



REMOTE VOLUME AND CANCEL CONTROL WITH POWER SWITCH



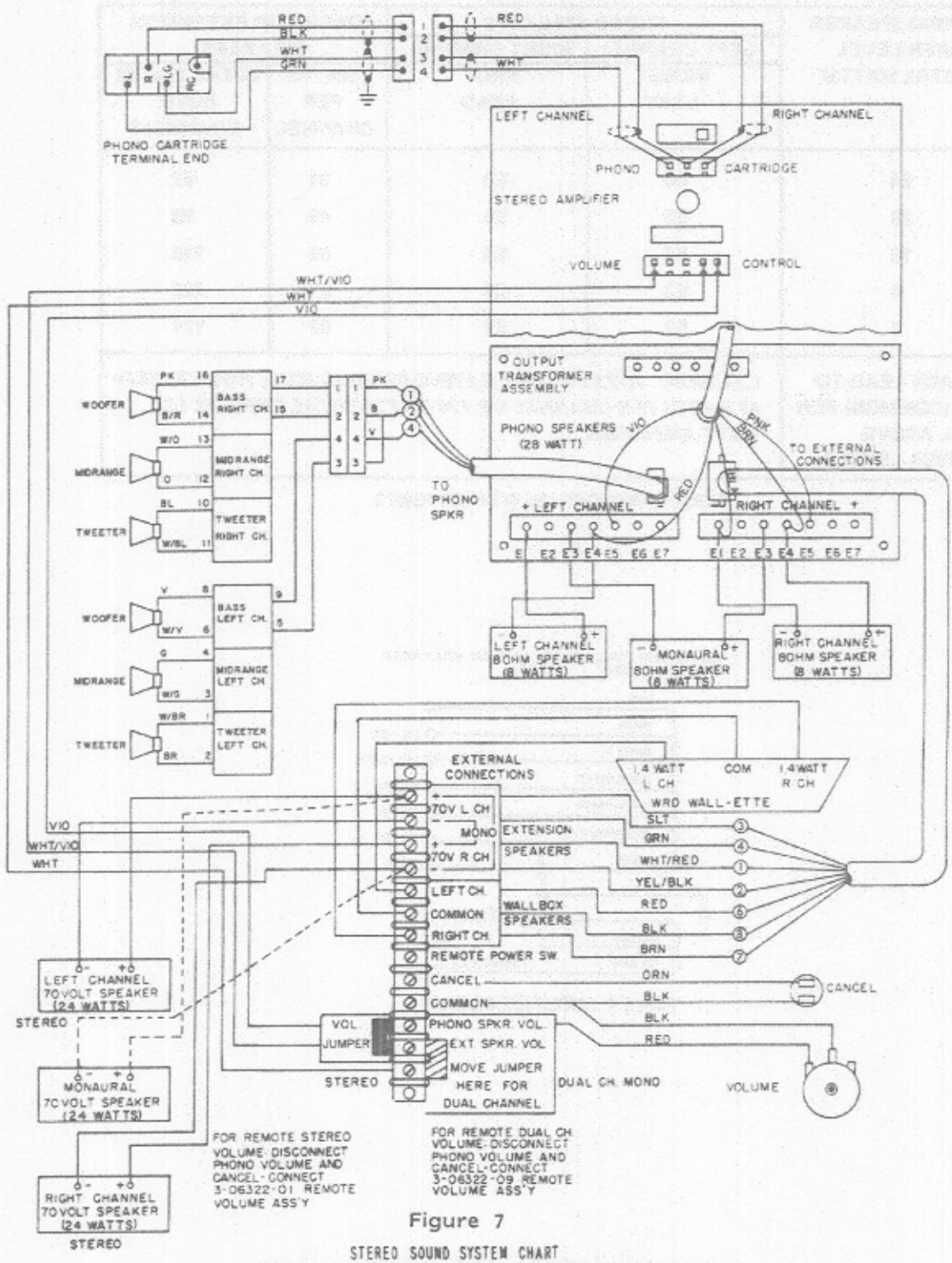


Figure 7

STEREO SOUND SYSTEM CHART
FOR STEREO PHONOGRAPH, EXTENSION SPEAKERS & WALLETTE SPEAKERS

PHONOGRAPH SPEAKER POWER CONNECTION CHART

PHONO SPEAKER POWER LEVEL (TOTAL WATTS)	PHONO SPEAKERS		POWER FOR EXTENSION SPEAKERS	
	LEFT CHANNEL	RIGHT CHANNEL		
	VIOLET LEAD	PINK LEAD	WATTS PER CHANNEL	TOTAL WATTS BOTH CHANNELS
64	E6	E6	31	62
28	E5	E5	49	98
16	E4	E4	55	110
4	E3	E3	61	122
1	E2	E2	62	124
BLACK LEAD TO E1 (COMMON) FOR ALL ABOVE POWER LEVELS	*CAUTION: TOTAL POWER RATING OF LOAD MUST NOT EXCEED 65 WATTS PER CHANNEL OR 130 WATTS TOTAL FOR THE 125 WATT AMPLIFIER.*			

TABLE 3 PHONOGRAPH SPEAKER POWER

AMPLIFIER FULL POWER OUTPUT VOLTAGES (PER CHANNEL)

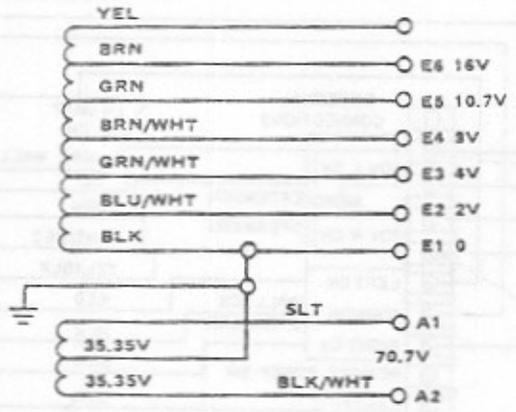


TABLE 4 AMPLIFIER OUTPUT

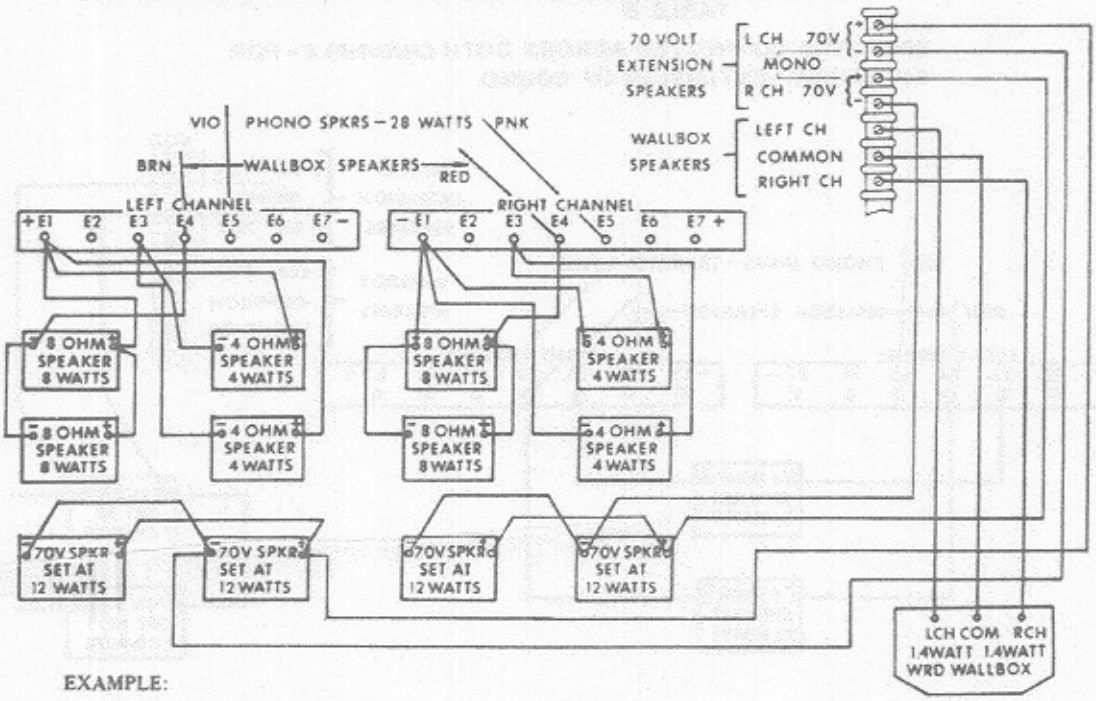
STEREO

TABLE 5

EXTENSION SPEAKER CONNECTIONS

OUTPUT TERMINALS	WATTS PER SPEAKER			
	8 OHM SPEAKERS	4 OHM SPEAKERS	45 OHM WALLBOX	70.7V CONSTANT VOLTAGE SPEAKERS
E1-E2	0.5	1		
E4-E5	0.9	1.75		
E1-E3	2	4	0.35	
E2-E4	4.5	9		
E1-E4	8	16	1.4(NORM)	
E1-E5	14	28	5	
E2-E6	24			
A1-A2				DETERMINED BY POWER SETTING AT EXTENSION SPKR
CAUTION: TOTAL POWER RATING OF LOAD MUST NOT EXCEED 65 WATTS PER CHANNEL OR 130 WATTS TOTAL FOR 125W AMPLIFIER.				

SPEAKERS CONNECTED TO EITHER CHANNEL USED IN PAIRS FOR STEREO EXTENSION OF SOUND.



EXAMPLE:

NOTE:

1. Left channel has reversed polarity for low impedance speakers. See page 17.
2. Each 4 OHM speaker is connected directly to terminal strip. See page 17.
3. Add Wattages:

Left Channel:	8 + 8 + 4 + 4 + 12 + 12 + 1.4	=	49.4 Watts
Right Channel:	8 + 8 + 4 + 4 + 12 + 12 + 1.4	=	49.4 Watts
Phonograph (E5-E5)		=	28 Watts
	TOTAL	=	126.8 Watts

4. For speaker impedances not listed in Table 5, use Table 4 and use the impedance method (Watts = E^2/R).

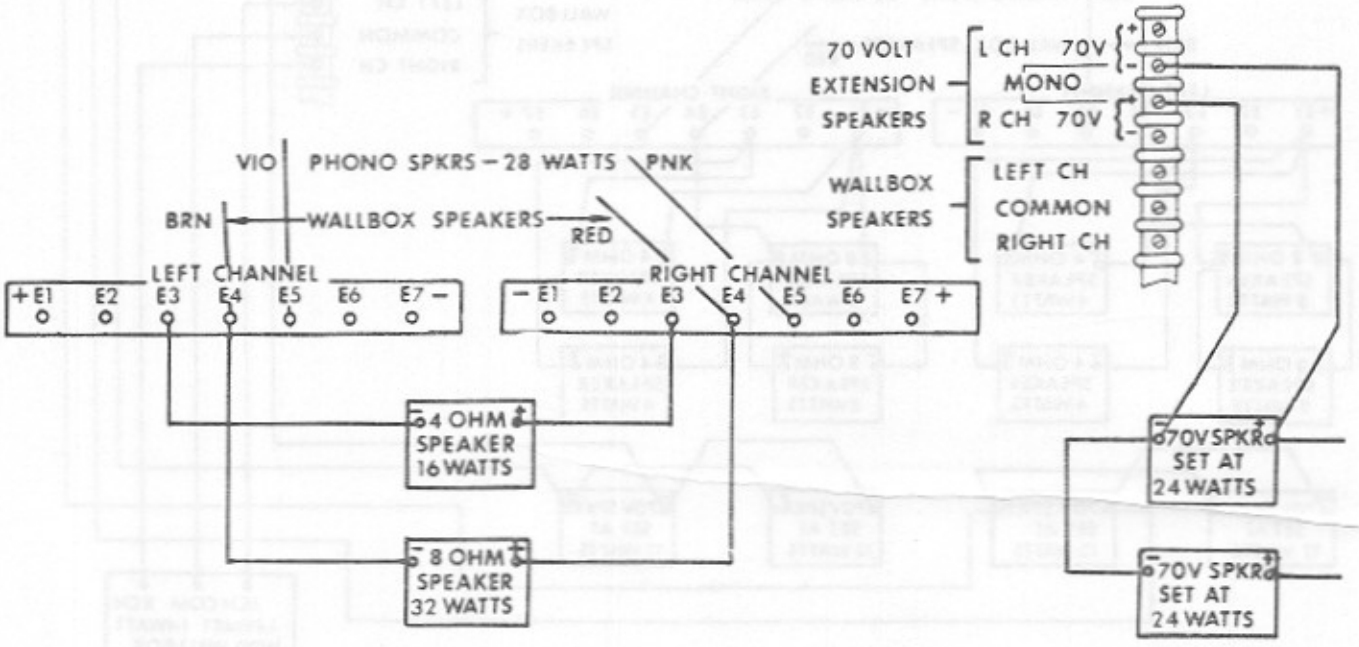
MONAURAL

EXTENSION SPEAKER CONNECTIONS

OUTPUT TERMINALS	WATTS PER SPEAKER			WATTS PER CHANNEL		
	8 OHM SPEAKERS	4 OHM SPEAKERS	70.7 VOLT CONSTANT VOLTAGE SPEAKERS	8 OHM SPEAKERS	4 OHM SPEAKERS	70.7 VOLT CONSTANT VOLTAGE SPEAKERS
E2-E2	2	4		1	2	
E3-E3	8	16		4	8	
E4-E4	32			16		
MONO 70 VOLTS			POWER SETTING AT EXTENSION SPEAKER			1/2 OF POWER SETTING AT EXTENSION SPEAKER

TABLE 6

SPEAKERS CONNECTED ACROSS BOTH CHANNELS - FOR MONAURAL EXTENSION OF SOUND.



EXAMPLE:

NOTES:

1. Add Wattages:
   Extension Speakers: 16 + 32 + 24 + 24 = 96 Watts
   Phonograph (E5 - E5) 28 Watts
   TOTAL = 124 Watts

2. For speaker impedances not listed in Table 6, use Table 4 and use the impedance method (Watts = E^2/R).

SECTION 3 - ROUTINE SERVICE

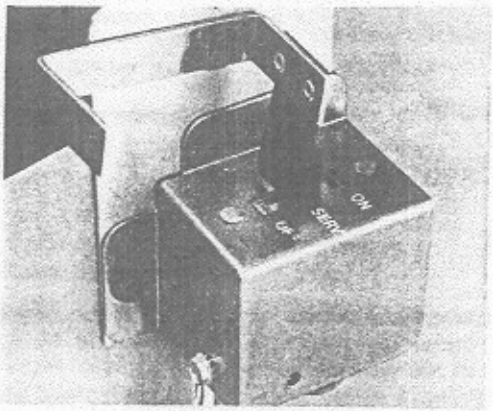
INTRODUCTION

This section contains instructions to enable the route man to perform routine service tasks such as changing records, making collections and cleaning cabinet.

CHANGING RECORDS

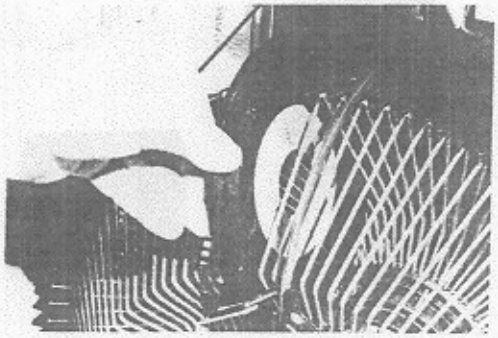
Load records as follows:

1. Unlock and open the door.
2. Move Switch to Service (Located on Control Console on upper left side of cabinet.)



3. Use scan button to position magazine slot to the left or right of the transfer arm.
4. Install record in magazine as shown.
5. Move Service Switch to ON before attempting to make selection.

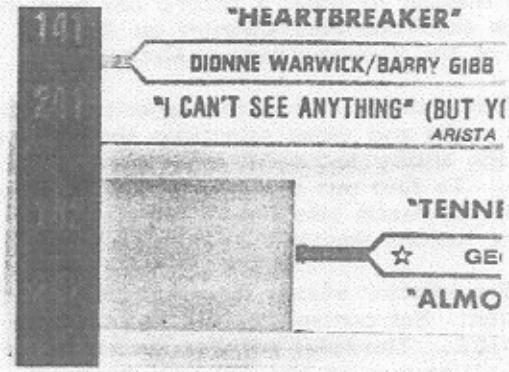
NOTE
When changing records - make sure that magazine is balanced.



CHANGING TITLE STRIPS

Each time new records are installed, corresponding title strips must also be installed. Install the title strips as follows:

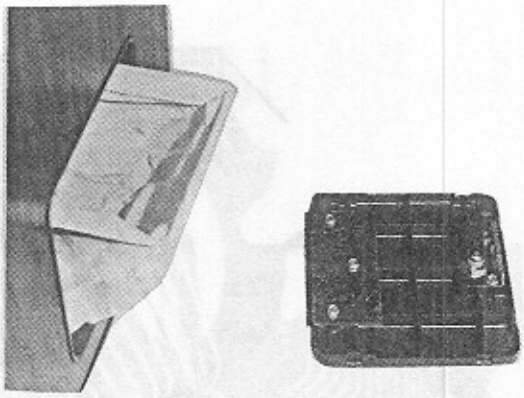
1. Open door and swing title panel down as shown below.
2. Install new title strips by sliding the strips into the open right ends of the racks as shown.



3. Check to make sure that each title strip corresponds to the correct record.

REMOVING CASH BAG

1. Unlock cash bag door and pull door away from cabinet.



2. Slide cash bag straight out on its runners.

READING AND RESETTING MEMOREC

The Memorec keeps a tally of the number of times each record is selected and the total number of selections made. It registers the number of selections made by the customer but not the total number of times the record has been played (i.e. the times AutoPlay chose that selection). To find the total number of times a record has been played check the Total Play Counter on the left side of the Record Changer Mechanism.

1. Since the R-89 has the capacity to play both audio and video selections the Memorec has the ability to record information about both. To find out the information recorded about the Audio selections, set the switch to the Record Position.

2. Set selector switch to LEAST POPULAR position. Set control console switch to SERVICE. The least popular record selection will appear on the left two digits of the display window labeled RECORD NUMBER. The number of times it was selected will appear on the right two digits labeled TIMES SELECTED.

3. Push and release the Memorec Advance Switch to read the next least popular record. If there are two records with the same number of selections, the lower record number will displayed first; then the higher number.

4. To read the most popular selections, set selector switch to MOST POPULAR position. Push and release the push-button to read the most popular records.

5. The readout of least popular or most popular selections can be reset to the beginning at any time by moving the Most/Least switch to the opposite position, and then back to its original position.

6. Punch in the number of any song using the Selector Keyboard. The number you punch in will appear on the display. The number of times this selection has been chosen will appear on the display, up to 255.

7. Using the eraser end of a pencil or a similar tool, push the recessed Reset button to set the computer count back to zero.

CAUTION
THIS WILL ZERO THE COMPUTER SO MAKE SURE THAT YOU HAVE COMPLETED YOUR READINGS.

REPLACING LAMPS

To maintain the attractive appearance of the phonograph, replace burned-out lamps immediately.

To Remove Fluorescent Lamps:

1. Unlock and open door. Fluorescent lamps and starters are conveniently located.

2. Remove Fluorescent tube by rotating 1/4 turn, and swing lamp out.

CLEANING

To Clean Coinco Acceptors:

1. All plastic 3 coin acceptor

   Submerge in hot soapy water, shake off excess water and let dry. Needs no lubrication.

2. Plastic and metal 4 coin acceptor.

   Place in hot soapy water for about 10 minutes. Rinse in hot water and dry with air or lint free cloth. Clean stubborn areas with brush. Transfer cradle pins and bushings may be lubricated with silicone.

   WARNING
   NEVER USE GREASE OR OIL!

CABINET CLEANING

ACTION REQUIRED	PROCEDURE
1. Clean Glass	1. a. Clean all glass with a paper towel and a non-abrasive glass cleaner such as Windex. b. Dry with a clean, lint-free cloth.
2. Clean painted wood and metal surfaces	2. a. Clean all painted wood and metal surfaces with mild soap and water. DO NOT USE SOLVENTS. b. Apply a good quality auto or furniture wax to protect the finish.
3. Clean chrome trim	3. a. Use a damp or dry cloth to remove any dust or dirt. b. Use mild soap and water to remove stubborn deposits. Do not use strong detergents or abrasives of any kind.
4. Clean plastic trim	4. a. Wipe all plastic surfaces with a damp or dry cloth only. DO NOT USE SOLVENTS.
5. Clean electrical components	5. a. Clean all electrical components with a clean, dry, lint-free cloth or a soft bristled brush only.

INSTRUCTION FOR CLEANING THE GLASS

1. Open the Cabinet.

2. Remove the Title Rack by pushing outward on the clips on each side that hold it.

3. Remove the Title Rack Block-Out panel by pushing outward on the clips on each side that hold it.

4. Clean the glass with a soft cloth that is clean and lint free. Liquid or spray glass cleaner may be used.

5. Replace the Title Rack and the Title Rack Block-Out panel.

To Remove The Glass

1. Turn the power to the Phonograph off.
2. Open the cabinet door.
3. Remove the Title Rack and the Title Rack Block-Out panel.
4. With an associate supporting the door, disconnect the left-hand spring from the door. Remove the three screws and bracket which retain the Title Rack Housing and glass on the left side.
5. Reconnect the spring to the door.
6. Remove the screws and 2 brackets from the right hand side of the Title Rack Housing which retain the Title Rack Housing, glass and chrome-plated selector housing.
7. Remove the left and right hand Title Rack catches.
8. Remove the 18 inch fluorescent lamp.
9. Loosen by approximately 2 turns, but do not remove, the 7 screws (5 5/8 inches apart) on the surface of the bracket on which the 18 inch lamp was mounted. Also loosen the 7 screws (in line with the 7 screws above) which are located toward the door hinge approximately 1 1/4 inch from other screws.
10. Support the glass and the Title Rack Housing and remove the 6 screws and bracket on the front end of the door.
11. Carefully slide the glass out from under the Title Rack Housing and replace it with the new glass.
12. Install the 6 screws and bracket removed in step 10.
13. Tighten the 7 screws which were loosened in step 12.
14. Replace the 18 inch lamp.
15. Install the 2 Title Rack catches.
16. Install the 2 brackets removed in step 6. Make sure the cable clamp is mounted under the screw which is closest to the door hinge.
17. With the aid of an assistant remove the left hand spring from the door as in step 4.
18. Install the bracket and 3 screws removed in step 4.
19. Attach the spring.
20. Install Title Rack and Title Rack Block-Out panel.

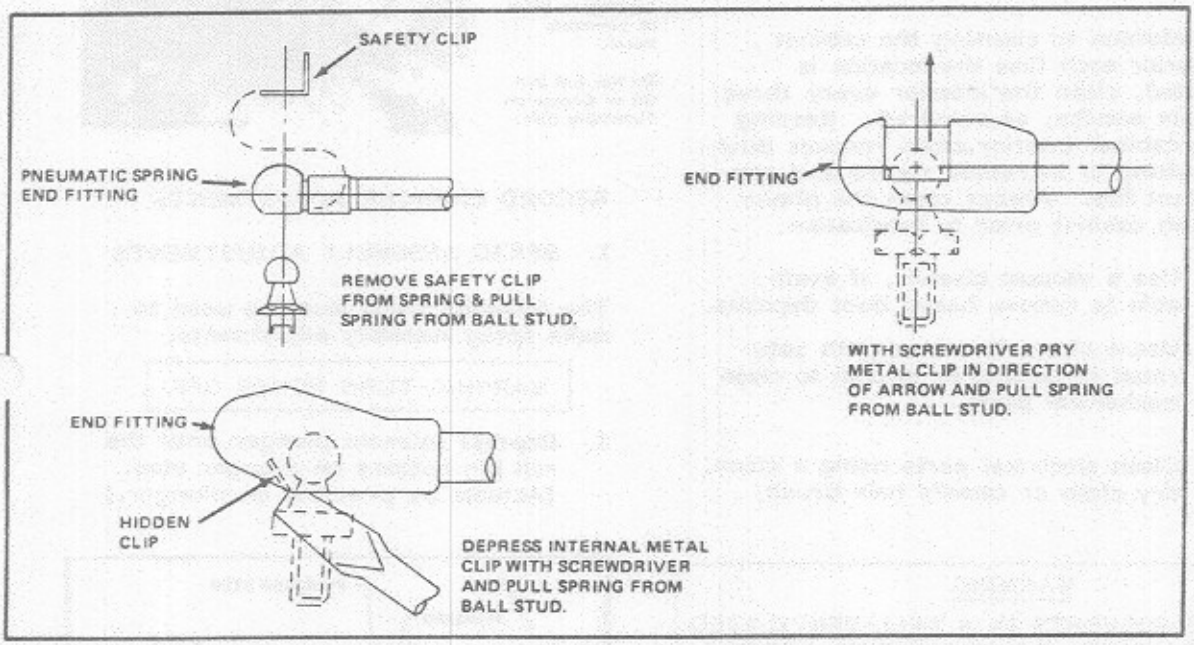
INSTRUCTIONS FOR REMOVING TOP DOOR PNEUMATIC SPRING

Proceed as follows:

1. Open Top Door.

2. Have an assistant hold door in open position.

3. Find picture of appropriate style spring end fitting below and follow instructions:



SECTION 4-ROUTINE MAINTENANCE & ADJUSTMENTS

INTRODUCTION

This section contains preventive maintenance procedures, including cleaning and lubrication instructions.

PREVENTIVE MAINTENANCE

CLEANING

Cleaning and lubrication procedures should be performed at regular intervals specified, while adjustments should be made only when necessary.

In addition to cleaning the cabinet exterior each time the location is visited, clean the interior every three to six months, as required. Keeping the cabinet interior clean reduces dust, resulting in increased record and component life. Always clean the phonograph cabinet prior to lubrication.

1. Use a vacuum cleaner, if available to remove heavy dust deposits.
2. Use a clean, lint free cloth saturated in denatured alcohol to clean mechanical parts.
3. Clean electrical parts using a clean, dry cloth or camel's hair brush.

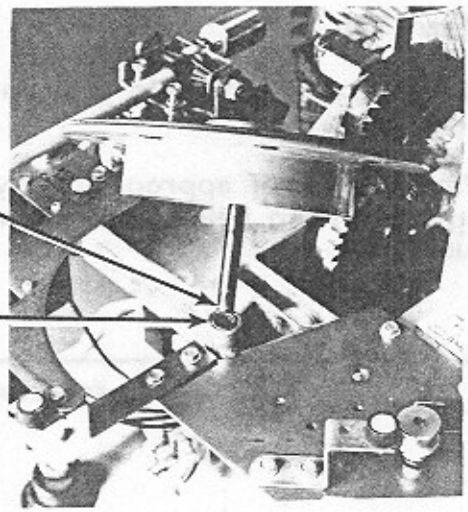
WARNING

USE SOLVENTS IN A WELL-VENTILATED AREA ONLY: DO NOT USE SOLVENTS ON ANY TYPE OF PLASTIC PARTS.

FIVE YEAR LUBRICATION

Your phonograph requires lubrication only after five years. To maintain smooth, trouble-free operation, lubricate the record changer mechanism as shown.

FIGURE 8.



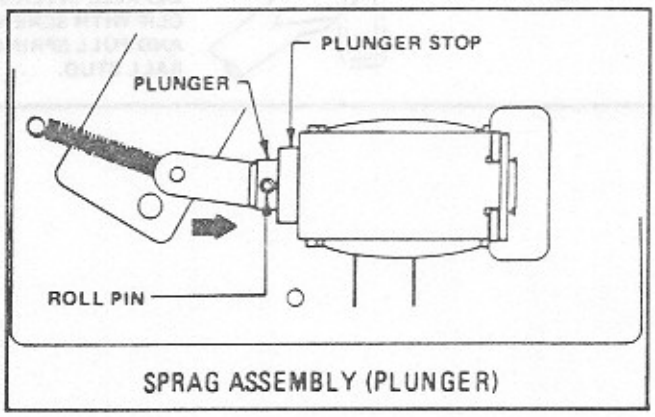
RECORD CHANGER ADJUSTMENTS

I. SPRAG ASSEMBLY ADJUSTMENTS

The following steps must be used to make sprag assembly adjustments.

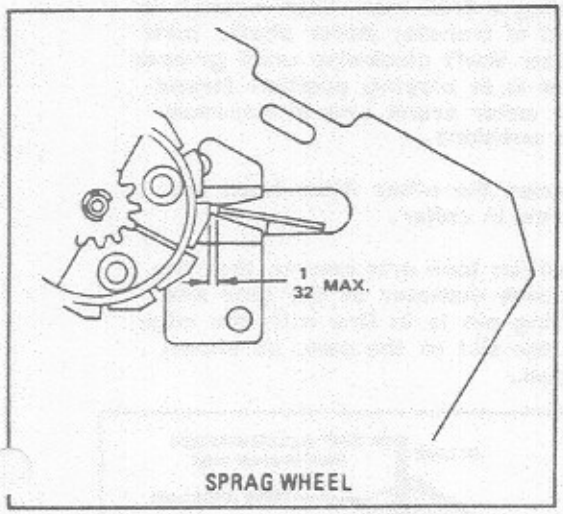
WARNING-TURN POWER OFF

1. Depress solenoid plunger until the roll pin bottoms on plunger stop. (Actuate by pressing on plunger.)



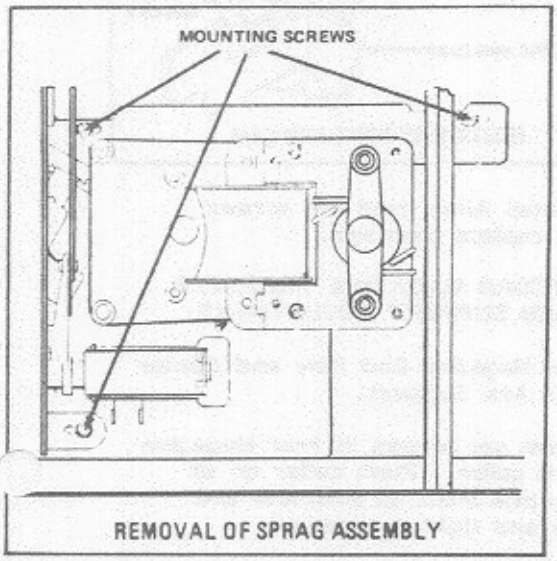
SPRAG ASSEMBLY (PLUNGER)

2. Rotate the record magazine and note the clearance between the sprag lever and the sprag wheel located on the backside of the sprag plate assembly. The sprag lever must not touch the sprag wheel and the clearance must not be greater than 1/32 inch. It will be necessary to remove the sprag assembly if corrections are required.



SPRAG WHEEL

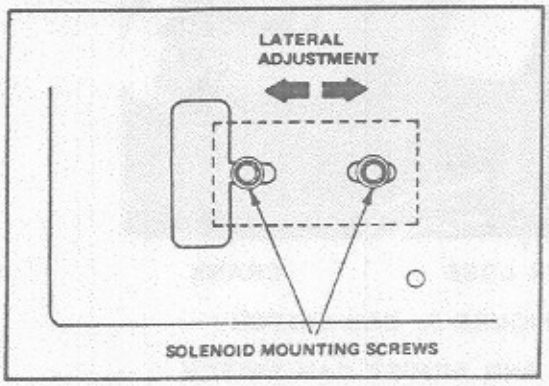
3. To remove sprag assembly, disconnect wires to the solenoid and motor, remove the three mounting screws and slide the assembly out of the right side of the mechanism.



REMOVAL OF SPRAG ASSEMBLY

REMOVAL OF SPRAG ASSEMBLY

4. Loosen the solenoid mounting screws and with the roll pin against the plunger stop, position the solenoid so that there is a .015 to .025 inch gap between the sprag lever and the highest point on the sprag wheel.



5. Tighten solenoid mounting screws.

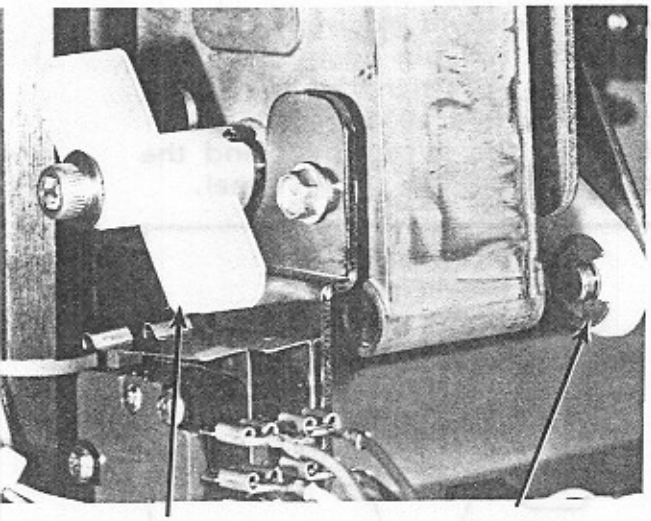
6. Replace sprag assembly in mechanism with (3) mounting screws and replace black and white-blue wires to the solenoid and the yellow and yellow-black wires to the magazine motor.

Instructions for aligning the record magazine are on page 31. To readjust the optical switch refer to page 32.

II. CAM SWITCH ADJUSTMENTS

If it is necessary to remove the switch cam from the transfer motor, the following procedure must be followed to ensure that the cam is properly located and not 180° out of position.

Locate the inner lobe so that it is pointing in the same direction as the crank. Turn cam so that neither cam lobe is on a switch before removing or installing cam. (See Figure 8).



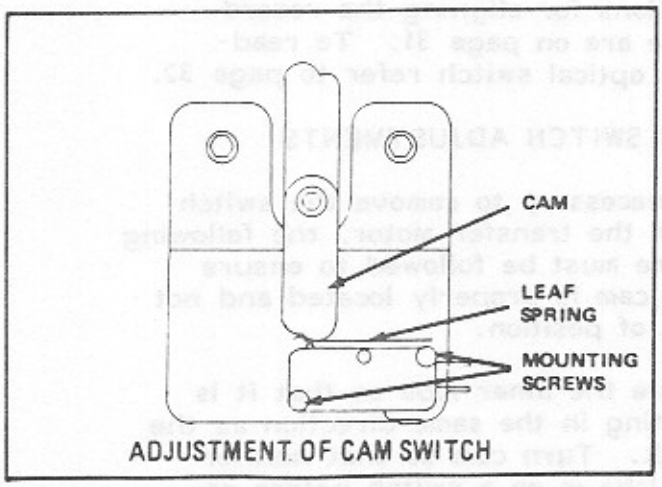
INNER LOBE CRANK

FIGURE 9. CAM SWITCH

CHECK AND ADJUST CAM SWITCH OPERATION

1. Check that the plastic cam leaf spring and switch plunger just touch as shown below.

2. To adjust switches, loosen mounting screw under plunger end and move switch housing as required.



ADJUSTMENT OF CAM SWITCH

3. Tighten mounting screw and re-check operation.

III. TONE ARM CAM ADJUSTMENTS

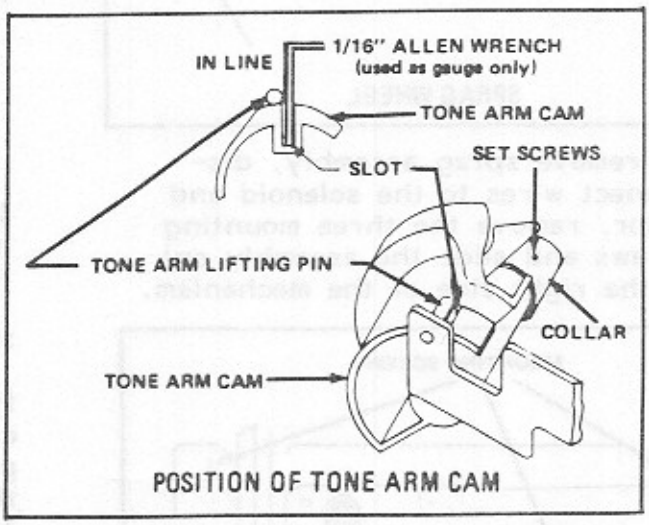
1. Lift tone arm and turn it clockwise so the pins are disengaged from the cam.

2. With gripper bow in scan position over magazine (transfer motor crank in maximum down position) loosen one Allen head set screw in collar.

3. Using a 5/32 inch Allen wrench in end of transfer motor shaft, turn motor shaft clockwise until gripper bow is in playing position (transfer motor crank arm in maximum up position).

4. Loosen the other Allen head set screw in collar.

5. Position tone arm cam so that the outside diameter of the tone arm lifting pin is in line with the edge of the slot in the cam, as shown below.



POSITION OF TONE ARM CAM

6. Tighten Allen head set screws and replace tone arm.

IV. RECORD MAGAZINE TRANSFER ARM SUPPORT ADJUSTMENT

Eliminate Magazine End Play and Center Transfer Arm Support.

1. Loosen set screws in rear Magazine Shaft collar. Push collar on to Magazine Shaft to eliminate end play and tighten screws.

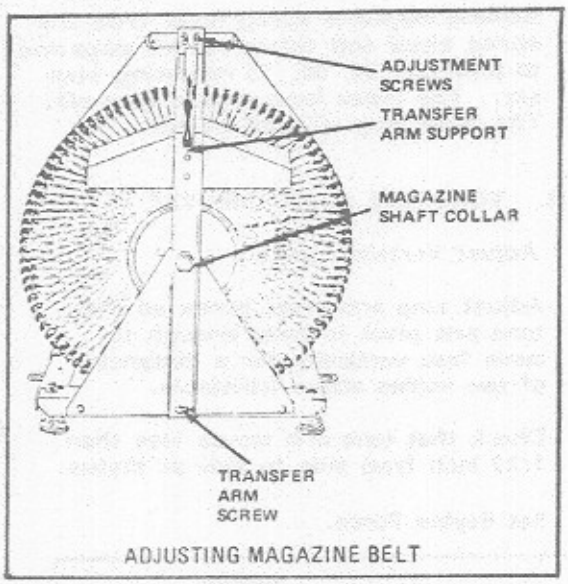
2. Loosen screw that holds transfer arm support to mechanism frame.

3. Adjust transfer arm support so transfer arm is centered in opening.

4. Tighten mechanism frame to transfer arm support screw.

V. MAGAZINE BELT ADJUSTMENT

1. Loosen two adjustment screws shown.



ADJUSTING MAGAZINE BELT

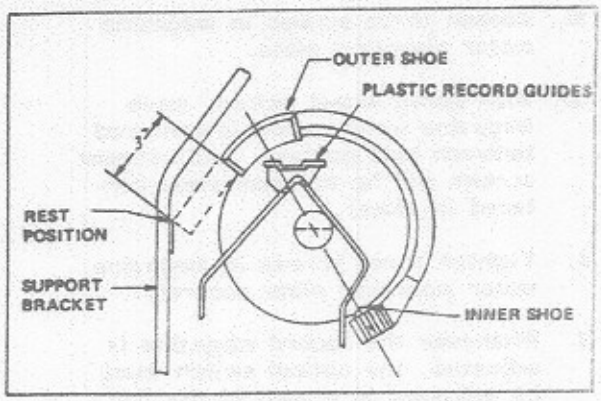
2. Raise bracket to tighten belt around magazine.

3. Check that belt rides evenly in center of belt guides, all the way around the magazine.

4. Tighten 2 adjustment screws.

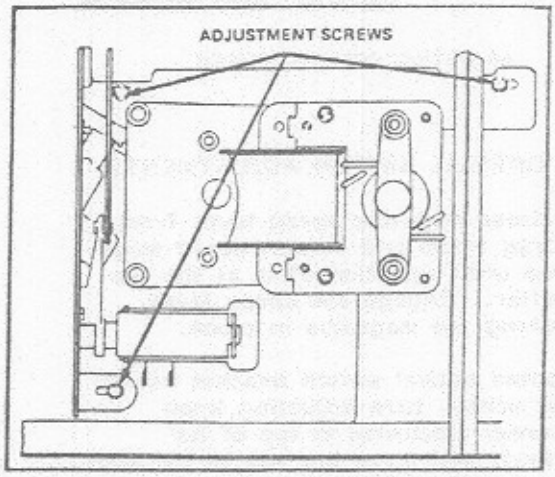
VI. ALIGNING MAGAZINE STOPPING POSITION WITH TRANSFER ARM

1. For this adjustment use a record in good condition without warp or dish. Place this record in any postion in the record magazine and rotate the magazine until this record is in the top position. Allow magazine sprag lever to engage and lock magazine in this positon.



2. Using a 5/32 inch Allen wrench in end of transfer motor shaft, turn motor shaft clockwise until gripper bow lifts record out of magazine, and outer shoe is approximately 3 inches from its rest position on the back support.

   In this position a center line from the inner shoe thru the center of the outer shoe will pass thru the back of the plastic record guide on the magazine.



3. With the record and gripper bow in this lifted position rock the magazine to the left and right and make sure the plastic magazine record guides do not come in contact with the record on either side.

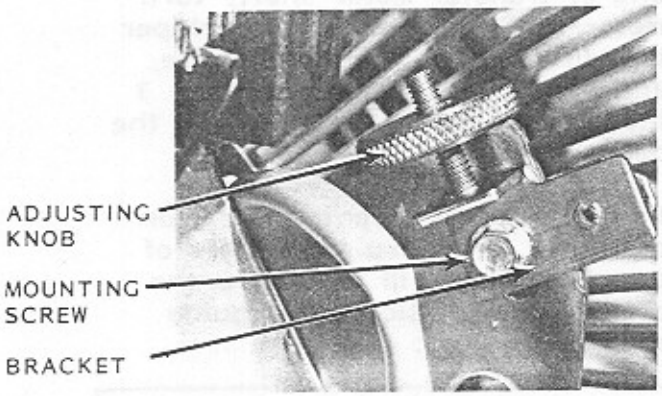
   If the guide makes contact with the record on one side or magazine space does not center with the record, the following adjustment to the magazine will be necessary.

4. Loosen three screws in magazine motor mounting plate.

5. With sprag wheel locked, move magazine until record is centered between belt guides. (Adjustment screws will be approximately centered in slots).

6. Tighten three screws in magazine motor mounting plate securely.

7. Whenever the record magazine is adjusted, the optical switch must be adjusted as shown in the following adjustment procedure.



ADJUSTING OPTICAL SWITCH

VII. OPTICAL SWITCH ADJUSTMENTS

1. Release magazine sprag lever from sprag wheel and rotate record magazine until selection 99 is at the top center. Engage the sprag lever locking the magazine in place.

2. Loosen optical switch bracket mounting screw, turn adjusting knob counter clockwise to top of its' travel, and move bracket to the most downward position. Snug optical switch bracket mounting screw (do not tighten).

3. Rotate record magazine counterclockwise to remove gear backlash, hold in this position.

4. Turn adjusting knob clockwise, moving the bracket upward and watch both the index and home lamps on the mechanism control unit.

5. When both lamps light, continue to move the bracket past this position until the index lamp JUST goes out. The home lamp will stay on. Tighten the mounting screw.

6. With the sprag lever engaged rotate the record magazine clockwise and counterclockwise by hand taking up gear backlash in both directions. The index lamp should stay off, and the home lamp should stay on.

7. Release magazine sprag lever from the sprag wheel and rotate record magazine to positions 25, 50, 75 repeating step six. The index lamp should stay off. The home lamp will not be on.

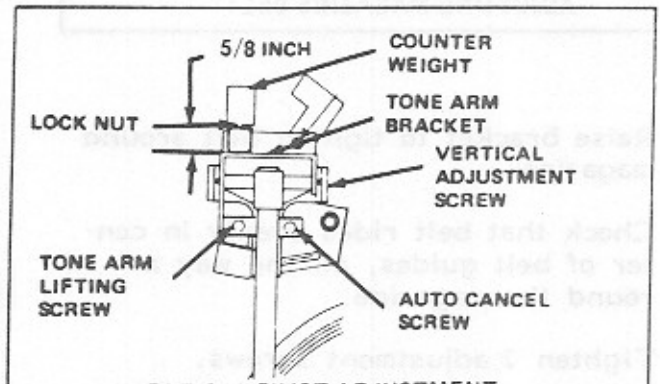
VIII. TONE ARM ADJUSTMENTS

1. Adjust Vertical Pivot

a. Adjust tone arm pivot screw so that tone arm pivot is loose enough to move free vertically for a distance of two inches above turntable.

b. Check that tone arm moves less than 1/32 inch from side to side at stylus.

2. Set Stylus Force.



VERTICAL PIVOT ADJUSTMENT

a. The distance between the counter weight and the tone arm bracket should be 5/8 inch for 3-1/2 grams stylus force.

b. If distance is not correct loosen lock nut, adjust counter weight and tighten lock nut.

3. Set Stylus Clearance

Using a 5/32 inch Allen wrench in the end of the transfer motor shaft, turn motor shaft clockwise until gripper bow has placed a record on the turntable. Push down on the tone arm lifting pin (See Figure 9) and continue to turn motor shaft to swing tone arm into the set down position. You will be able to feel the fast rise ramp of the cam contact the tone arm pin. At this point, release the pressure on the lifting pin and adjust the tone arm lifting screw so that the stylus just touches the record.

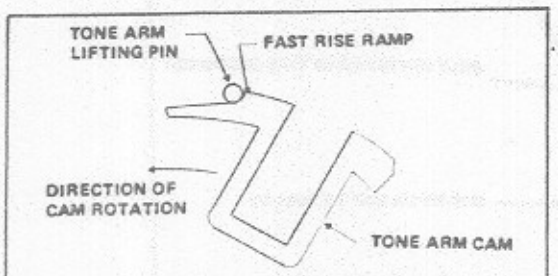
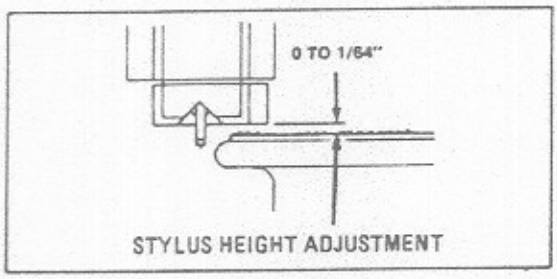


FIGURE 9. SETTING CLEARANCE FOR STYLUS

4. Set Stylus Height.

a. Operate transfer assembly to position tone arm over turntable rim.

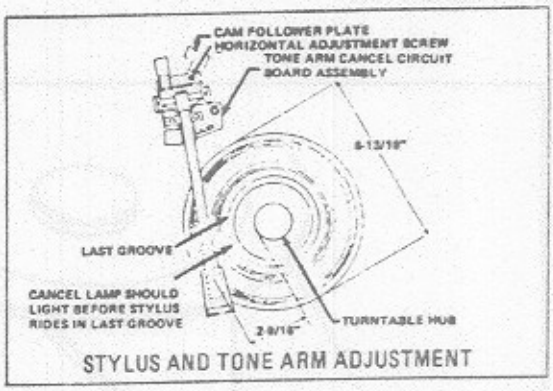


STYLUS HEIGHT ADJUSTMENT

b. Turn auto cancel screw until stylus holder is flush to 1/64 above turntable pad surface with tone arm in play position.

5. Set Stylus Setdown Position and Tone Arm Cutoff Switch.

a. Place undersize (6-25/32 inch diameter) record on turntable.



STYLUS AND TONE ARM ADJUSTMENT

b. Operate transfer assembly to bring tone arm to play position.

c. Loosen horizontal adjustment screw.

d. While holding cam follower plate against tone arm cam, move tone arm, as required, until stylus is 2-9/16 inches from the edge of the turntable hub.

e. Tighten horizontal adjustment screw and check adjustment.

6. Adjust Tone Arm Cutoff Switch.

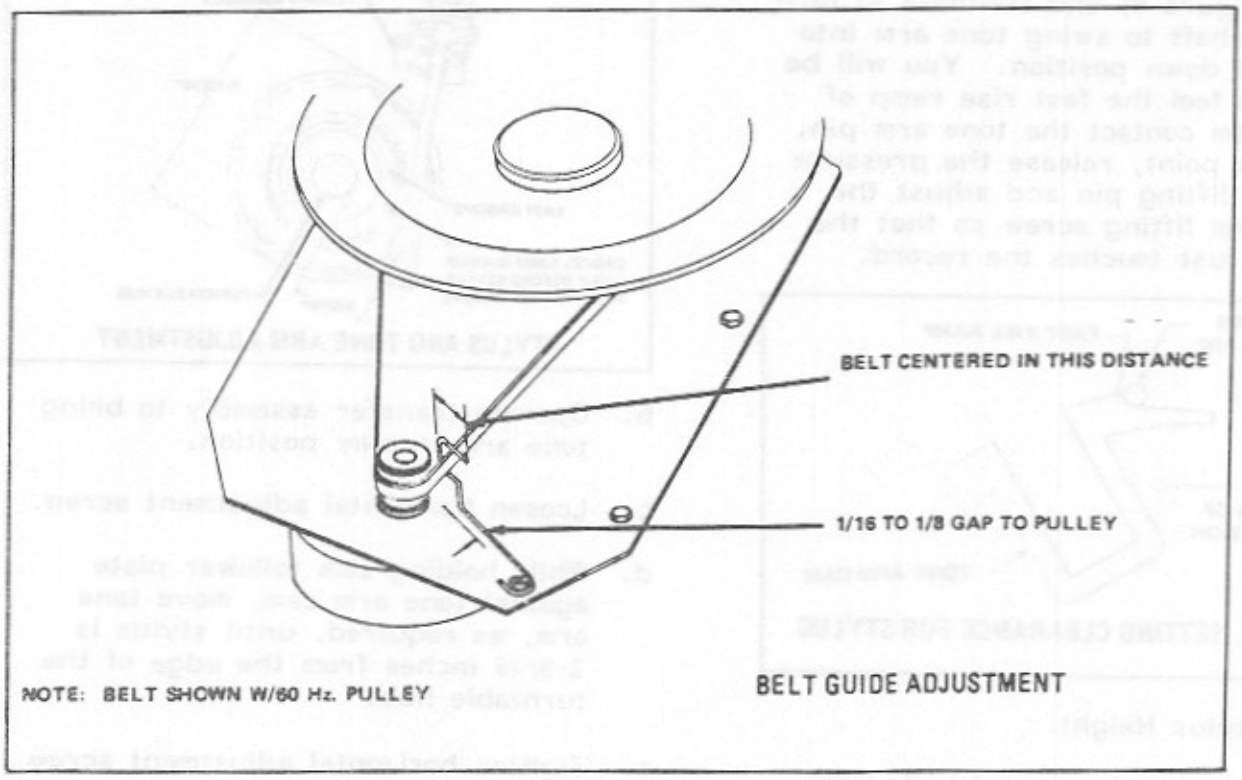
a. Disconnect microcomputer harness from mechanism control board (19 pin connector). (To prevent mechanism from cancelling.)

b. Loosen mounting screw on tone arm cancel circuit board assembly.

c. Position tone arm cancel board assembly, as required, until reed switch is closed, as indicated by cancel lamp in mechanism control unit. This should happen before stylus enters "closed" record groove.

IX. BELT GUIDE ADJUSTMENT

1. Loosen nut that fastens belt guide.
2. Adjust as shown below.
3. Tighten nut.



NOTE: BELT SHOWN W/60 Hz. PULLEY

BELT GUIDE ADJUSTMENT

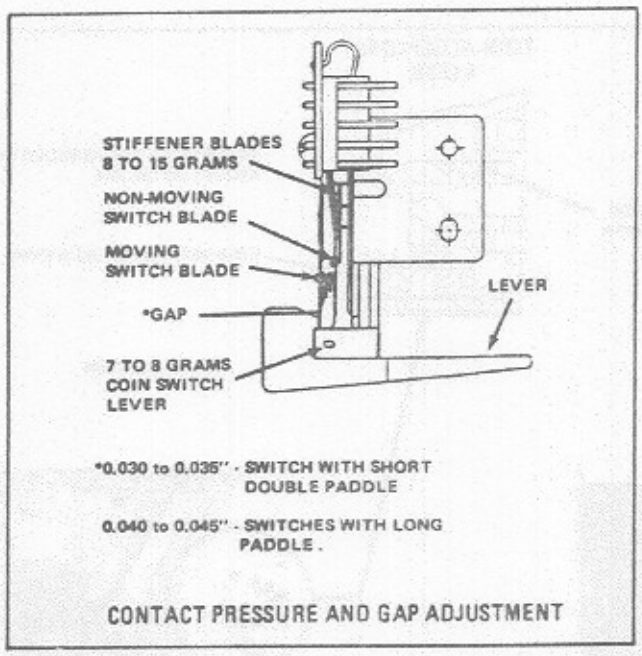
COIN SWITCH ADJUSTMENTS

OPERATION CHECK

1. Hold plastic coin switch lever in normal position and drop a coin through slug rejector.
2. When the coin comes to rest on the lever, release the lever slowly.
3. Check that the weight of the coin operates the lever enough to close the coin switch and allow the coin to fall free.
4. Repeat steps 1, 2 and 3 for other three levers.

CONTACT PRESSURE AND GAP

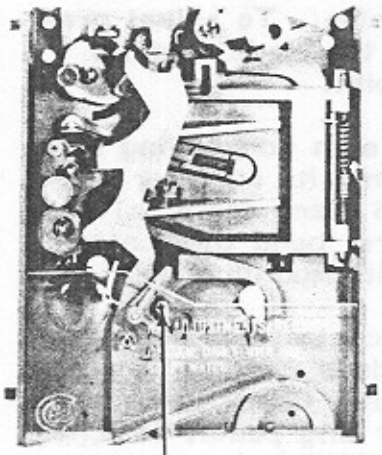
1. Check that each moving switch blade pushes against its lever with 7 to 8 grams force to hold lever against cushion. To adjust pressure, bend the blade near its mounting point.
2. Check that each non-moving blade pushes against its stiffener blade with 8 to 15 grams force. To adjust pressure, bend the contact blade near its mounting point.
3. Check that contact gap at switch with short double paddle is 0.030 to 0.035 inch. Check that contact gap for long paddle switches is 0.040 to 0.045 inch.



CONTACT PRESSURE AND GAP ADJUSTMENT

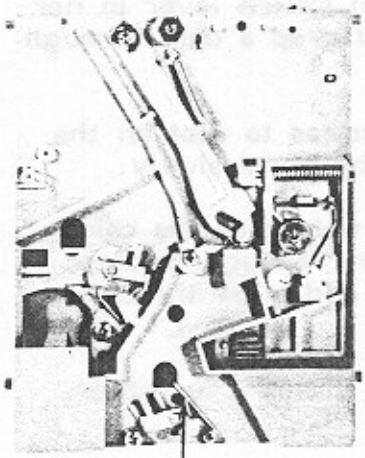
COIN ACCEPTORS
3 COIN

FRONT VIEW



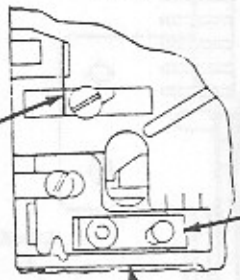
REMOVE COVER AND DRIVE
No. 6-32 SCREW INTO BOSS AS
SHOWN TO REJECT NICKELS

BACK VIEW



TO REJECT DIMES ADD COINCO
No. 903-915 BLOCK OUT WIRE

COIN ACCEPTORS
4 COIN

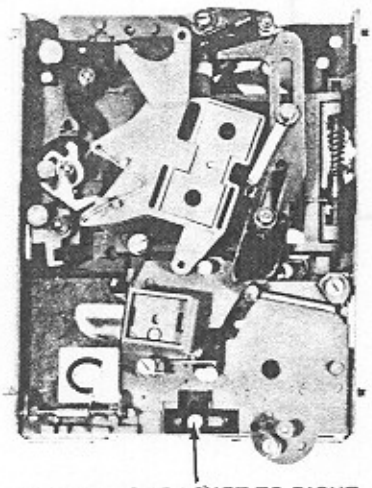


LINE UP EDGE OF
DEFLECTOR WITH
THIS LINE

TO IMPROVE $ SLUG REJECTION
ADJUST AS SHOWN

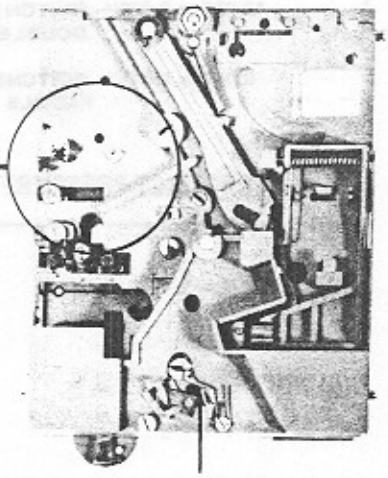
LINE SEPARATOR AS SHOWN

FRONT VIEW



MOVE THIS BRACKET TO RIGHT
TO REJECT NICKELS (OR JUST
FAR ENOUGH TO LEFT TO
ACCEPT NICKELS)

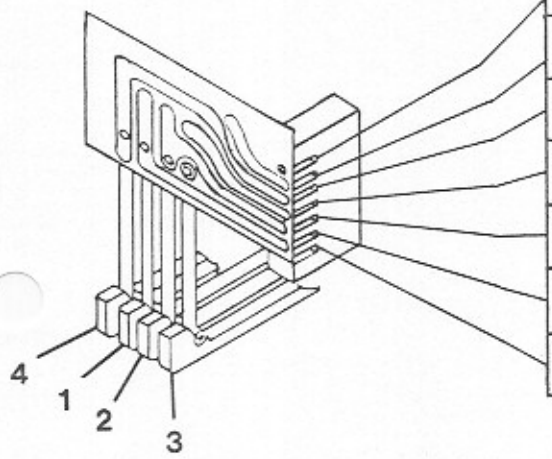
BACK VIEW



TO REJECT DIMES ADD COINCO
No. 903915 BLOCK OUT WIRE

COINCO

R-89



3 & 4 COIN WIRING	COIN SW. NUMBER	3 COIN VALUE	4 COIN VALUE
KEY		STANDARD	*
V-COMMON			
W/V	4		5¢
B/Y	3	25¢	50¢
B/O	2	10¢	10¢
S/Y	1	5¢	25¢
KEY			

*See page 14 for Programming 4 Coin Values locations # 20, 21, 22, 23.

COIN SWITCH WIRING NOTE

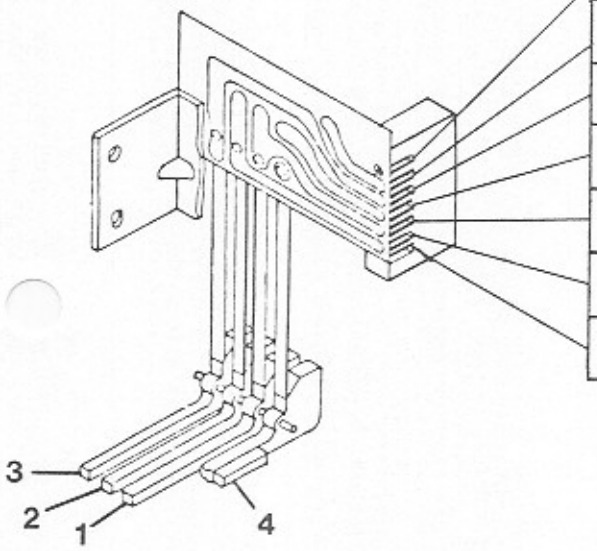
The coin acceptance of the Phonograph may be adjusted to fit the coins other than U.S. The Phonograph must be programmed through the Central Control Computer to accept the new coinage. To do this, determine what the basic coin will be. The credit levels that are set will be multiples of the coin that you choose. Program the new value at memory loaction 25 in the Central Control Computer. The factory default is set at 5 for use in the U.S.

MONEY COUNTER - NON U.S. CURRENCY

When using the Phonograph with currency other than that of the U.S., the Mechnical Money Counter on the left of the turntable will not be correct. The counter is a mechanical device that is designed to count nickels. If the Money Counter feature is desired, the mechanical counter must be changed to a counter that matches the multiplier chosen for your application. (Refer to the preceding paragraph.)

COINCO

R-89



3 & 4 COIN WIRING	COIN SW. NUMBER	3 COIN VALUE	4 COIN VALUE
KEY			
V-COMMON			
B/Y	3	25¢	50¢
W/V	4	50¢	5¢
S/Y	1	5¢	25¢
B/O	2	10¢	10¢
KEY			

COIN SWITCH WIRING NOTE

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SECTION 5 - TROUBLESHOOTING

INTRODUCTION

The phonograph incorporates several modules which plug in for rapid service. The block diagram (page 84) shows the modules and the wiring between them. It also shows wiring between modules and components (switches, motors, coils).

The most likely cause of phonograph problems are:

1. Continuous or intermittent opens in harness. The cause can be; the wiring, the terminal, or a bad wire to terminal crimp.

2. A defective module. A list is shown below.

It is important to troubleshoot logically so that effort is not wasted in removing and replacing the wrong parts. Most failures are caused by minor defects, such as loose connections or dirty contacts. Check the following before replacing any parts:

1. Check that all plugs are firmly seated.

2. Check that connector pins are not bent, broken or pushed through the back of the connector when mated.

3. Check that wires are not broken at connector pins.

CONTINUOUS PLAY

If continuous free play of the phonograph is desired the Central Control Computer may be programmed to play selections continuously. Enter the programming mode (Refer to the section on Programming and Credit Selection System for information on how to program the computer) and enter 255 in memory location 27 for continuous free play. When normal play is desired reset memory location 27 to 0.

PART NO.	DESCRIPTION	NOTES
4-07775-02	Central Control Computer (C.C.C.)	Module contains Circuit Bd. Ass'y - C.C.C. 6-09738-02
4-07221-02	Mechanism Control	Module contains Circuit Bd. Ass'y - Mech Control 6-08708-03
4-07706-01	Power Supply	

TROUBLESHOOTING CHARTS

One of the best ways to isolate a problem is to determine the exact state of the phonograph when the failure occurs. This means recording the condition of digital display, status LED's, gripper bow, detent pawl, magazine, cam switches, etc.

This information can help you identify the cause of intermittent or continuous failures.

The chart has three columns.
The trouble column lists different types of failures.
The symptom column shows the state of the phonograph when the failure occurs.
The last column shows the probable cause.

TROUBLE	SYMPTOM	PROBABLE CAUSE
Phonograph fails to operate when power is turned on	LEDs on power supply and fluorescent lights fail to light	1. Rear power switch off 2. Plug not in wall 3. Wall circuit is dead 4. 10 amp circuit breaker tripped 5. Wiring to rear power switch 6. Rear power switch
	LEDs on power supply fail to light but fluorescent lamps lit	1. 2 amp circuit breaker tripped 2. Power Supply 3. 28 VAC overload from mag., transfer, or T.T. motor
	"+8VDC" LED on power supply fails to light but lights when phono harness at power supply is unplugged	1. Central Control Computer 2. Mech Control 3. Wallbox interface 4. On/Service/Off switch 5. Wiring NOTE: To locate problem reconnect phono harness and unplug connectors in order below. If +8VDC LED lights replace last unit unplugged. 1. Wallbox Interface (J5) 2. Central Control Computer (J6) 3. Mech Control Harness (J205) 4. Mech Control (J206)
	"+28VDC" LED on Power Supply fails to light but lights when Phono Harness at Power Supply is unplugged	1. Mech Control Board 2. Detent Coil 3. Wiring

TROUBLE	SYMPTOM	PROBABLE CAUSE
Magazine does not rotate when a Selection is made	"Mag. Motor" and "Detent" LED's on, detent is actuated	1. Wiring to Magazine Motor 2. Magazine Motor 3. Mech Control Board
	"Mag. Motor" and "Detent" LED's ON, Detent not actuated	1. Wiring to Detent Coin 2. Detent Coil 3. Mech Control Board 4. Inner Cam Switch N.C. Shorted to Common
	"Mag. Motor" LED OFF or "Detent" LED ON	1. Wiring from Central Control Computer to Mech Control Board 2. Central Control Computer 3. Mech Control Board
Magazine Roates Continuously	"Mag Motor" LED OFF	1. Wiring to Magazine Motor 2. Mech Control Board
	"Mag. Motor" LED ON, and "Opt. Sw. Index" LED not flashing, and/or "Opt. Sw. Home" LED does not flash at record number 99.	1. Optical Switch 2. Wiring to Optical Switch 3. Mech Control Board
	"Mag. Motor" LED on and both optical Optical Sw. LED's Normal	1. Wiring from Central Control Computer to Mech Control Bd. 2. Central Control Computer 3. Mech Control Board
Magazine Stop at Wrong Record	Stops at Random Record Anywhere in Magazine	1. Faulty Optical Switch 2. Wiring to Optical Switch 3. Heavy Dirt Buildup in Optical Switch
	Stops One or Two Records Before Record Selected	1. Optical Switch Adjustment 2. Magazine Not full of Records (out of balance) 3. Broken Sprag Lever Guide
	Stops One or Two Records After Record Selected	1. Faulty Optical Switch 2. Optical Switch Adjustment 3. Broken Sprag Gear 4. Sprag Linkage Binding
	Stops One Half to One Record Position Off Before or After Record Selected	1. Broken Sprag Gear 2. Broken Sprag Guide 3. Sprag Linkage Binding or Needs Adjustment
Record does not Transfer	"Tran. Motor" LED is ON	1. Wiring to Transfer Motor 2. Mech Control Board 3. Transfer Motor
	"Tran. Motor" LED is OFF	1. Wiring from Central Control Computer to Mech Control Bd. 2. Central Control Computer 3. Mech Control Board
	"Tran. Motor" LED comes on and transfer starts but LED and Motor turn off when cam leaves inner cam Switch	1. Outer Cam Switch N.O. Shorted to Common 2. Central Control Computer 3. Mech Control Board

TROUBLE	SYMPTOM	PROBABLE CAUSE
Transfer Starts when Power is applied and runs continuously	"Tran. Motor" LED is OFF	1. Mech Control Board 2. Wiring to Motor
	"Tran Motor" LED is ON	1. Central Control Computer 2. Mech Control Board 3. Wiring from Central Control Computer to Mech Control 4. Open Circuit-Inner Cam N.O. Contact 5. Open Circuit-Inner Cam Sw. Common
Transfer starts and runs continuously after selection is located	"Tran. Motor" LED comes on when Motor starts and stays ON	1. Wiring to Outer Cam Switch 2. Outer Cam Switch 3. Central Control Computer 4. Wiring from Central Control Computer to Mech Control 5. Mech Control Board 6. Inner Cam Switch N.O. Contact Shorted to Common 7. Open Circuit-Outer Cam Switch Common
No Sound	Always Muted	1. Central Control Computer
No Mute During Scan	Motor Noise in Speakers	1. Central Control Computer
Turntable motor does not run	"T.T. Motor" LED is ON	1. Wiring to T.T. Motor 2. T.T. Motor 3. Mech Control
	"T.T. Motor LED is OFF	1. Wiring from Central Control Computer to Mech Control Bd. 2. Central Control Computer 3. Mech Control Board
Record will not Cancel when Finished Playing	"Cancel" LED is ON	1. Wiring from Mech Control to Central Control Computer 2. Central Control Computer 3. Also see "Record Does not Transfer"
	"Cancel" LED is OFF	1. Wiring to Cancel Switch 2. Cancel Switch 3. Mech Control Board
Record Cancels without Playing	"Cancel" LED stays ON	1. Short in Cancel Sw. Wiring 2. Cancel Switch 3. Mech Control Board
	"Cancel" LED flashes ON as Record sets down	1. Auto Cancel Misadjusted
	"Cancel" LED does not flash	1. Wiring to outer cam Switch 2. Outer cam Switch 3. Wiring from Mech Control to Central Control Computer 4. Mech Control Board 5. Central Control Computer

TROUBLE	SYMPTOM	PROBABLE CAUSE
Left Side of Record Plays when Right Side Selected	"Toggle" LED is ON	1. Wiring to Toggle Coil(s) 2. Toggle Coil(s) 3. Mech. Control
	"Toggle" LED is OFF	1. Wiring from Central Control Computer to Mech Control Bd. 2. Central Control Computer 3. Mech Control Board
Money Counter or Play Counter Fails to Count	Fails To Count	1. Wiring To Counter 2. Counter 3. Mech. Control Board 4. Wiring from Central Control Computer to Mech Control 5. Central Control Computer
Phonograph is always in Service ("Memorec") Mode Of Operation	Record Number Times selected Display is always lit	1. On/Service/Off Switch 2. "+8 on Signal" Wiring 3. Central Control Computer
Phonograph will not go into Service Mode of Operation	Record Number Times selected Display will not light when On/Service/Off Switch is in Service Position	1. Central Control Computer 2. "+8 on Signal" Wiring 3. On/Service/Off Switch
No Credit	No Credit given by Coins and Dollar Bill	1. Central Control Computer
	No Credit given by Coins but Dollar Bill gives Credit	1. Coin Sw. common wiring 2. Central Control Computer
	One Value of Coin will not give Credit	1. Coin Rejected 2. Wiring To Coin Switch 3. Coin Switch 4. Central Control Computer
	Dollar Bill will not give Credit	1. Bill Acceptor 2. Wiring to Bill Acceptor 3. Central Control Computer
Wrong Credit	Credit for amount deposited does not agree with Price Card setting	1. One or more Coins did not register (See No Credit). 2. Central Control Computer programmed wrong. 3. Central Control Computer

TROUBLE	SYMPTOM	PROBABLE CAUSE
System does not respond to Keyboard	"Make Selection" LED not Lit	1. Insufficient Credit
	"Make Selection" LED Lit but entire Keyboard does not work	1. Shorted Keyboard Switch 2. Central Control Computer 3. Short in Keyboard Wiring
	"Make Selection" Led Lit but certain Keys to not work	1. Wiring from keyboard to Display Board 2. Keyboard 3. Digital Display Board 4. Central Control Computer
Digital Display does not work	Display Lights but Shows Wrong Information	1. Wiring from Central Control Computer to Display 2. Digital Display 3. Central Control Computer
	"+8 VDC" LED on Central Control Computer is Lit but Display Digits and LED Lamps will not Light	1. Wiring from Central Control Computer to Digital Display 2. Digital Display 3. Central Control Computer
	Certain LED Lamps and/or Digits will not Work	1. Wiring from Central Control Computer to Display 2. Digital Display 3. Central Control Computer
Miscellaneous Problems	Central Control Computer Display shows Err 1, Err 2, or Err 3.	1. Central Control Computer 2. Main Power Supply

SEQUENCE OF OPERATION

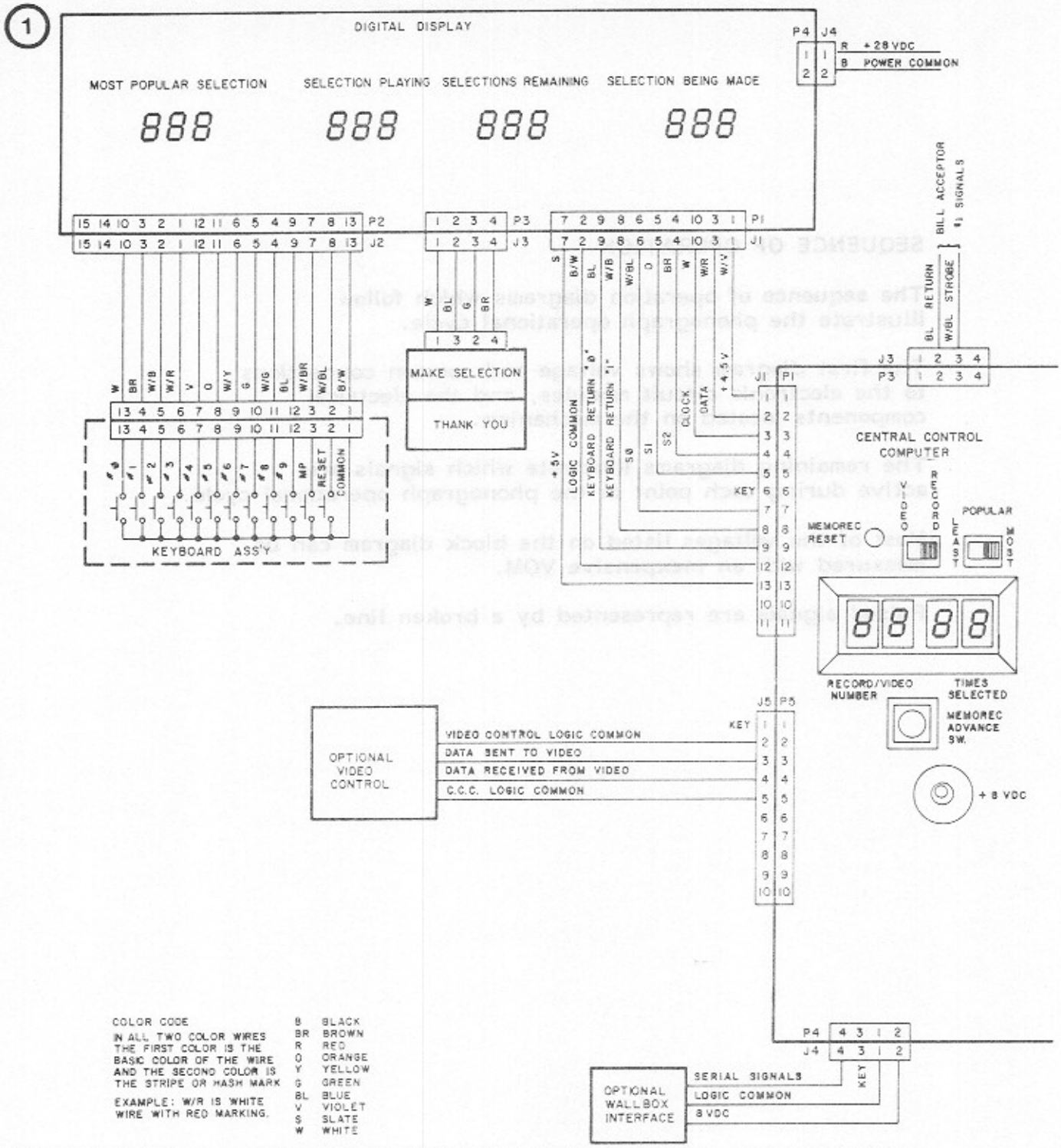
The sequence of operation diagrams which follow illustrate the phonograph operational cycle.

The first diagram shows voltage and common connections to the electronic circuit modules, and the electrical components located on the mechanism.

The remaining diagrams illustrate which signals are active during each point in the phonograph operational cycle.

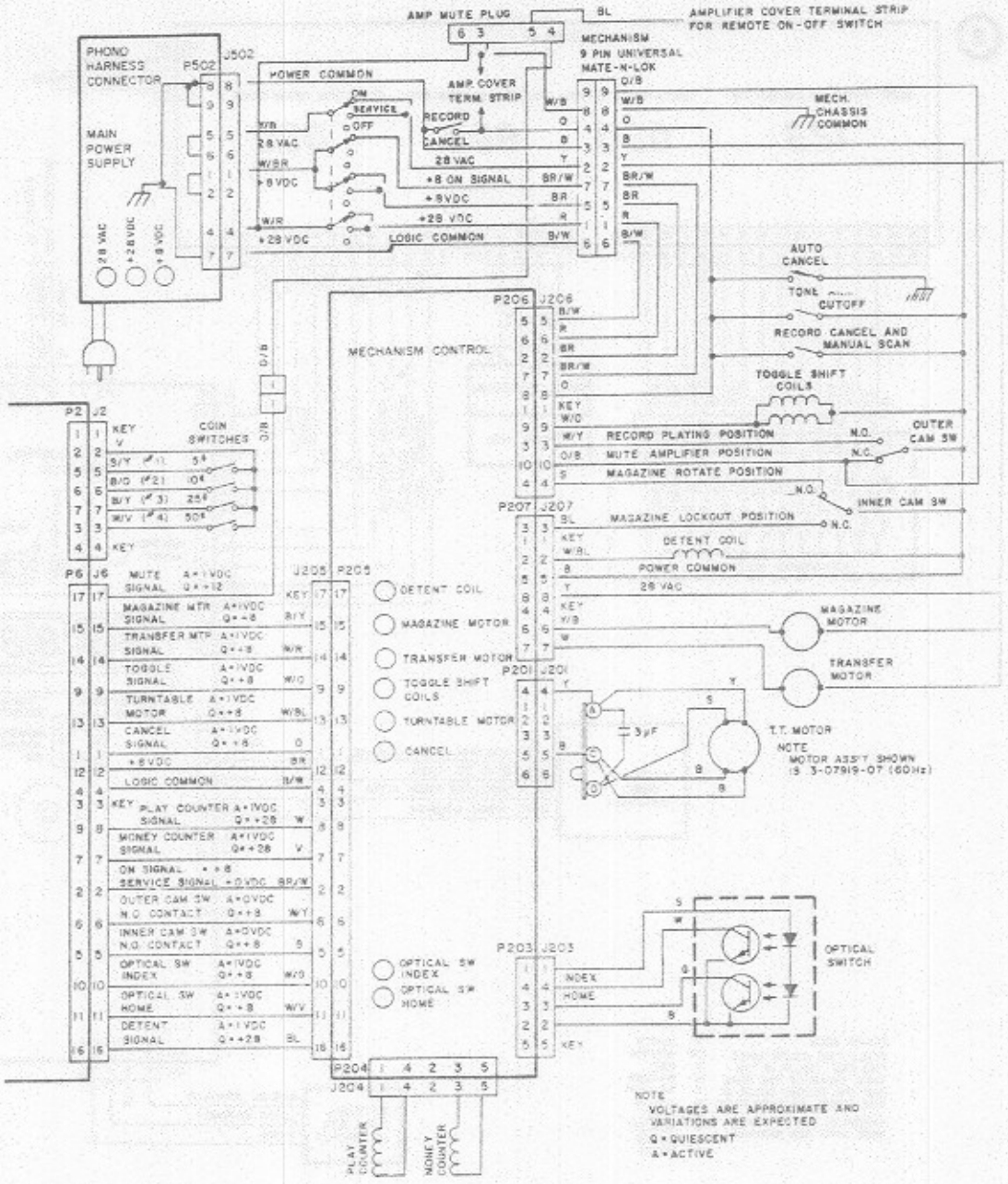
Most of the voltages listed on the block diagram can be measured with an inexpensive VOM.

Pulsed signals are represented by a broken line.



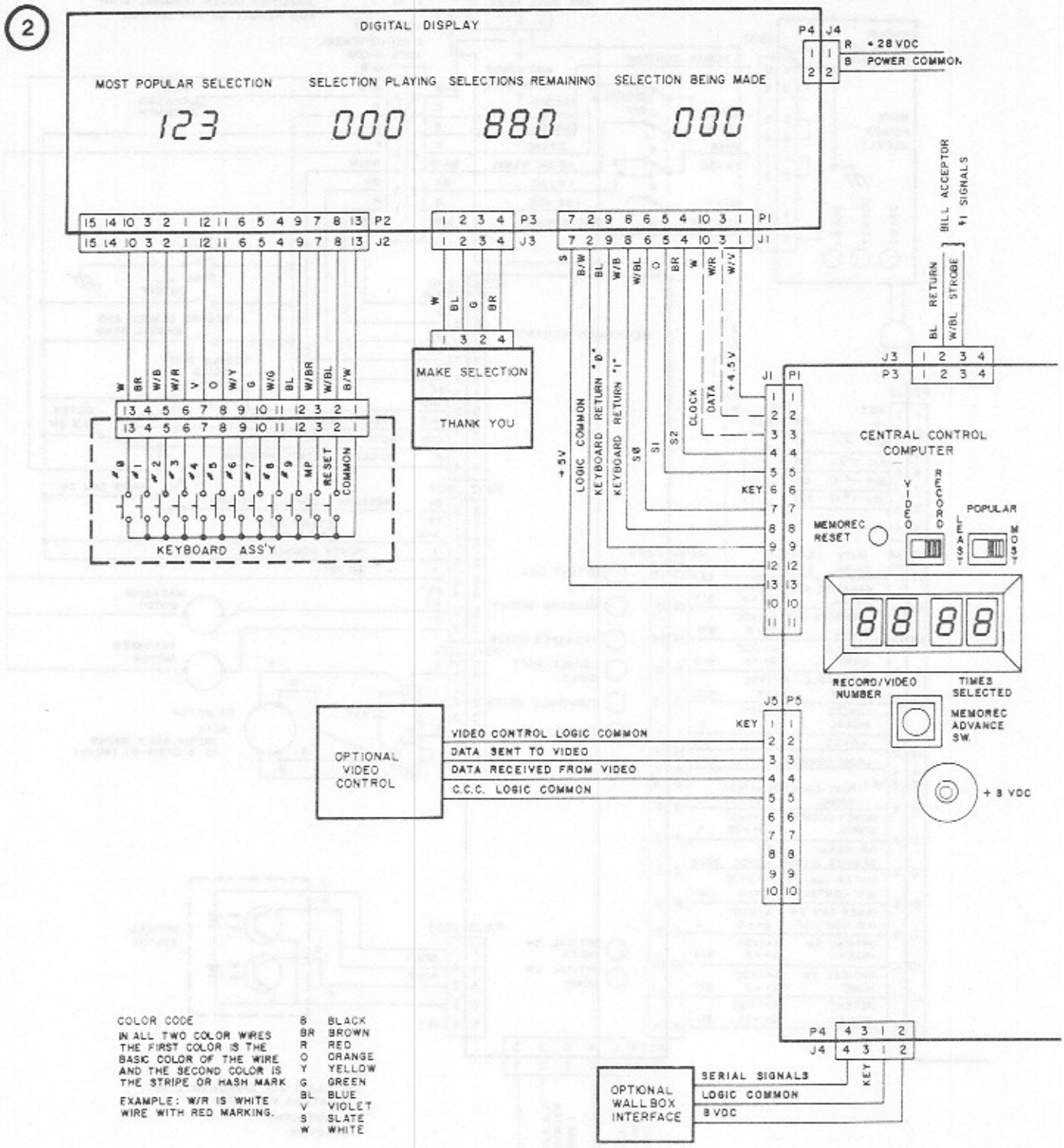
Power turned on, voltages and commons applied to circuits and components.

1. Power flows thru power cord and power switch to energize power supply. The three power supply LEDs light. The voltages go thru on-service-off switch and energize 28 VAC, +28 VDC, and +8 VDC busses. The "+8 VDC" LED on C.C.C. lights.
2. "28 VAC" goes to magazine motor, transfer motor, and mechanism control. The 28 VAC is routed thru mechanism control to the turntable motor.
3. "+28 VDC" goes to amplifier mute plug, and mechanism control.
4. "Power common" goes to outside record cancel, and manual scan switch, tonearm cutoff, toggle shift coils, inner and outer cam switches, detent coil, and mechanism control. It is routed thru mechanism control to play and money counters.



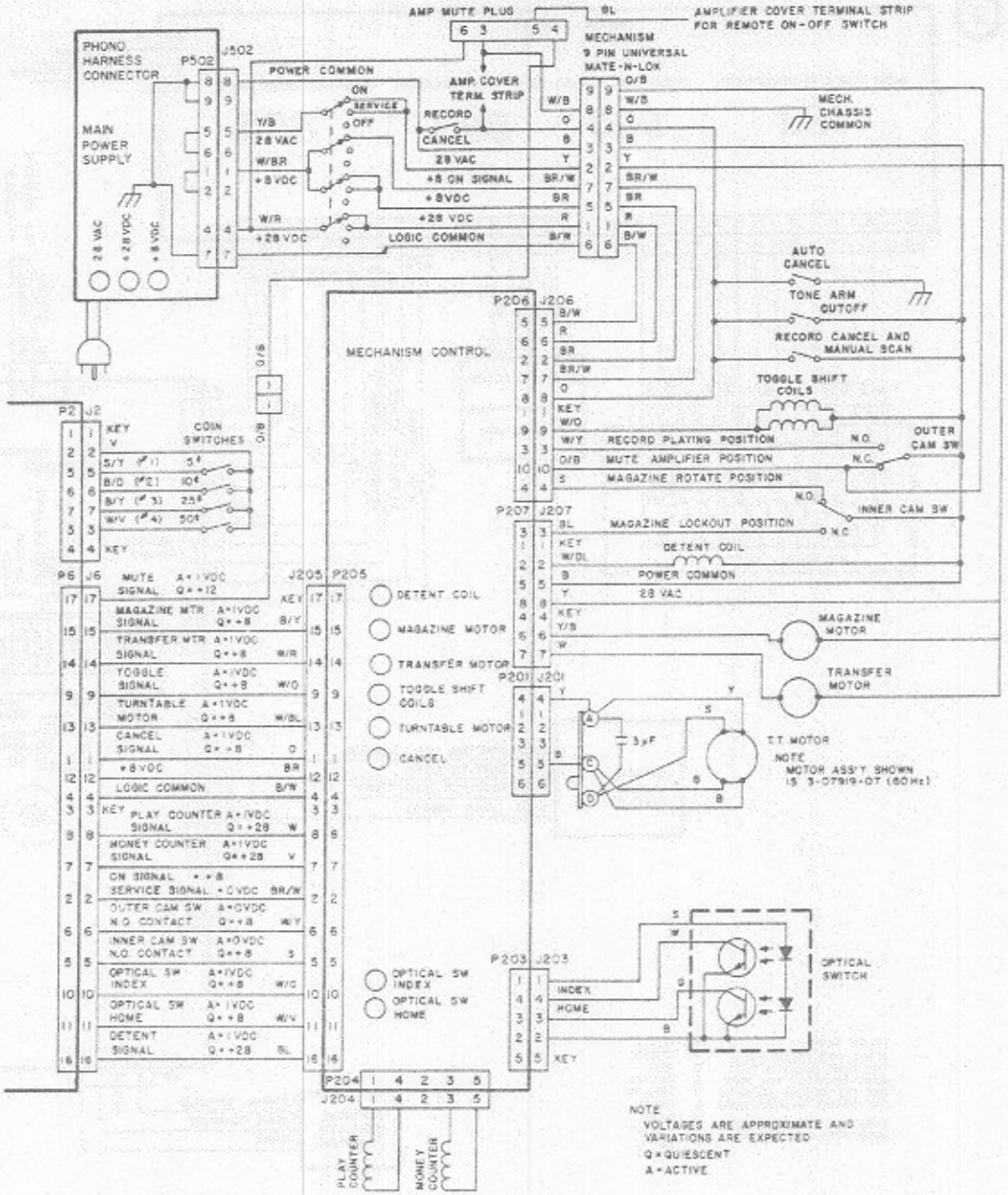
5. "+8 VDC and logic common" go to mechanism control. They are routed thru mechanism control to the C.C.C. and logic common to optical switch. The C.C.C routes them to the wallbox interface.
6. "+8 on Signal" is routed thru mechanism control to the C.C.C..*
7. "Mech. chassis common" goes to amplifier mute plug, amplifier cover terminal strip and auto cancel.

*C.C.C. = Central Control Computer

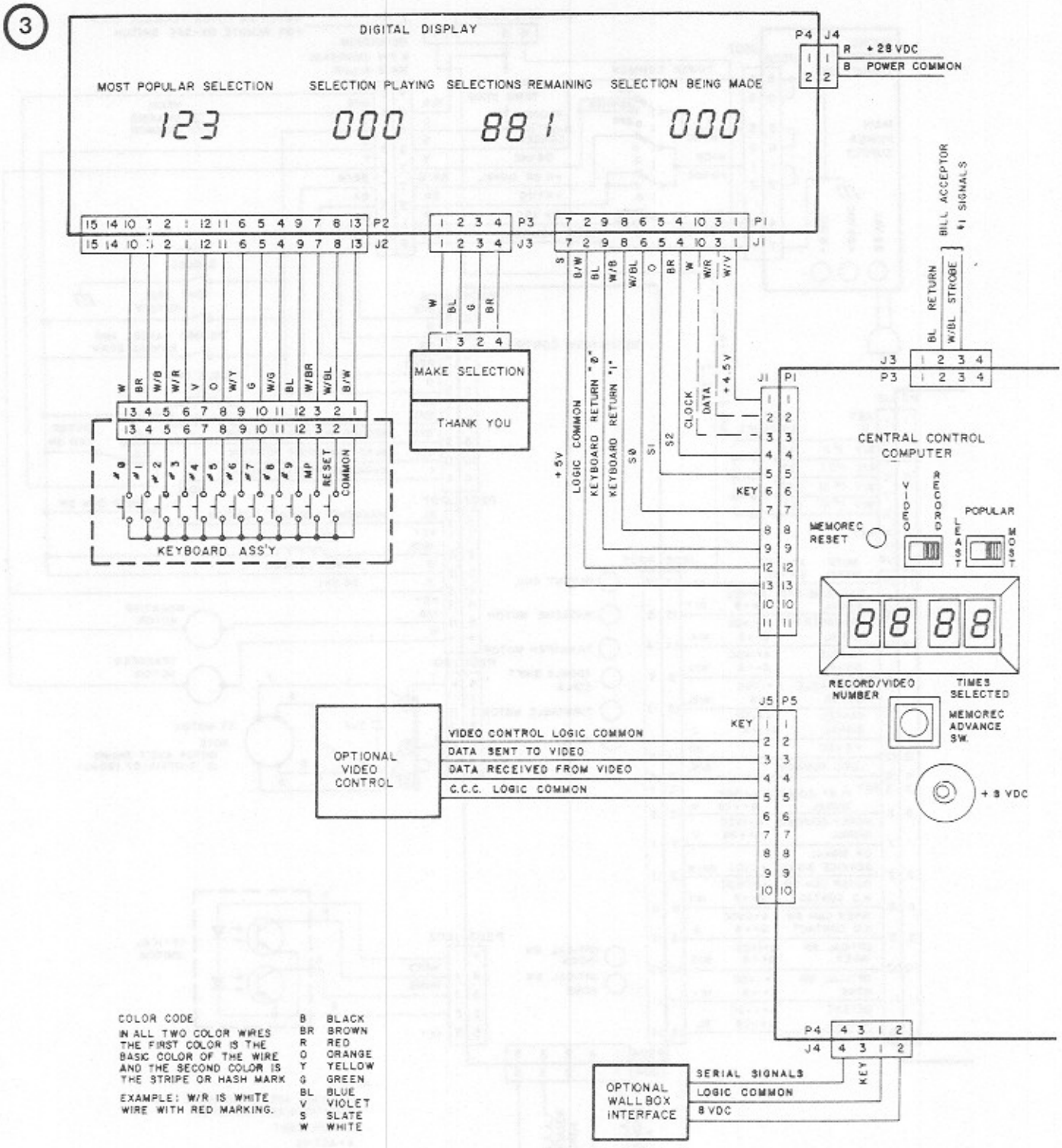


C.C.C. senses power turned on (no selections in memory, no credits)

1. The C.C.C. begins to constantly monitor the state of all switches and determines that the transfer arm (gripper bow) is in home position.
2. C.C.C. sends clock & data to digital display, causing the LED's to light.

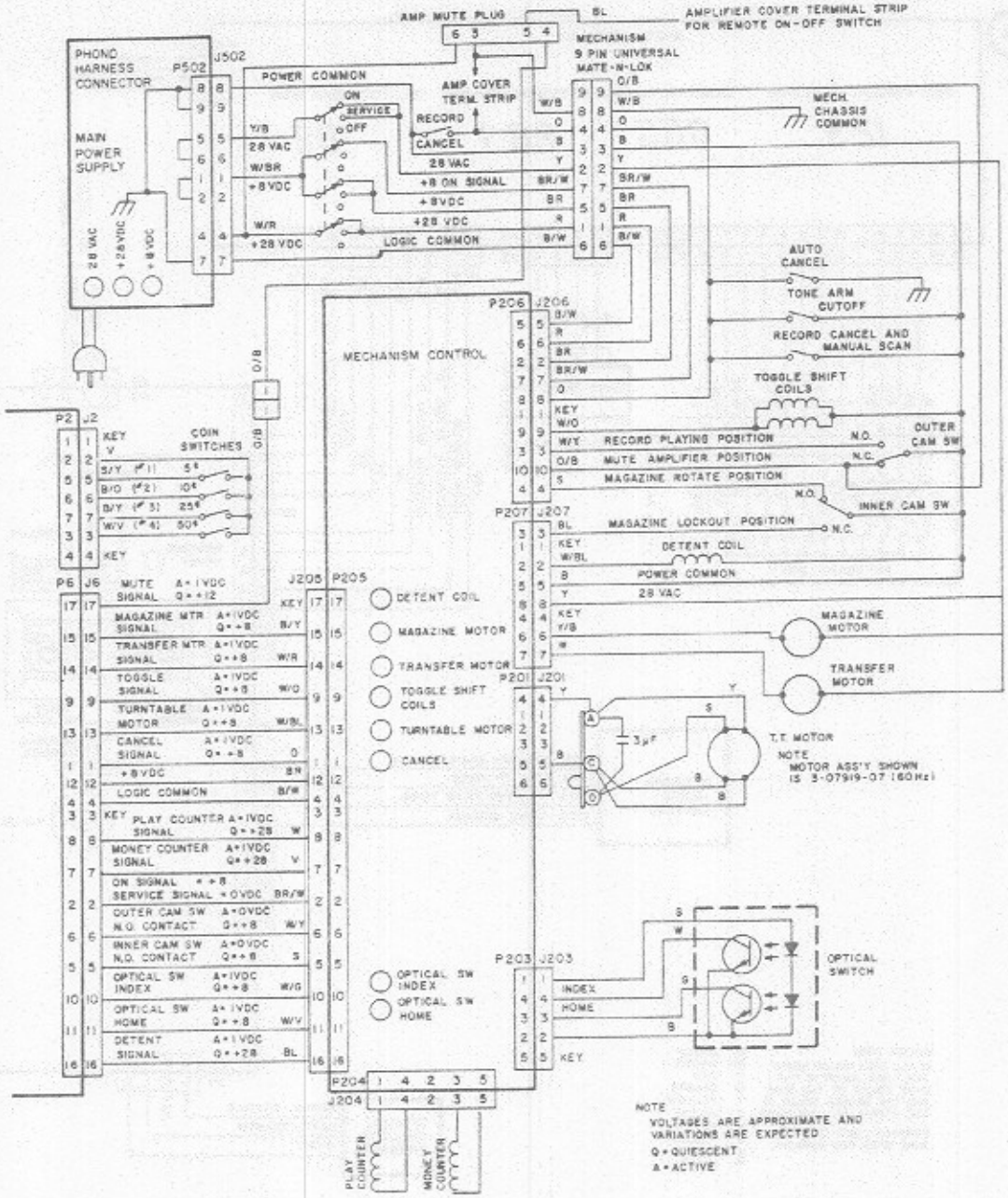


3. Most Popular Selection display shows most popular record on the phono. The diagram shows record "123" as the most popular.

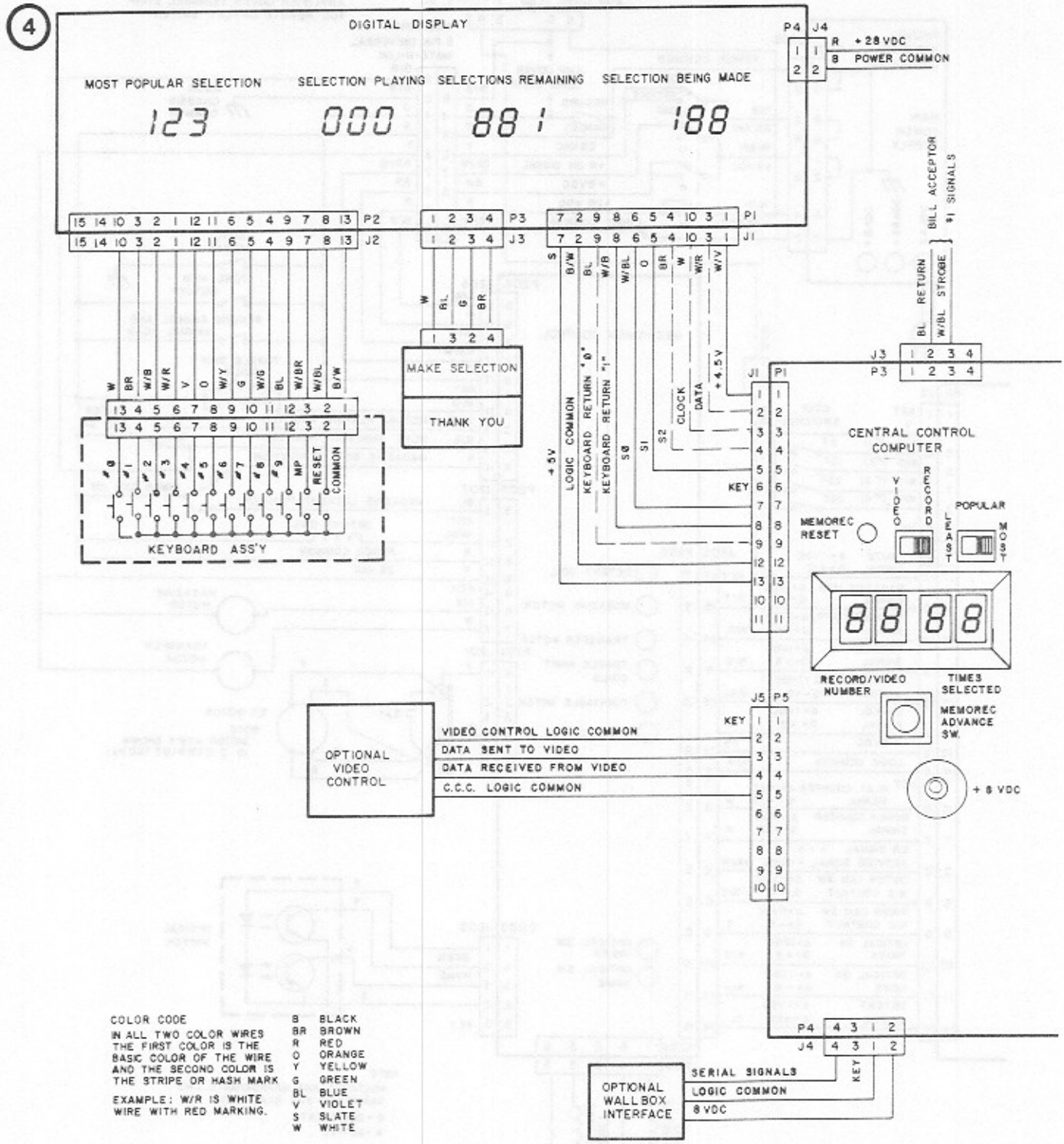


Patron inserts quarter. Standard credit established. (Credit is set at 1 play for 25¢, 2 for 50¢ and 5 for $1.00).

1. Patron inserts quarter into coin slot. The coin passes through the validator and actuates the 25¢ coin switch.
2. The C.C.C. senses the switch closure and stores 5 money units (nickels) in its memory.
3. 5 pulses are sent to the money counter.

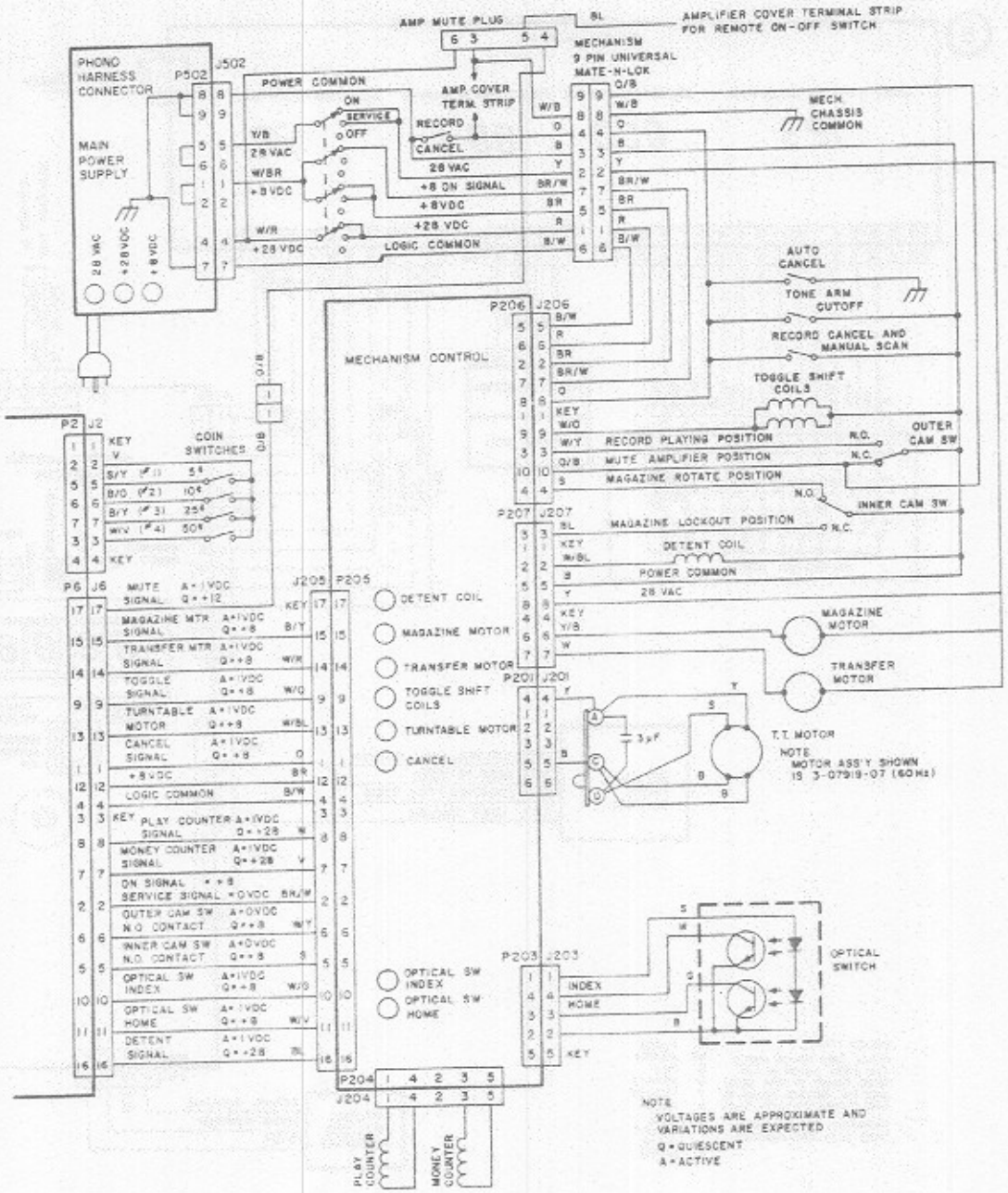


4. The C.C.C. uses the amount of money stored in its memory and the stored pricing information to calculate the remaining credit equal to 1.
5. The C.C.C. turns on the make selection display.
6. The "Selection Remaining Display" shows 1 credit.
7. Thank you message lights for 2 seconds.



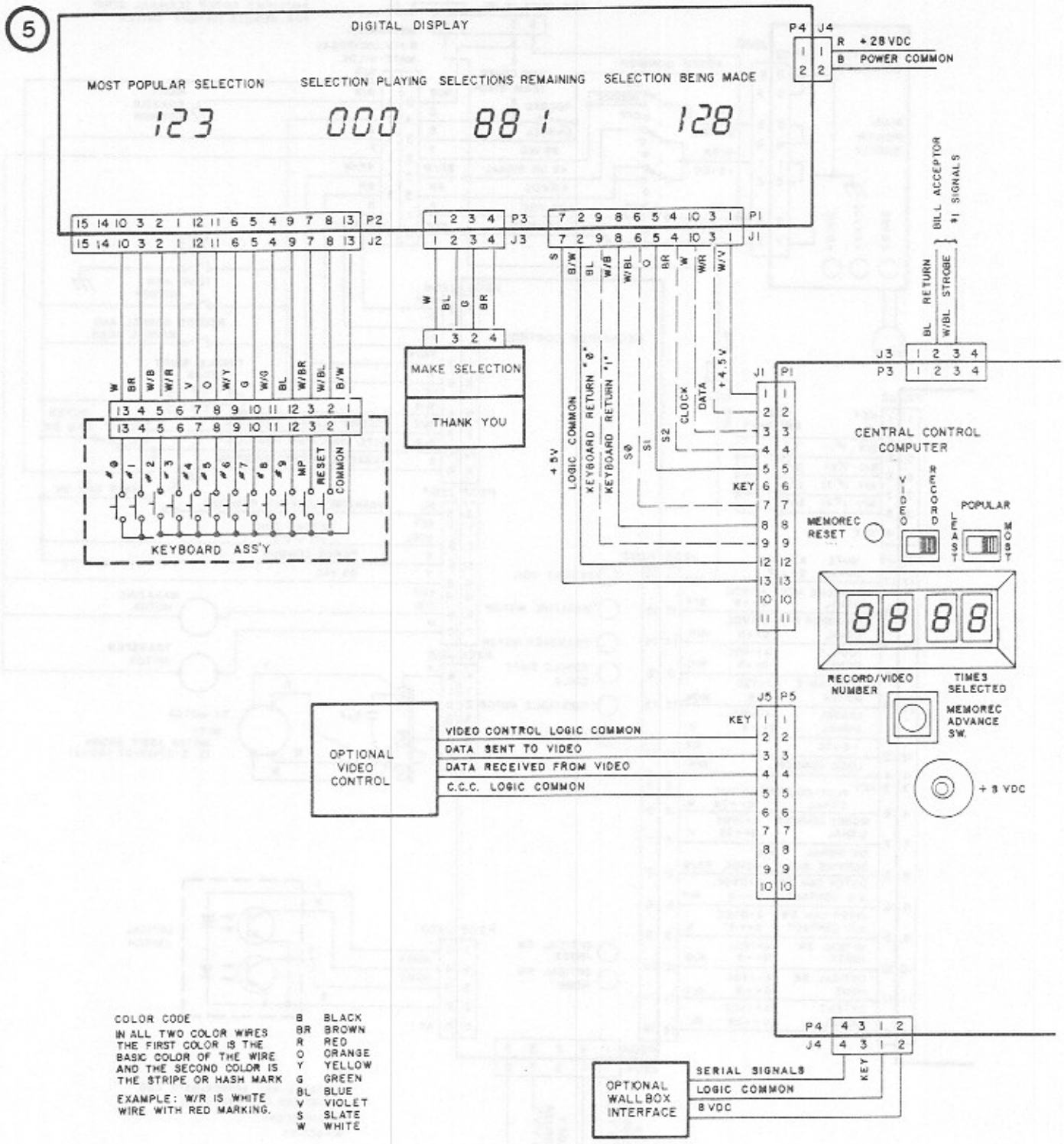
First digit selected and displayed.

1. Patron presses first digit of his selection (in this illustration number 1).
2. The C.C.C. senses the key closure, checks that credit is available, stores the selected first digit and displays it on the digital display.



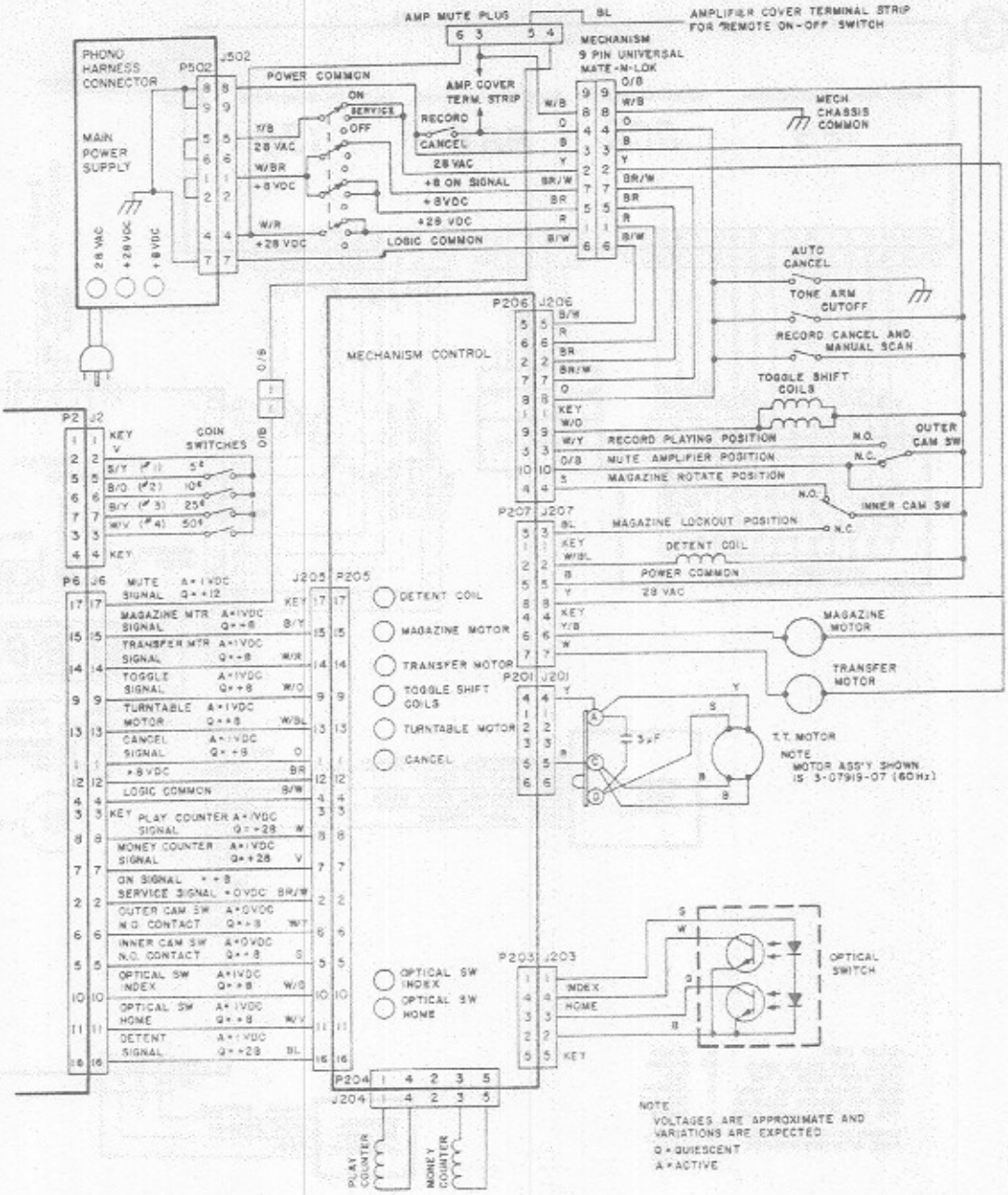
NOTE

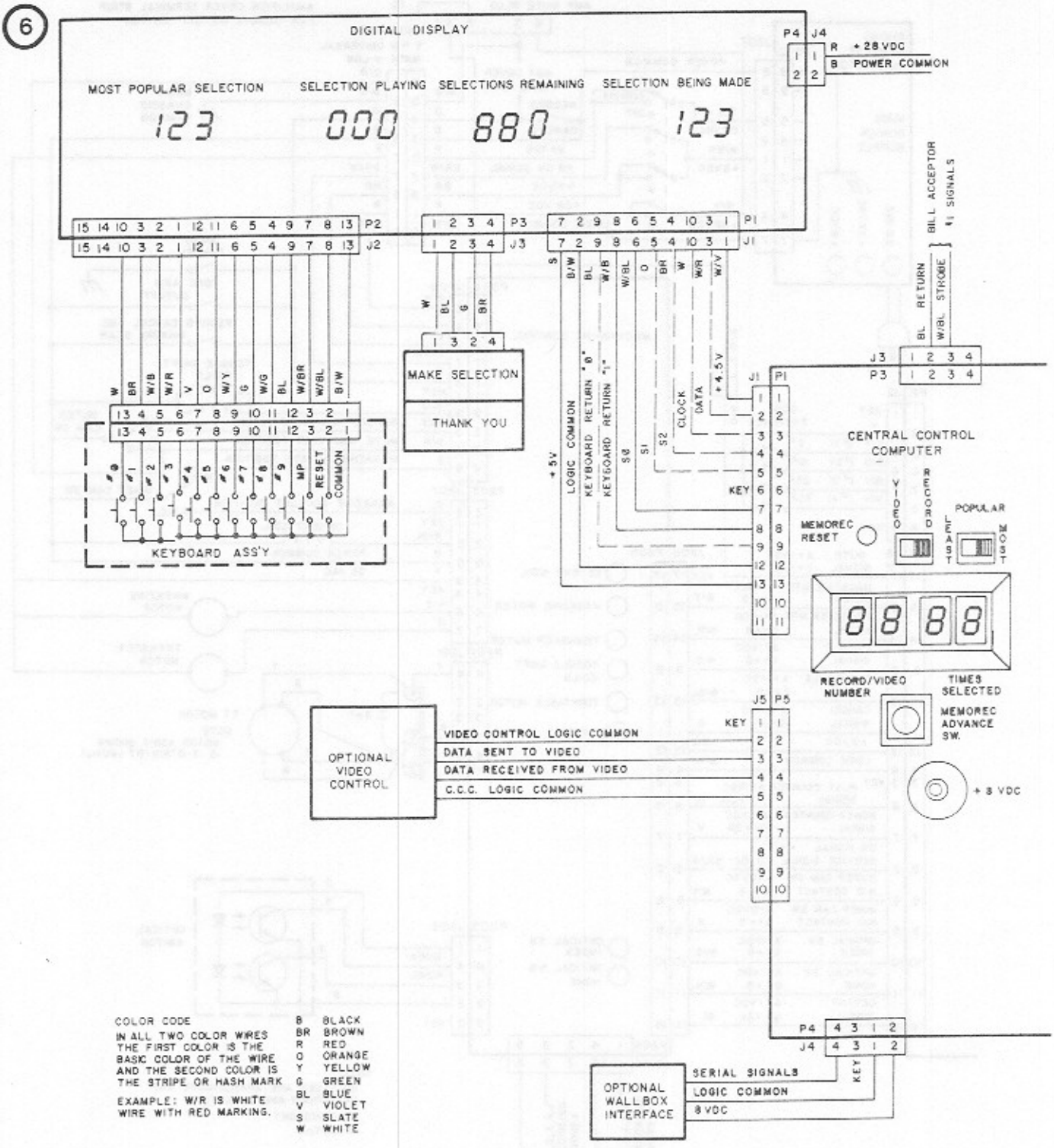
The first digit of a selection must be a 1 or a 2. If any other key is pushed the computer ignores it. To make a correct selection merely push the correct key.



Second digit selected and displayed.

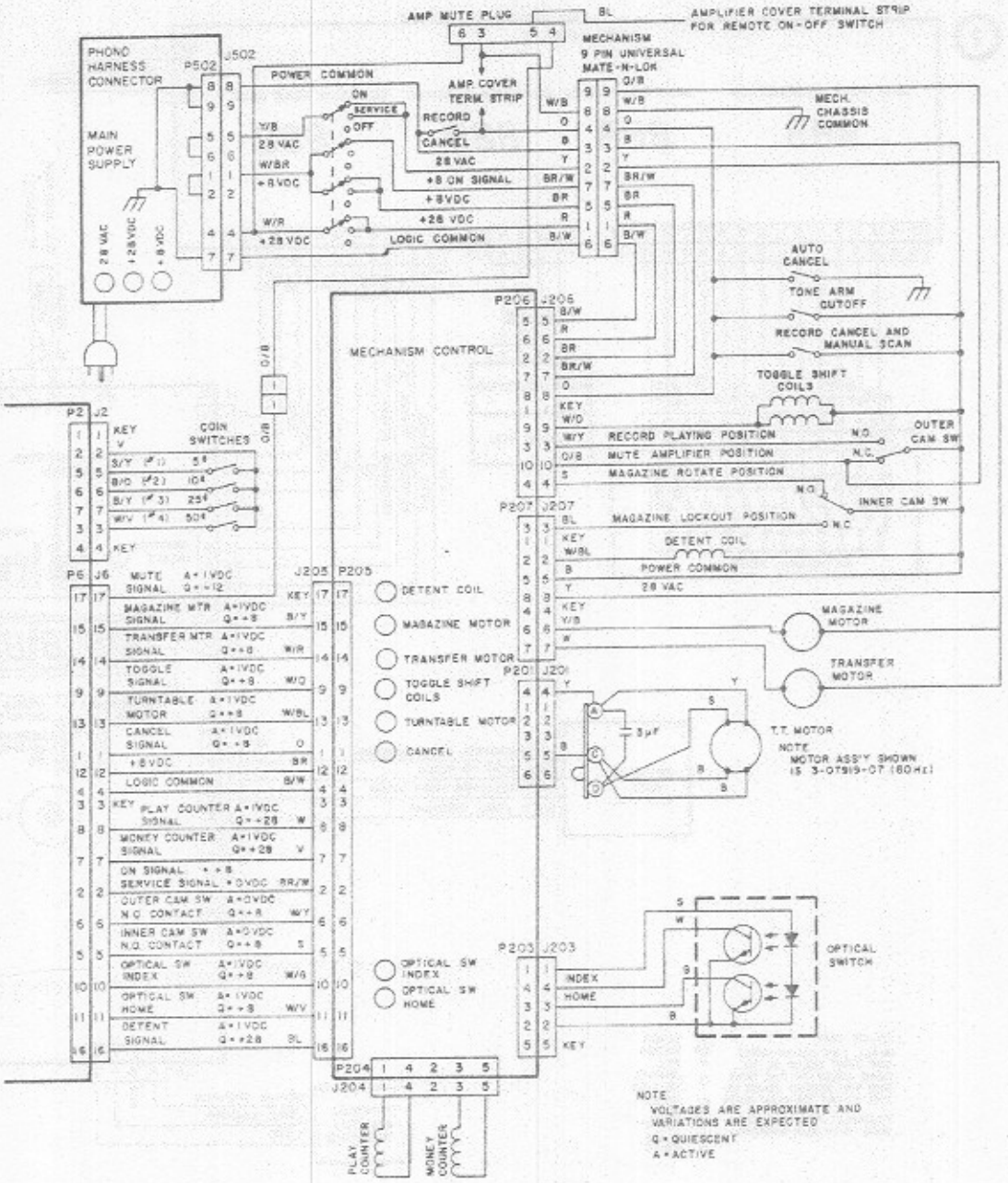
1. Patron presses second digit of his selection (In this illustration number 2).
2. The C.C.C. senses the key closure, stores the selected second digit and displays it.


AMP MUTE PLUG
BL
AMPLIFIER COVER TERMINAL STRIP FOR REMOTE ON-OFF SWITCH
MECHANISM 9 PIN UNIVERSAL MATE-N-LOK
PHONO HARNESS CONNECTOR
P502
J502
MAIN POWER SUPPLY
POWER COMMON
AMP COVER TERM. STRIP
ON
SERVICE
OFF
RECORD
CANCEL
28 VAC
+8 ON SIGNAL
+8VDC
+28 VDC
LOGIC COMMON
MECH CHASSIS COMMON
AUTO CANCEL
TONE ARM CUTOFF
RECORD CANCEL AND MANUAL SCAN
TOGGLE SHIFT COILS
OUTER CAM SW
INNER CAM SW
MECHANISM CONTROL
P206
J206
P207
J207
RECORD PLAYING POSITION
MUTE AMPLIFIER POSITION
MAGAZINE ROTATE POSITION
MAGAZINE LOCKOUT POSITION
DETENT COIL
P2
J2
KEY
COIN SWITCHES
P6
J6
MUTE SIGNAL
MAGAZINE MTR SIGNAL
TRANSFER MTR SIGNAL
TOGGLE SIGNAL
TURNTABLE MOTOR
CANCEL SIGNAL
PLAY COUNTER SIGNAL
MONEY COUNTER SIGNAL
ON SIGNAL SERVICE SIGNAL
OUTER CAM SW N.O. CONTACT
INNER CAM SW N.O. CONTACT
OPTICAL SW INDEX
OPTICAL SW HOME
DETENT SIGNAL
J205
P205
DETENT COIL
MAGAZINE MOTOR
TRANSFER MOTOR
TOGGLE SHIFT COILS
TURNTABLE MOTOR
CANCEL
OPTICAL SW INDEX
OPTICAL SW HOME
P201
J201
T.T. MOTOR
NOTE MOTOR ASS'Y SHOWN IS 3-07919-07 (60Hz)
P203
J203
OPTICAL SWITCH
P204
J204
PLAY COUNTER
MONEY COUNTER
NOTE
VOLTAGES ARE APPROXIMATE AND VARIATIONS ARE EXPECTED
Q = QUIESCENT
A = ACTIVE

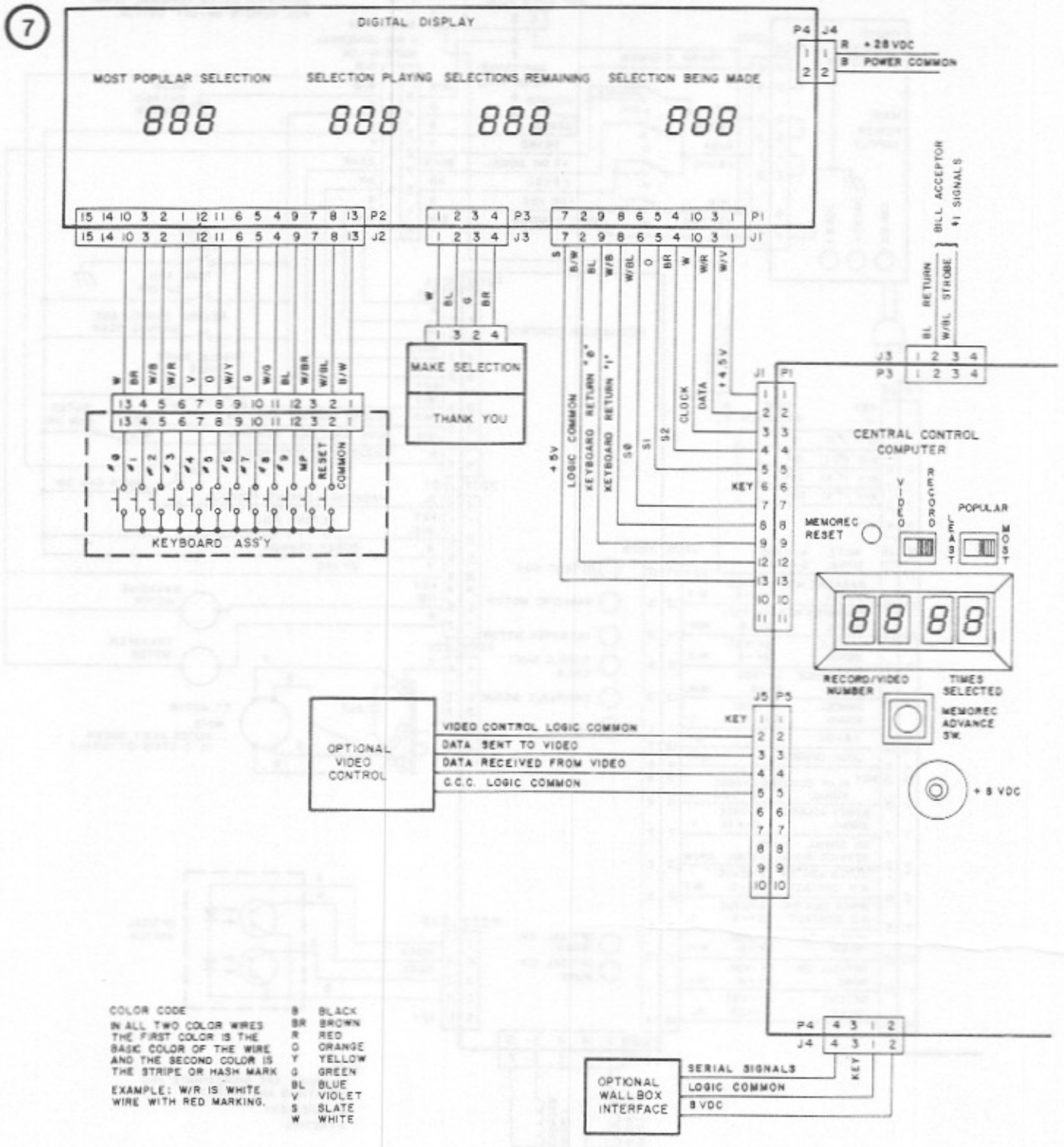


Third digit selected and displayed - selection stored, Memorec incremented. Credit cancelled.

1. Patron presses third digit of his selection (in this illustration number 3).
2. The C.C.C. senses the Key closure, stores the third digit and displays it.

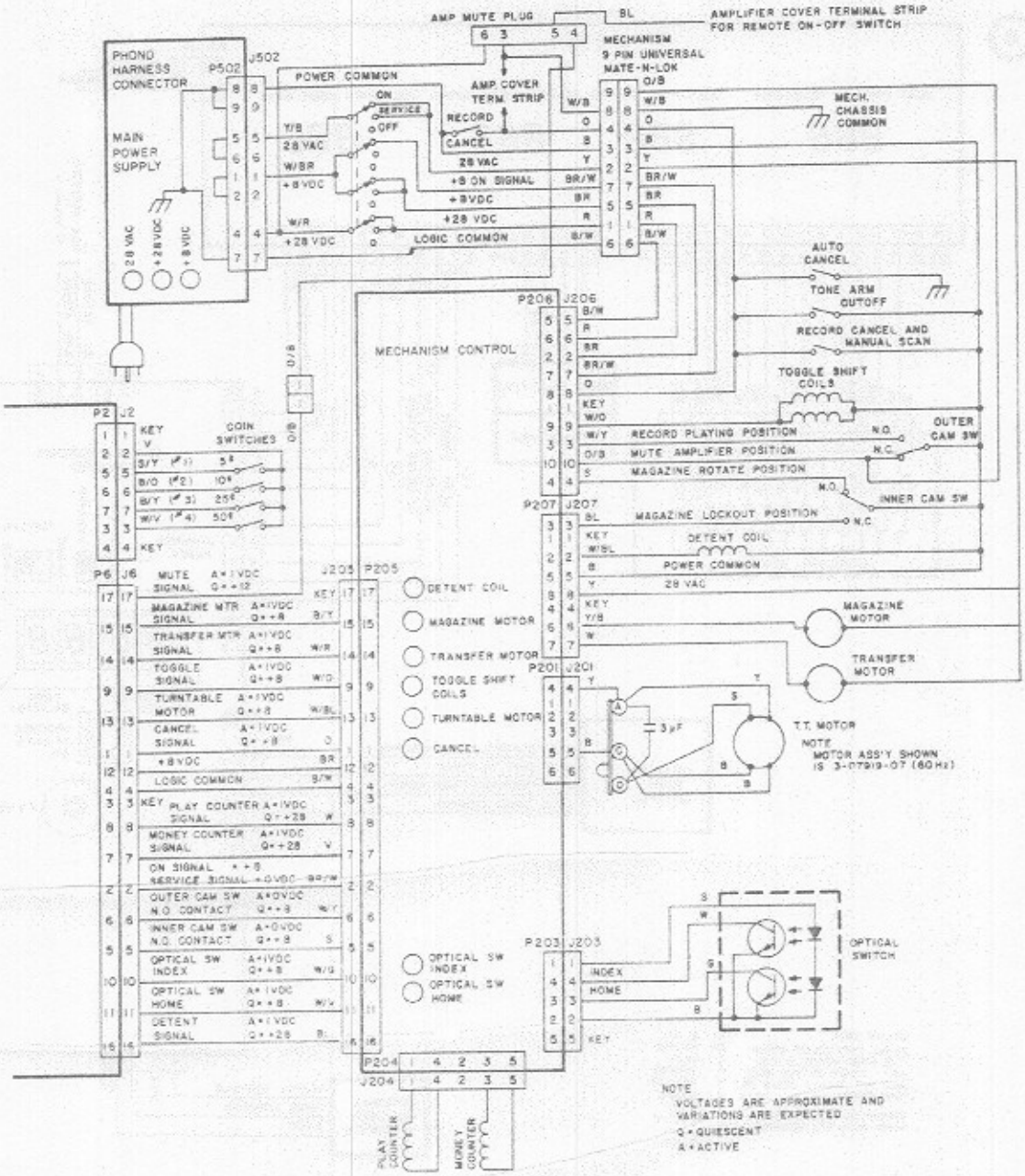


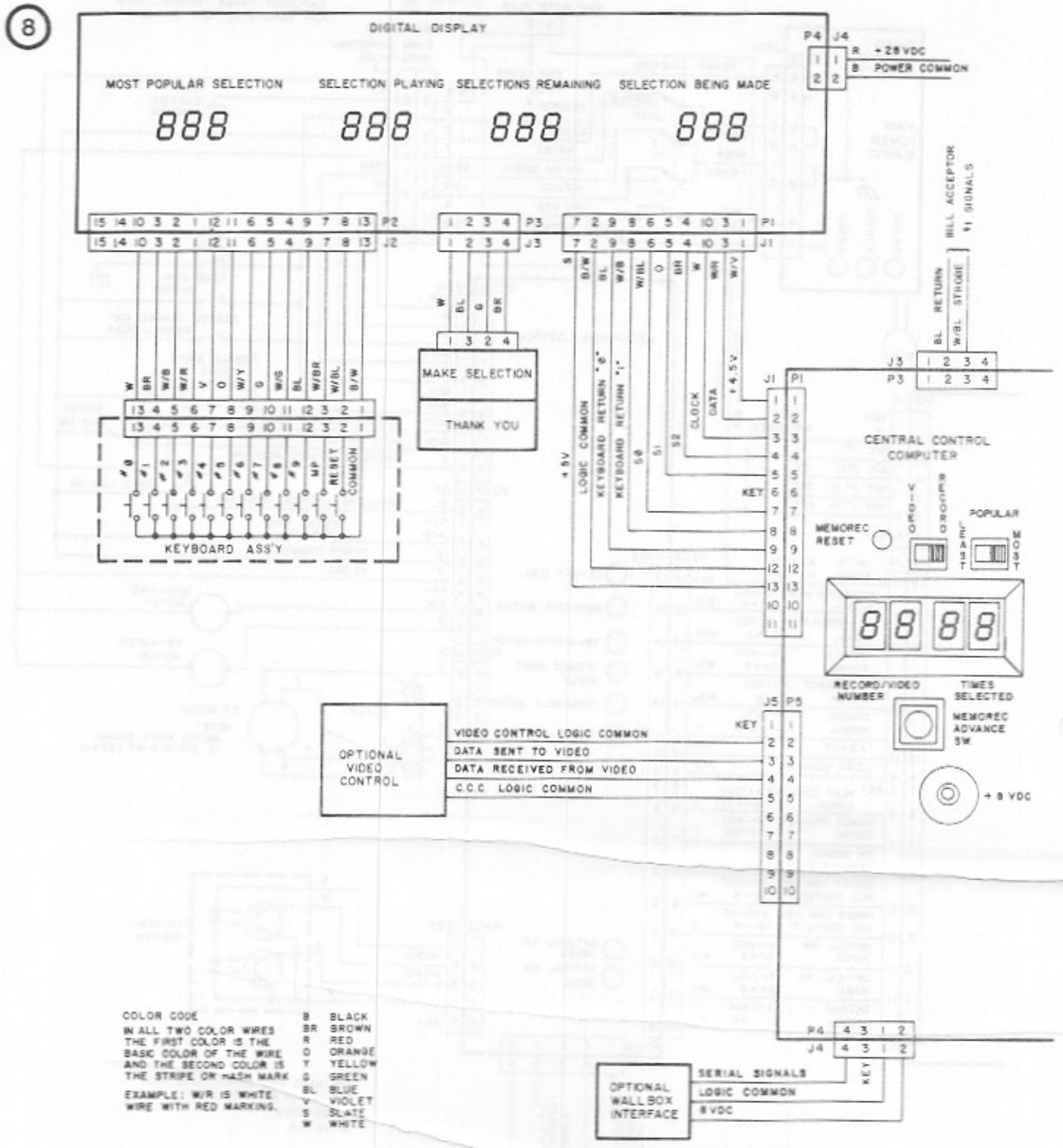
3. Selection is stored in C.C.C.
4. Memorec data in C.C.C. is incremented.
5. Credit cancelled to 0.
6. Thank you light comes on for 10 seconds.



Detent coil and magazine motor energized - Magazine rotates.

1. C.C.C. signals the mechanism control to energize detent coil. "Detent coil" LED lights and the energized detent coil operates a mechanical linkage to unlock the magazine.
2. After 56 to 70 milliseconds C.C.C. signals the mechanism control to energize magazine motor. "Magazine Motor" LED lights and motor is energized causing the unlocked magazine to rotate.


AMP MUTE PLUG
BL
AMPLIFIER COVER TERMINAL STRIP FOR REMOTE ON-OFF SWITCH
MECHANISM 9 PIN UNIVERSAL MATE-N-LOK
PHONO HARNESS CONNECTOR
MAIN POWER SUPPLY
AMP COVER TERM. STRIP
MECH. CHASSIS COMMON
POWER COMMON
RECORD
CANCEL
28 VAC
+8 ON SIGNAL
+8VDC
+28 VDC
LOGIC COMMON
AUTO CANCEL
TONE ARM CUTOFF
RECORD CANCEL AND MANUAL SCAN
TOGGLE SHIFT COILS
OUTER CAM SW
INNER CAM SW
MECHANISM CONTROL
RECORD PLAYING POSITION
MUTE AMPLIFIER POSITION
MAGAZINE ROTATE POSITION
MAGAZINE LOCKOUT POSITION
DETENT COIL
MAGAZINE MOTOR
TRANSFER MOTOR
TURNTABLE MOTOR
CANCEL
COIN SWITCHES
T.T. MOTOR
NOTE
MOTOR ASS'Y SHOWN IS 3-07919-07 (60Hz)
OPTICAL SW INDEX
OPTICAL SW HOME
OPTICAL SWITCH
PLAY COUNTER
MONEY COUNTER
NOTE
VOLTAGES ARE APPROXIMATE AND VARIATIONS ARE EXPECTED
Q = QUIESCENT
A = ACTIVE



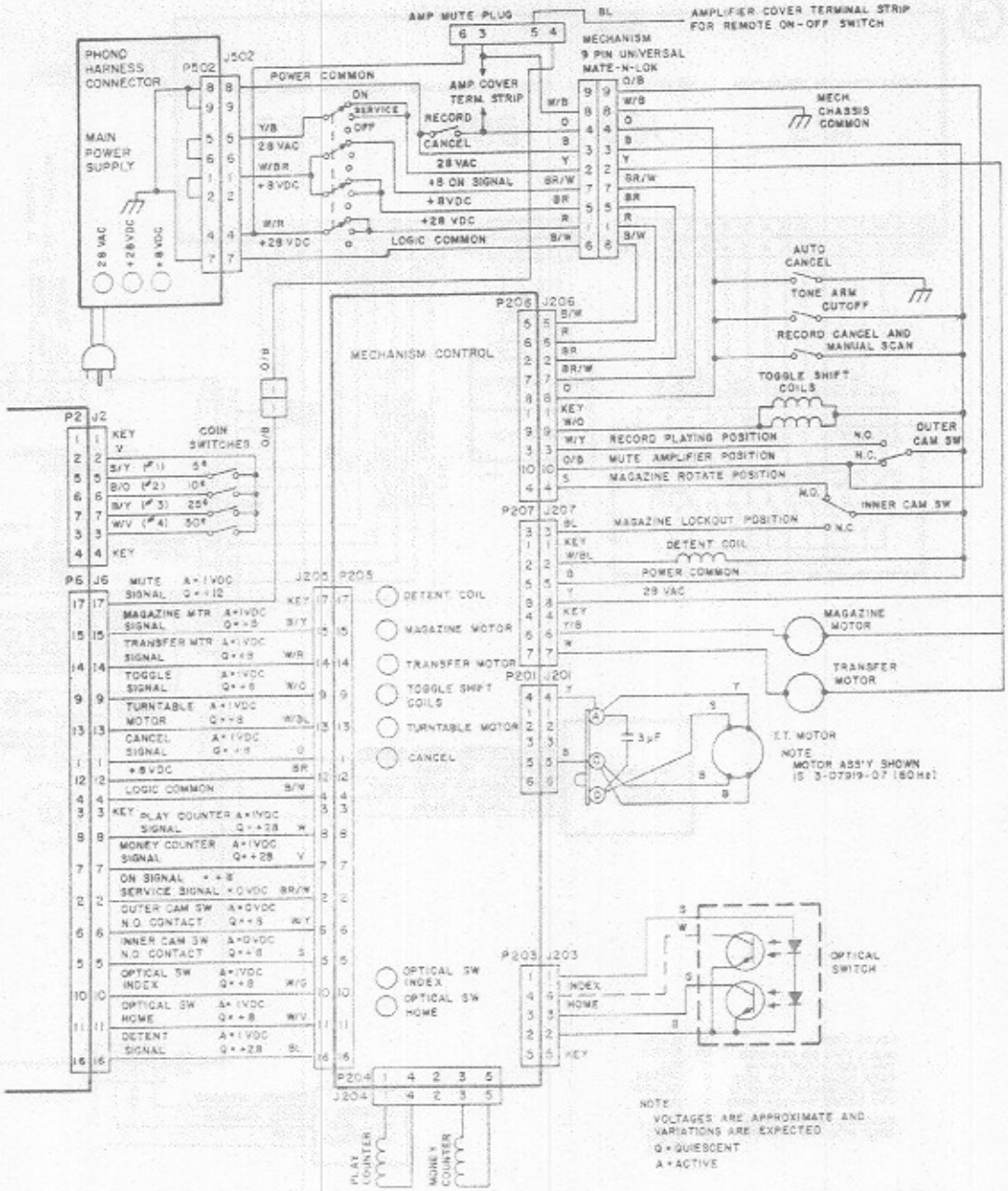
Magazine rotates until selection is located.

1. Magazine rotates and gear teeth interrupt optical switch light beam.

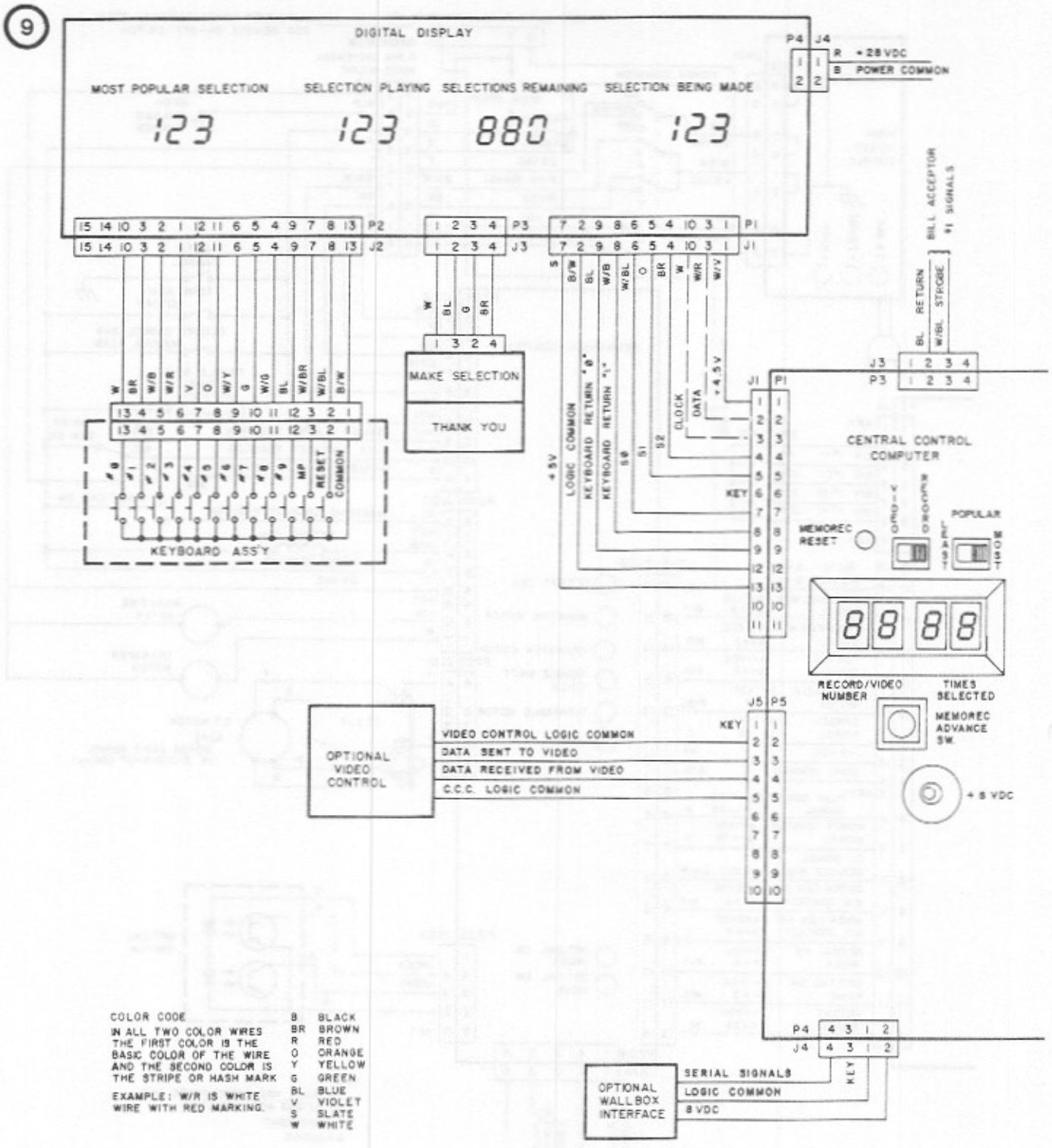
   NOTE: "Optical sw. index" LED going from dark to light (off to on) tells C.C.C. the magazine is moving to the next record position and two things happen:

   a. C.C.C. keeps track of magazine position by adding 1 to value stored in C.C.C.

   b. C.C.C. checks the selection memory to see if left or right side of this next record has been selected.

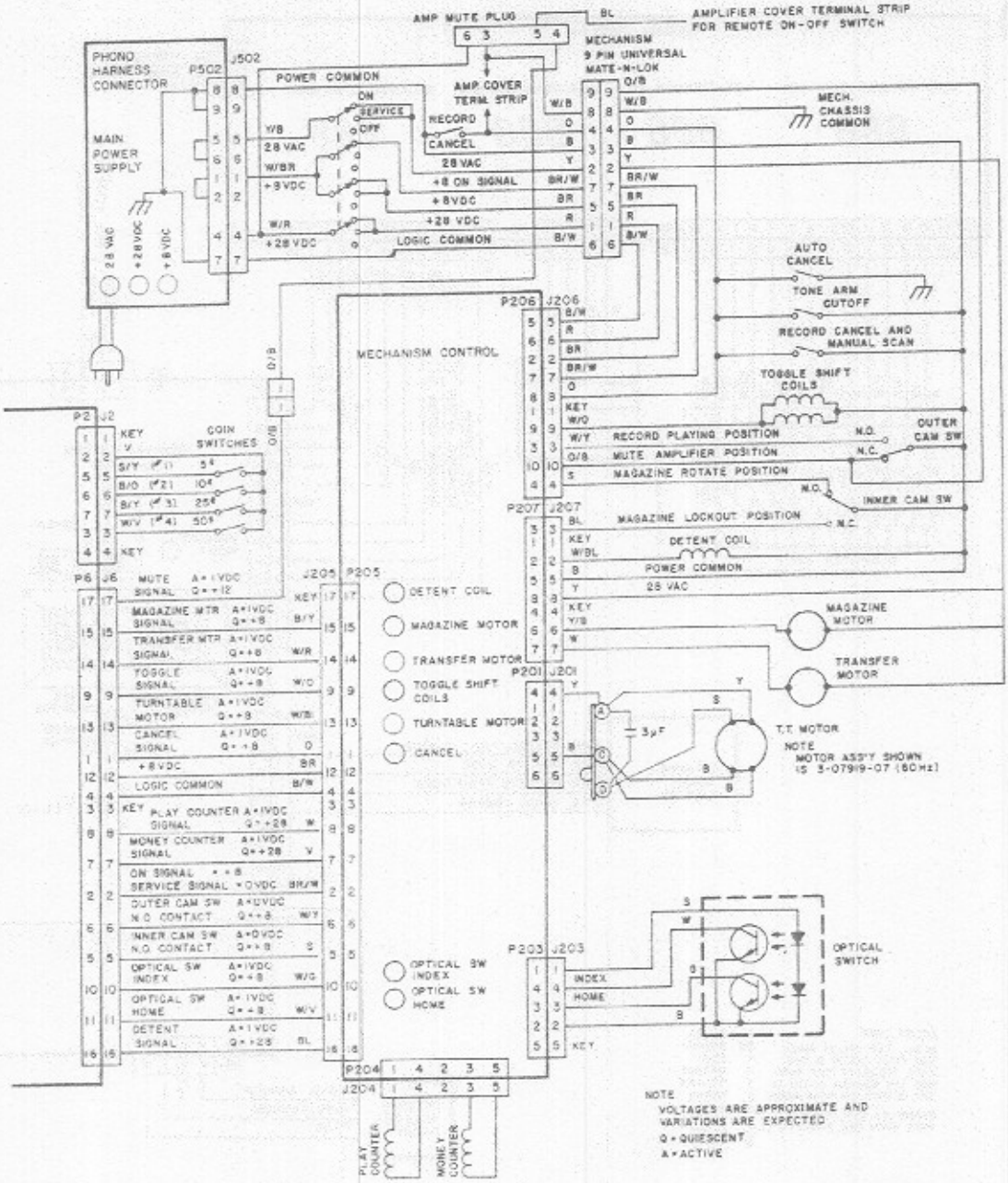


2. Selection playing display shows magazine record position.



Selection located, record transferred to turntable, tone arm set down.

1. C.C.C. signals turn off "detent" and "mag. motor" LEDs causing mechanism control to de-energize detent coil and magazine motor.
2. Magazine is locked by detent pawl falling into slot in detent wheel.

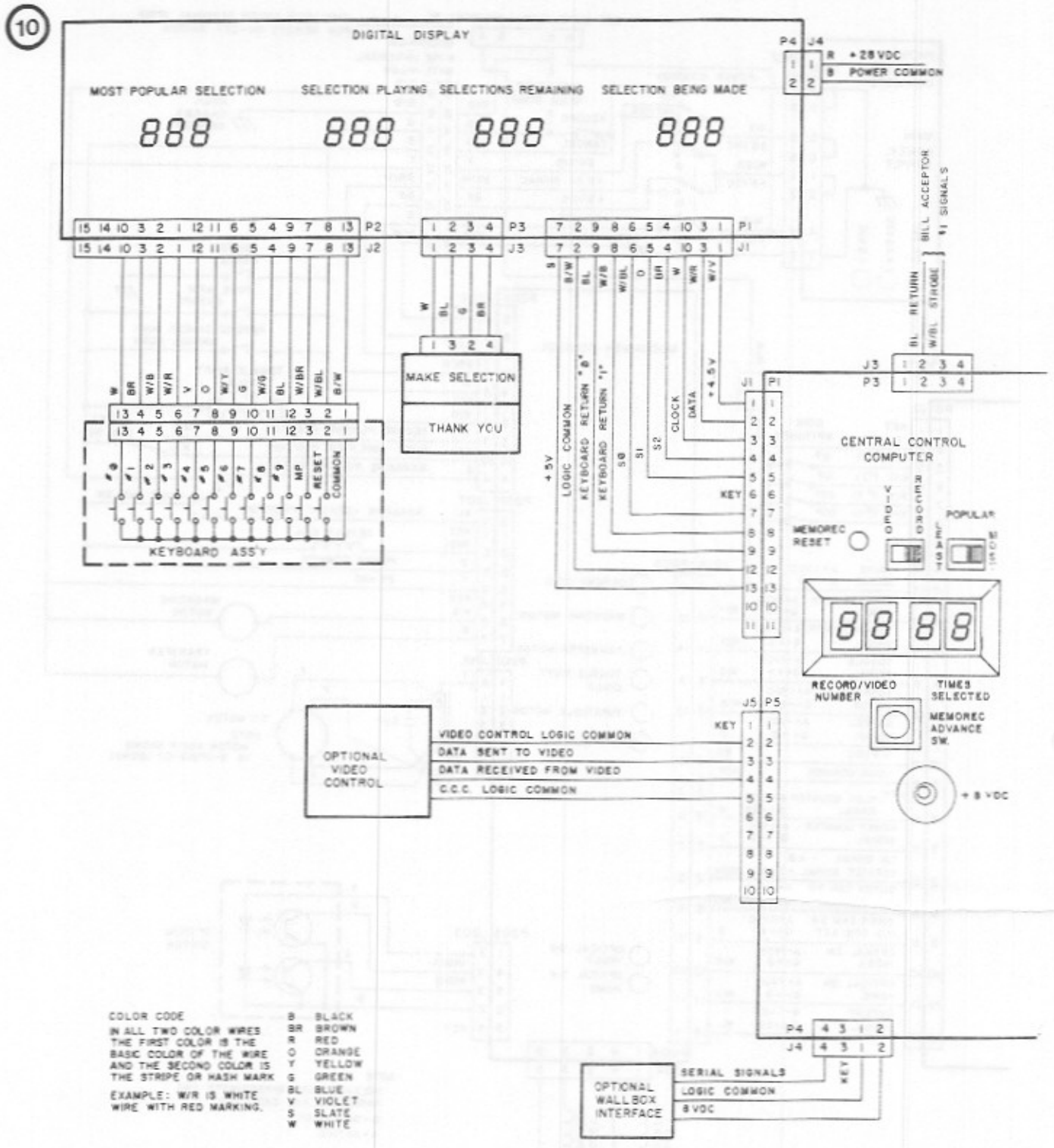


3. C.C.C. signals turn on "tran. motor" and "T.T. motor" LEDs, causing mechanism control to energize transfer and turntable motors. C.C.C. signals mechanism control to advance play counter.

4. Transfer motor rotates cam off inner cam switch. (NOTE: If the first digit of selection was a 2, the C.C.C. signal lights the "Toggle" LED causing the mechanism control to energize toggle shift coils).

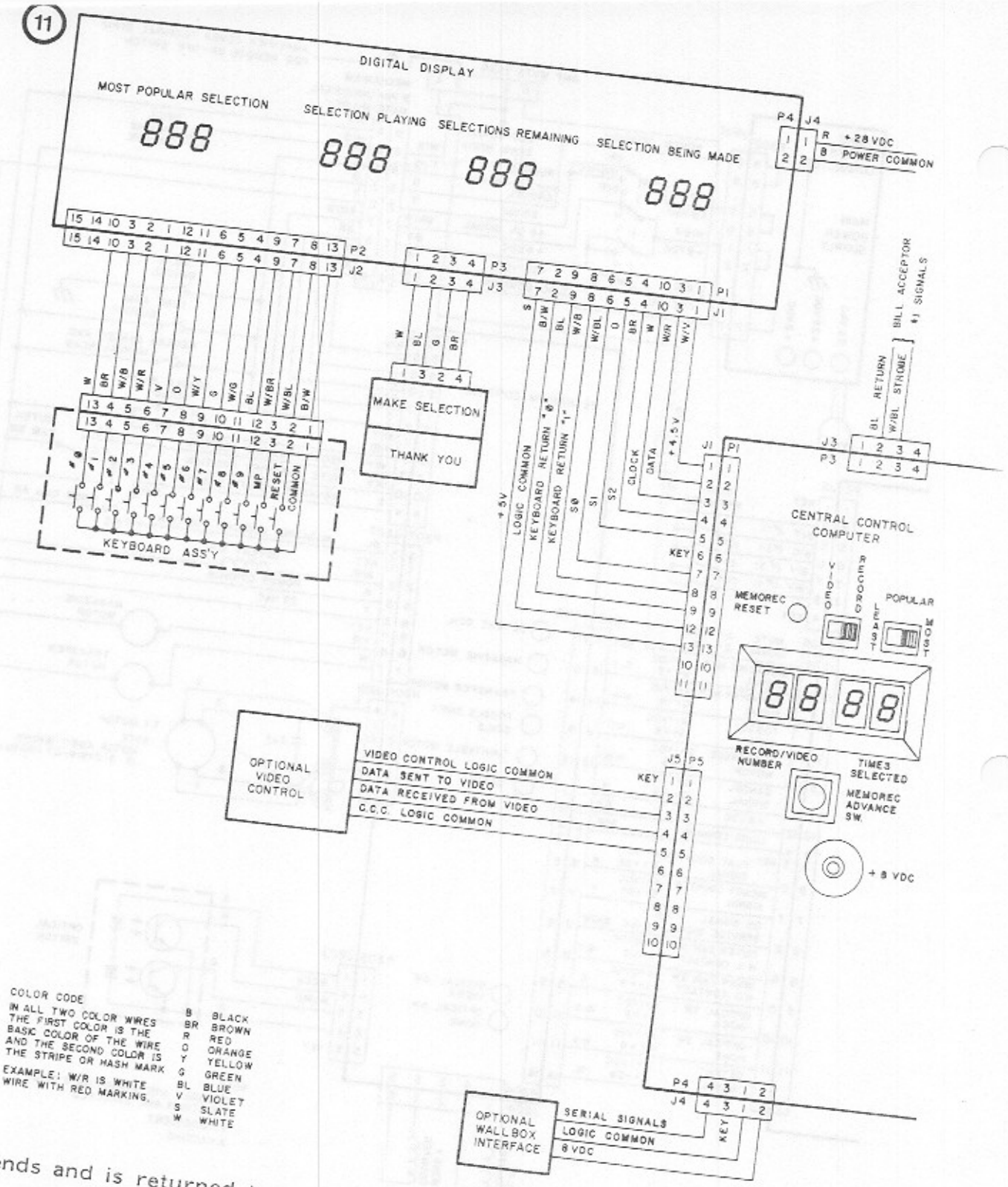
5. Gripper bow picks up record, places it on turntable, and tone arm sets down. (NOTE: If a record is not placed on the turntable the Auto-Cancel operates when the tone arm sets down.

6. Selection playing display lights, showing number of record chosen.



Amplifier unmuted and record plays.

1. Transfer motor rotates and cam moves onto outer cam switch.
2. "Outer cam sw. N.O. contact" signals C.C.C. to turn off transfer motor. "Tran. motor" LED turns off and transfer motor stops.



COLOR CODE

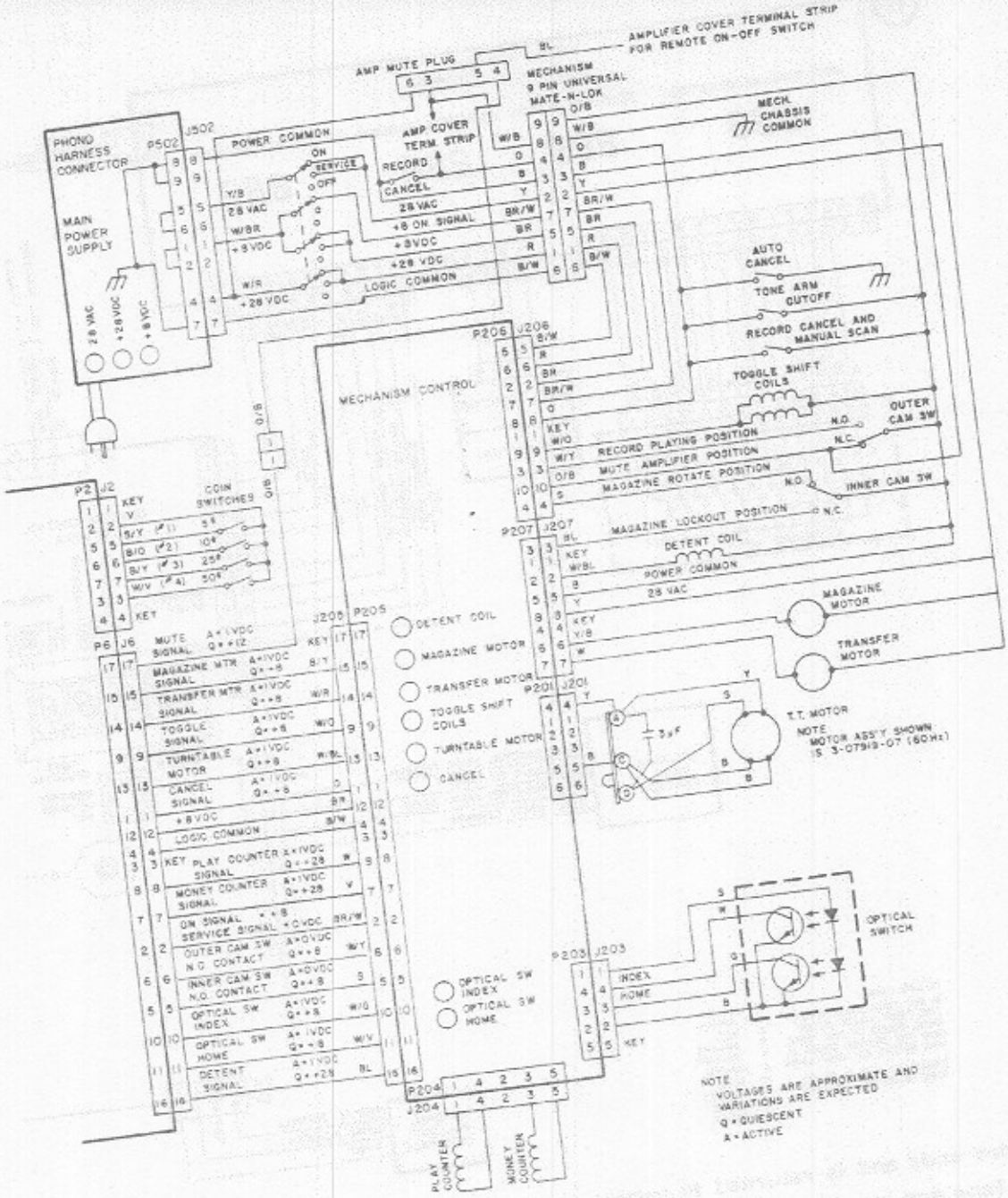
IN ALL TWO COLOR WIRES THE FIRST COLOR IS THE BASIC COLOR OF THE WIRE AND THE SECOND COLOR IS THE STRIPE OR HASH MARK

EXAMPLE: W/R IS WHITE WIRE WITH RED MARKING.

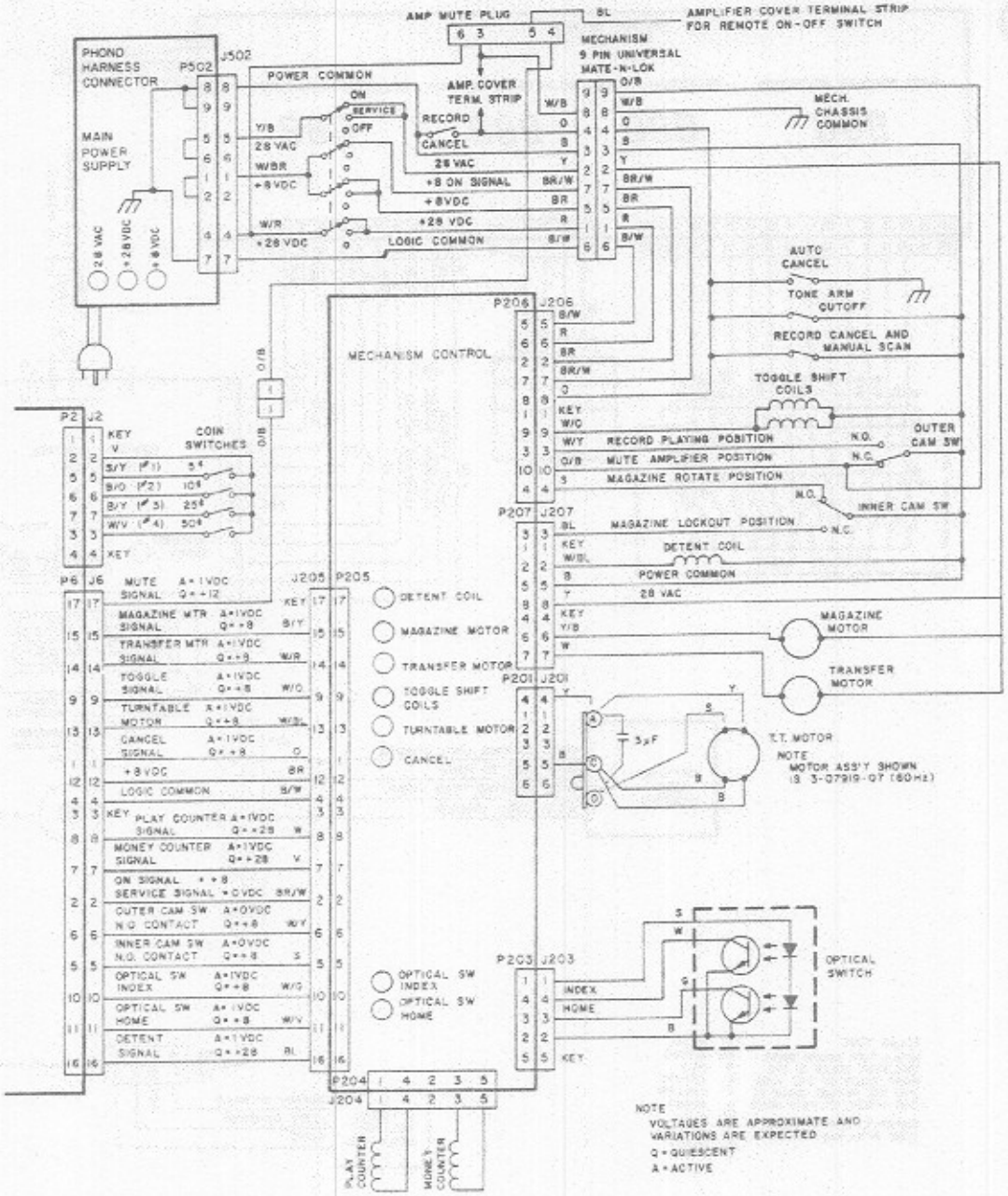
B	BLACK
BR	BROWN
R	RED
O	ORANGE
Y	YELLOW
G	GREEN
BL	BLUE
V	VIOLET
S	SLATE
W	WHITE

Record ends and is returned to magazine.

1. Tone arm cutoff sends a cancel signal to C.C.C.
2. C.C.C. turns on "Tran. Motor" LED, causing mechanism control to energize transfer motor.
3. Gripper bow picks up record and returns it to magazine.



3. Mute signal becomes active causing amplifier to unmute.
4. Record plays.


AMP MUTE PLUG
6 3 5 4
BL
AMPLIFIER COVER TERMINAL STRIP FOR REMOTE ON-OFF SWITCH
MECHANISM 9 PIN UNIVERSAL MATE-N-LOK
PHONO HARNESS CONNECTOR
P502
J502
POWER COMMON
AMP. COVER TERM. STRIP
MAIN POWER SUPPLY
28 VAC
+28VDC
+8VDC
ON
SERVICE
OFF
RECORD
CANCEL
+8 ON SIGNAL
LOGIC COMMON
MECH. CHASSIS COMMON
AUTO CANCEL
TONE ARM CUTOFF
RECORD CANCEL AND MANUAL SCAN
TOGGLE SHIFT COILS
OUTER CAM SW
INNER CAM SW
MECHANISM CONTROL
P206
J206
RECORD PLAYING POSITION
MUTE AMPLIFIER POSITION
MAGAZINE ROTATE POSITION
P207
J207
MAGAZINE LOCKOUT POSITION
DETENT COIL
P2
J2
KEY
COIN SWITCHES
P6
J6
MUTE SIGNAL
MAGAZINE MTR SIGNAL
TRANSFER MTR SIGNAL
TOGGLE SIGNAL
TURNTABLE MOTOR
CANCEL SIGNAL
LOGIC COMMON
PLAY COUNTER SIGNAL
MONEY COUNTER SIGNAL
ON SIGNAL
SERVICE SIGNAL
OUTER CAM SW N.O. CONTACT
INNER CAM SW N.O. CONTACT
OPTICAL SW INDEX
OPTICAL SW HOME
DETENT SIGNAL
J205
P205
DETENT COIL
MAGAZINE MOTOR
TRANSFER MOTOR
TOGGLE SHIFT COILS
TURNTABLE MOTOR
CANCEL
OPTICAL SW INDEX
OPTICAL SW HOME
P201
J201
3μF
T.T. MOTOR
NOTE
MOTOR ASS'Y SHOWN IS 3-07919-07 (60Hz)
P203
J203
INDEX
HOME
KEY
OPTICAL SWITCH
P204
J204
PLAY COUNTER
MONEY COUNTER
NOTE
VOLTAGES ARE APPROXIMATE AND VARIATIONS ARE EXPECTED
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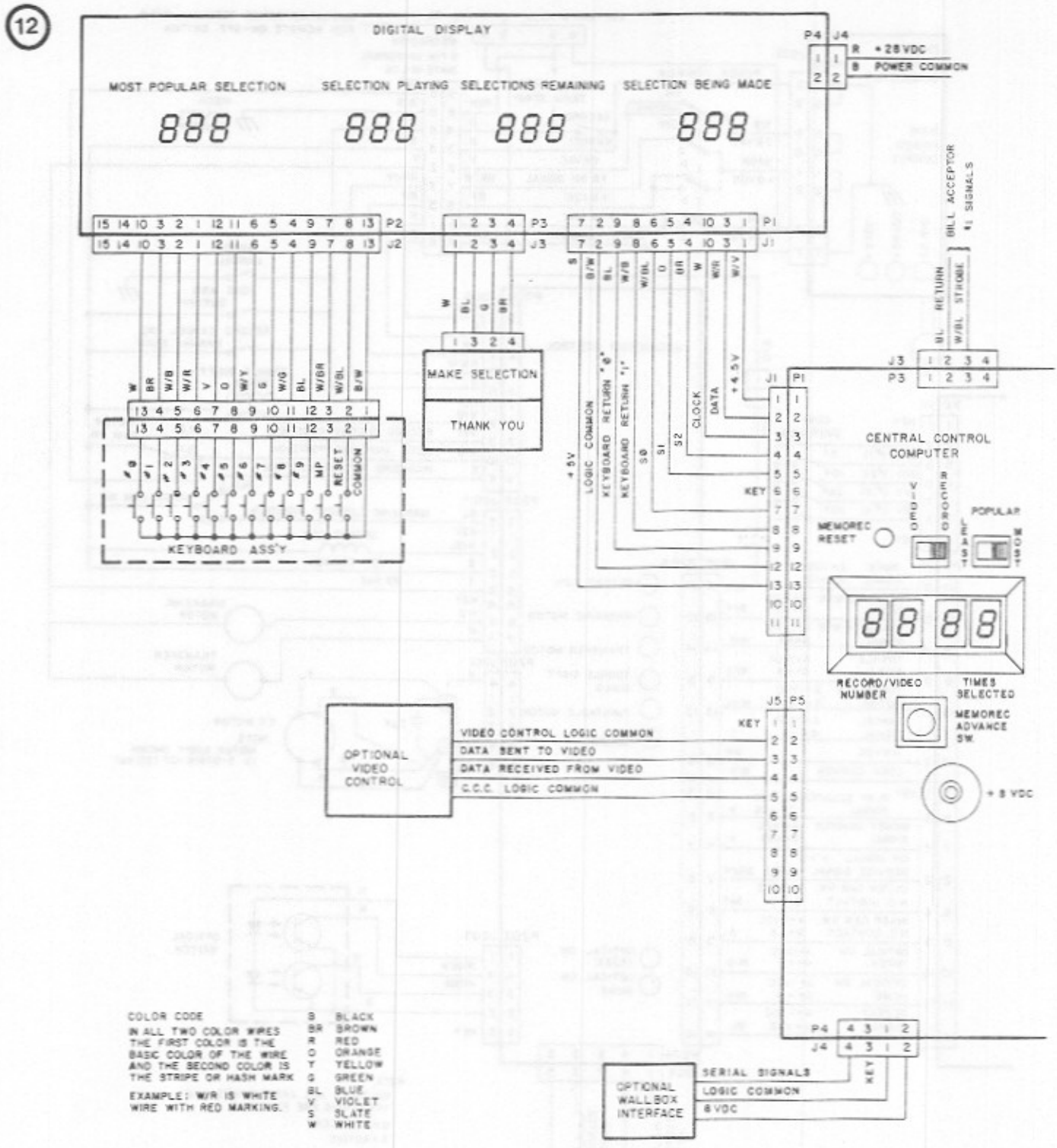
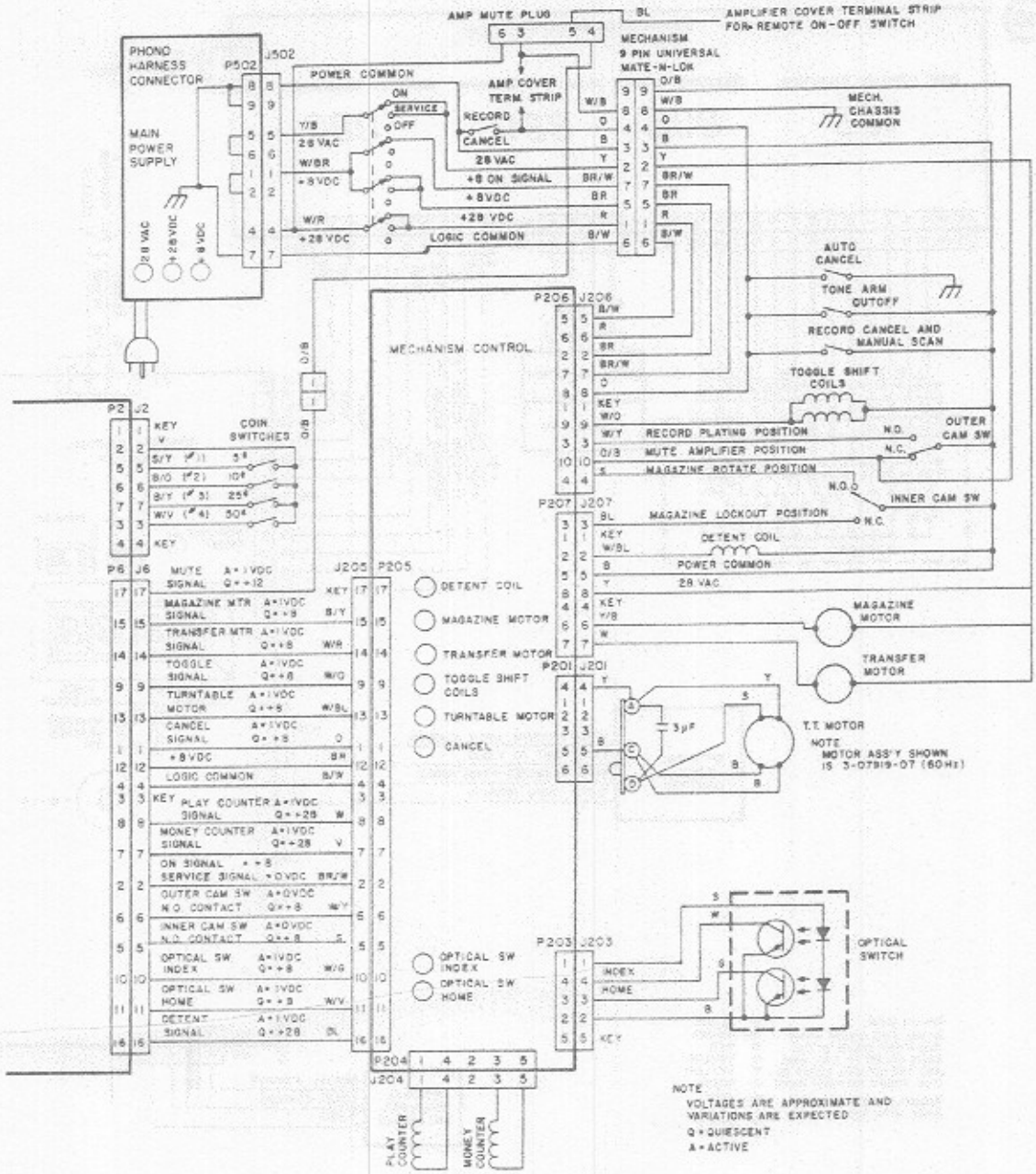
A = ACTIVE



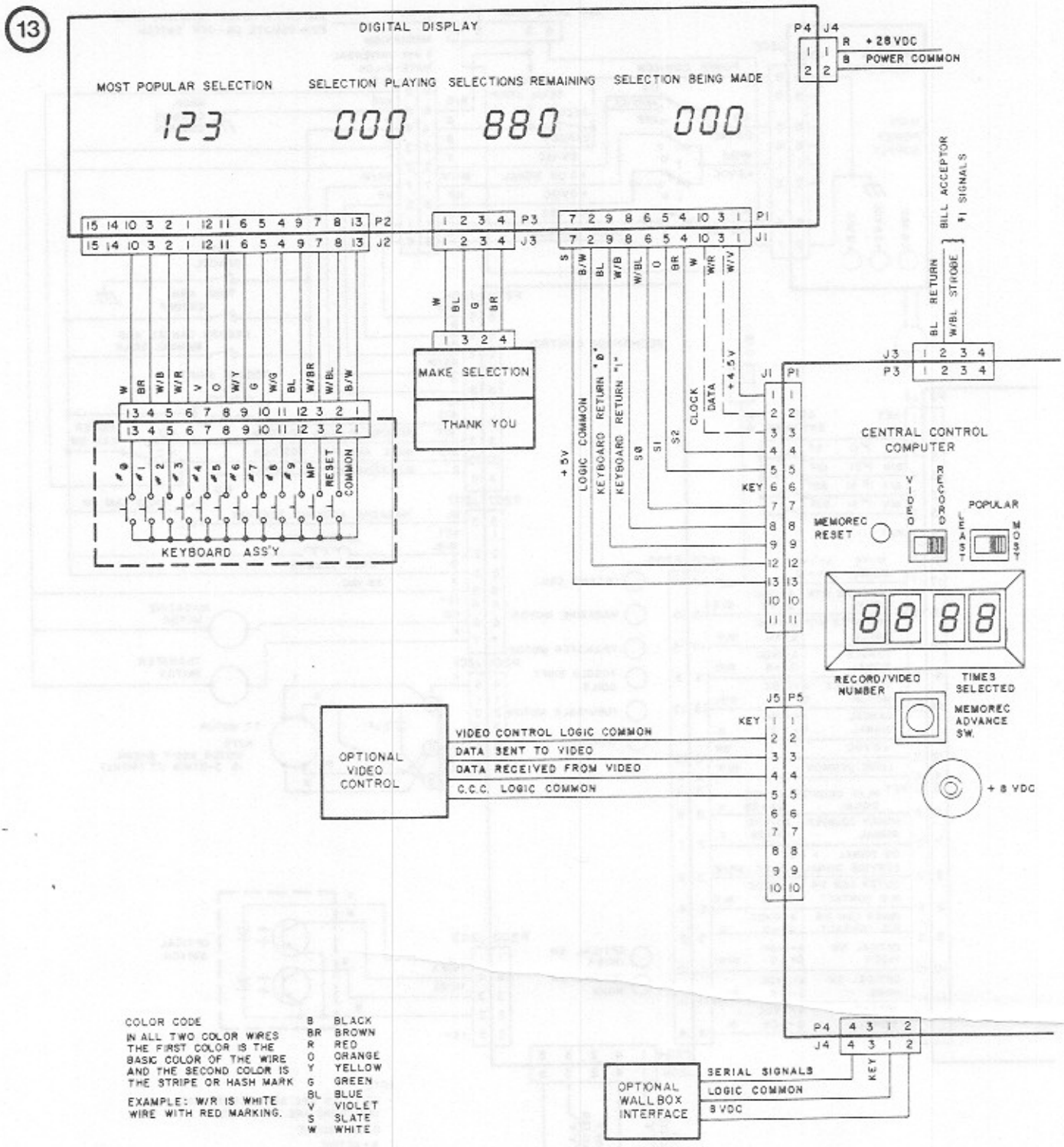
Transfer cycle ends, C.C.C. searches selection memory.

1. Cam rotates onto inner cam switch.
2. "Inner cam sw. N.O. contact" signals C.C.C. the transfer cycle is completed.
3. C.C.C. turns off "Tran. Motor" and "T.T. Motor" LEDs causing mechanism control to turn off these motors.



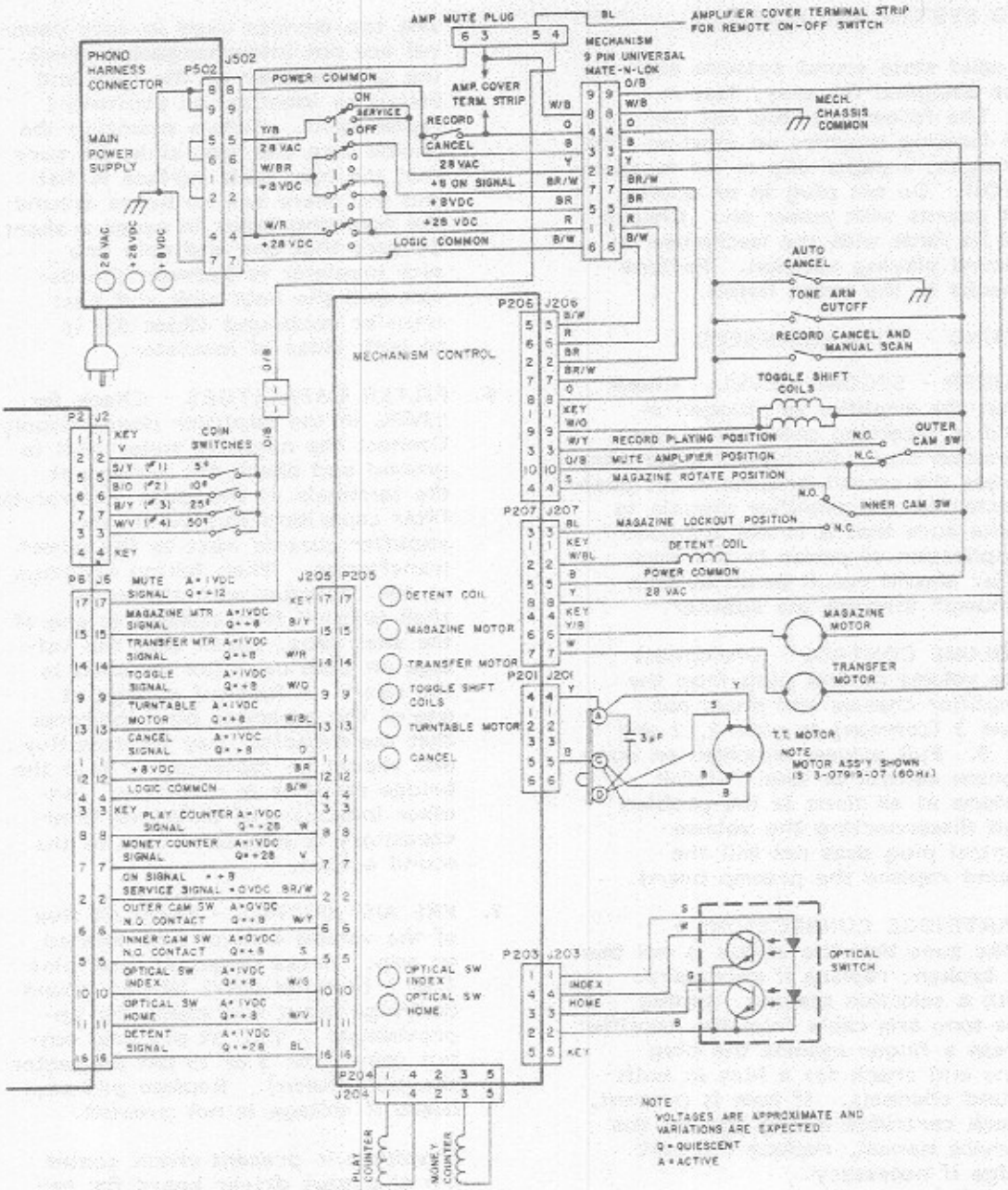
4. C.C.C. electronically searches its selection memory. If the memory contains one or more selections, sequences 8 thru 14 will be repeated.

5. If "order of play" switch is in as selected position, the selection will be located and played in the order they were selected.



Phonograph returns to standby condition, most popular selection displayed.

1. All selections have been played.
2. Read out shows most popular record on the phono. The diagram shows record "123" as the most popular.


AMP MUTE PLUG
6 3 5 4
BL
AMPLIFIER COVER TERMINAL STRIP FOR REMOTE ON-OFF SWITCH
MECHANISM 9 PIN UNIVERSAL MATE-N-LOK
PHONO HARNESS CONNECTOR
P502
J502
MAIN POWER SUPPLY
28 VAC
+28 VDC
+8 VDC
POWER COMMON
AMP. COVER TERM. STRIP
ON
SERVICE
OFF
RECORD
CANCEL
Y/B
28 VAC
W/BR
+8 VDC
W/R
+28 VDC
+8 ON SIGNAL
+8 VDC
+28 VDC
LOGIC COMMON
O/B
W/B
O
B
Y
BR/W
BR
R
B/W
MECH. CHASSIS COMMON
AUTO CANCEL
TONE ARM CUTOFF
RECORD CANCEL AND MANUAL SCAN
TOGGLE SHIFT COILS
OUTER CAM SW
INNER CAM SW
N.O.
N.C.
MECHANISM CONTROL
P206
J206
P207
J207
KEY W/O
W/Y RECORD PLAYING POSITION
O/B MUTE AMPLIFIER POSITION
S MAGAZINE ROTATE POSITION
BL MAGAZINE LOCKOUT POSITION
KEY W/BL
DETENT COIL
POWER COMMON
28 VAC
KEY Y/B
W
MAGAZINE MOTOR
TRANSFER MOTOR
P2
J2
KEY
COIN SWITCHES
S/Y (#1) 5¢
B/O (#2) 10¢
B/Y (#3) 25¢
W/V (#4) 50¢
P8
J8
J205
P205
MUTE SIGNAL A=1VDC Q=+12
MAGAZINE MTR SIGNAL A=1VDC Q=+8 B/Y
TRANSFER MTR SIGNAL A=1VDC Q=+8 W/R
TOGGLE SIGNAL A=1VDC Q=+8 W/O
TURNTABLE MOTOR A=1VDC Q=+8 W/BL
CANCEL SIGNAL A=1VDC Q=+8 O
+8 VDC BR
LOGIC COMMON B/W
KEY
PLAY COUNTER SIGNAL A=1VDC Q=+28 W
MONEY COUNTER SIGNAL A=1VDC Q=+28 V
ON SIGNAL + +8
SERVICE SIGNAL +0VDC BR/W
OUTER CAM SW N.O. CONTACT A=0VDC Q=+8 W/Y
INNER CAM SW N.O. CONTACT A=0VDC Q=+8 S
OPTICAL SW INDEX A=1VDC Q=+8 W/G
OPTICAL SW HOME A=1VDC Q=+8 W/V
DETENT SIGNAL A=1VDC Q=+28 BL
DETENT COIL
MAGAZINE MOTOR
TRANSFER MOTOR
TOGGLE SHIFT COILS
TURNTABLE MOTOR
CANCEL
OPTICAL SW INDEX
OPTICAL SW HOME
P201
J201
3 μF
T.T. MOTOR
NOTE
MOTOR ASSY SHOWN IS 3-079979-07 (60Hz)
P203
J203
INDEX
HOME
KEY
OPTICAL SWITCH
P204
J204
PLAY COUNTER
MONEY COUNTER
NOTE
VOLTAGES ARE APPROXIMATE AND VARIATIONS ARE EXPECTED
Q = QUIESCENT
A = ACTIVE

SOUND SYSTEM QUICK CHECK

Rowe solid state sound systems are service designed for easy, fast repair. The following check list will enable locating troubles on location with your finger, a paper clip or an inexpensive VOM. Do not plug in or unplug circuit boards with power on. Checks should be made with the mechanism in the record playing position. Perform the checks in the order listed.

NO SOUND - BOTH CHANNELS

1. POWER - SECOND LEVEL - Check that the amplifier is plugged in and is receiving power from the junction box. Disconnect mute plug. Press the circuit breaker reset pushbutton on the amplifier chassis to make sure that it is not tripped. Application of power to the amplifier should result in an audible "thump" through the speaker.

2. VOLUME CONTROL - Disconnect the volume control plug from the amplifier chassis and short out pins 3 (common) to pins 1, 2 and 4, 5. Full volume indicates an open volume control or line. If full volume at all times is the problem and disconnecting the volume control plug does not kill the sound replace the preamp board.

3. CARTRIDGE CONNECTIONS - Make sure that the stylus is not bent or broken; replace if necessary. With a selection playing, unplug the tone arm cable from the amplifier. Press a finger against the plug pins and check for a hum in both sound channels. If hum is present, check cartridge wiring against the service manual, replace the cartridge if necessary.

4. EXTENSION SPEAKERS - To check if extension speakers are shorting out the amp, simply disconnect the extension speaker plug from the transformer package receptacle.

5. OUTPUT DEVICES - Visually inspect the driver board fuses for an open condition. If a fuse is open, replace the associated output device. The two devices used in each channel are not interchangeable check the part number on the case and install an identical or equivalent replacement. Before mounting the device onto the heat sink, be sure that the heat sink surface is flat and the there are no burrs around the mounting holes to cause a short. Be sure that one and only one mica insulator is between the device and the heat sink and heat transfer compound (Spec 53) is on both sides of insulator.

6. FILTER CAPACITORS - Check for ±2VDC in the amplifier power supply. Connect the negative meter lead to ground and check the voltage at the terminals of the large electrolytic filter capacitors located on the amplifier chassis next to the power transformer. When taking readings on the capacitor with the outer shell isolated from chassis to one of the shell tabs, check that the voltage on each capacitor terminal is the same. A lowered voltage at one of the capacitor pins indicates that the capacitor may be defective and should be replaced, or that the bridge rectifier is defective. Another indication of defective filter capacitors is excessive hum in the sound output.

7. PRE AMP OUTPUT - Short all five of the volume control pins located on amp. Press finger against pins 1 or 3 (outside pins) labeled phono cartridge input and check for approximately 1 VAC at pre amp output (pins 3 or 5 of 13 pin connector-chassis common). Replace pre amp board if voltage is not present.

   If voltage is present check center pin of output driver board for approximately 16 VAC. If voltage is not present make sure finger is pressed against the same outside pin with respect to channel that is being checked with volt meter.

NO SOUND, LOW SOUND OR DISTORTED SOUND RIGHT OR LEFT CHANNEL ONLY.

1. BALANCE CONTROL - Adjust control for equal sound from each channel. Leave in mid position if adjustment is not possible.

2. REVERSE CARTRIDGE LEADS - With a selection playing reverse tone arm cable connections to the amplifier. If the sound switches channels, check cartridge connections against the service manual. Replace the cartridge if connections are O.K. Make sure that the stylus is not bent or broken; replace if necessary.

3. EXTENSION SPEAKERS - See Step 4.

4. OUTPUT DEVICES - See Step 5.

5. PREAMP - See Step 7.

6. DRIVER BOARDS - If one driver board is defective, switch input to "Mono" and use one good channel in emergency.

CONSTANT HIGH VOLUME - CANNOT BE ADJUSTED AT VOLUME CONTROL

1. VOLUME CONTROL - Disconnect volume control plug from amplifier chassis. No sound indicates that there is a short in the volume control line.

2. PREAMP - If there is full volume with control plug disconnected, replace the preamplifier board.

EXCESSIVE RECORD SCRATCH

1. WORN RECORDS - Replace worn records.

2. DAMAGED STYLUS - Make sure that the stylus is not worn or broken; replace if necessary. Check stylus force.

3. TREBLE RANGE CONTROL TOO HIGH - Reduce setting of control for worn or noisy records.

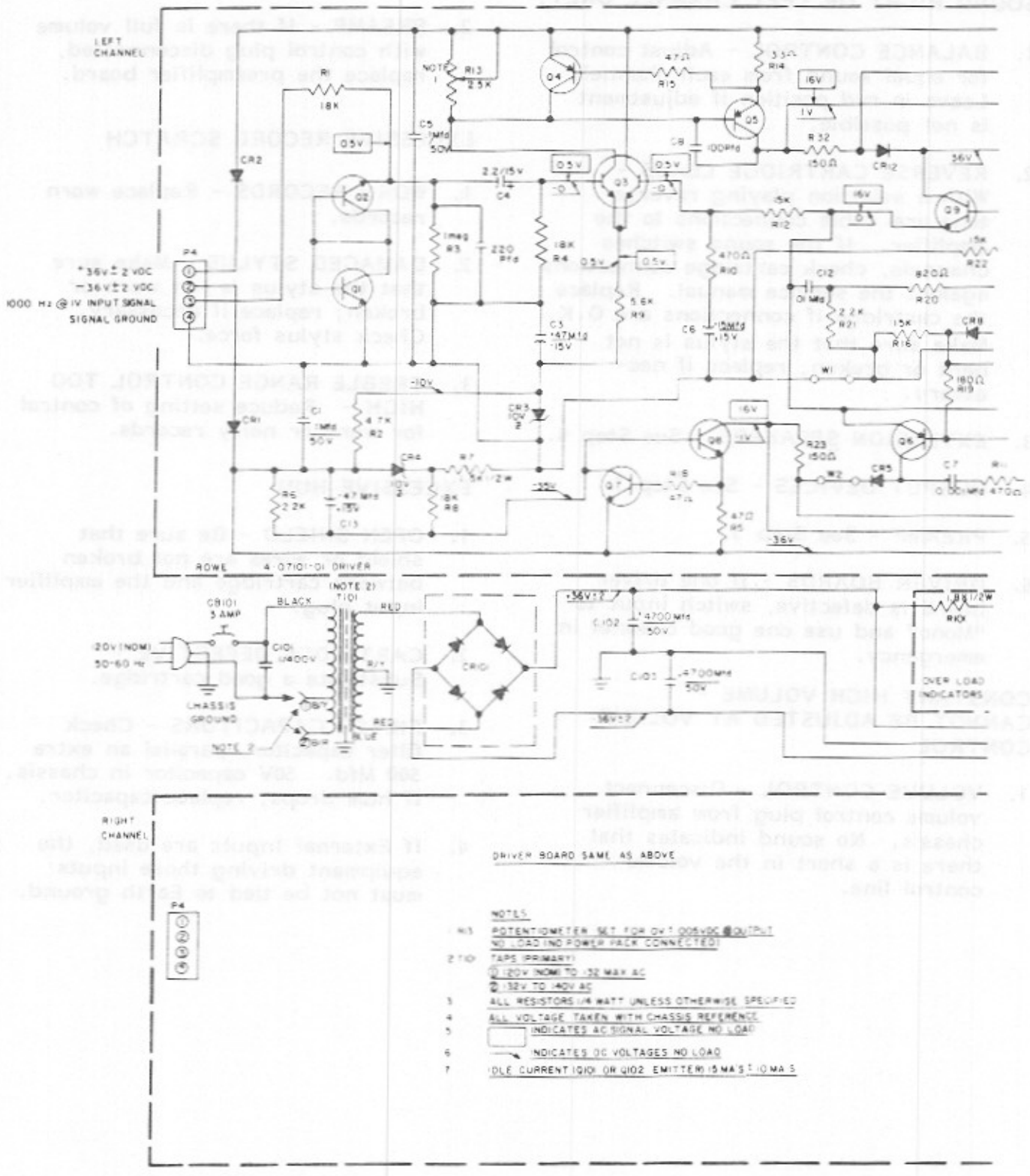
EXCESSIVE HUM

1. OPEN SHIELD - Be sure that shield or wires are not broken between cartridge and the amplifier input plug.

2. CARTRIDGE DEFECTIVE - Substitute a good cartridge.

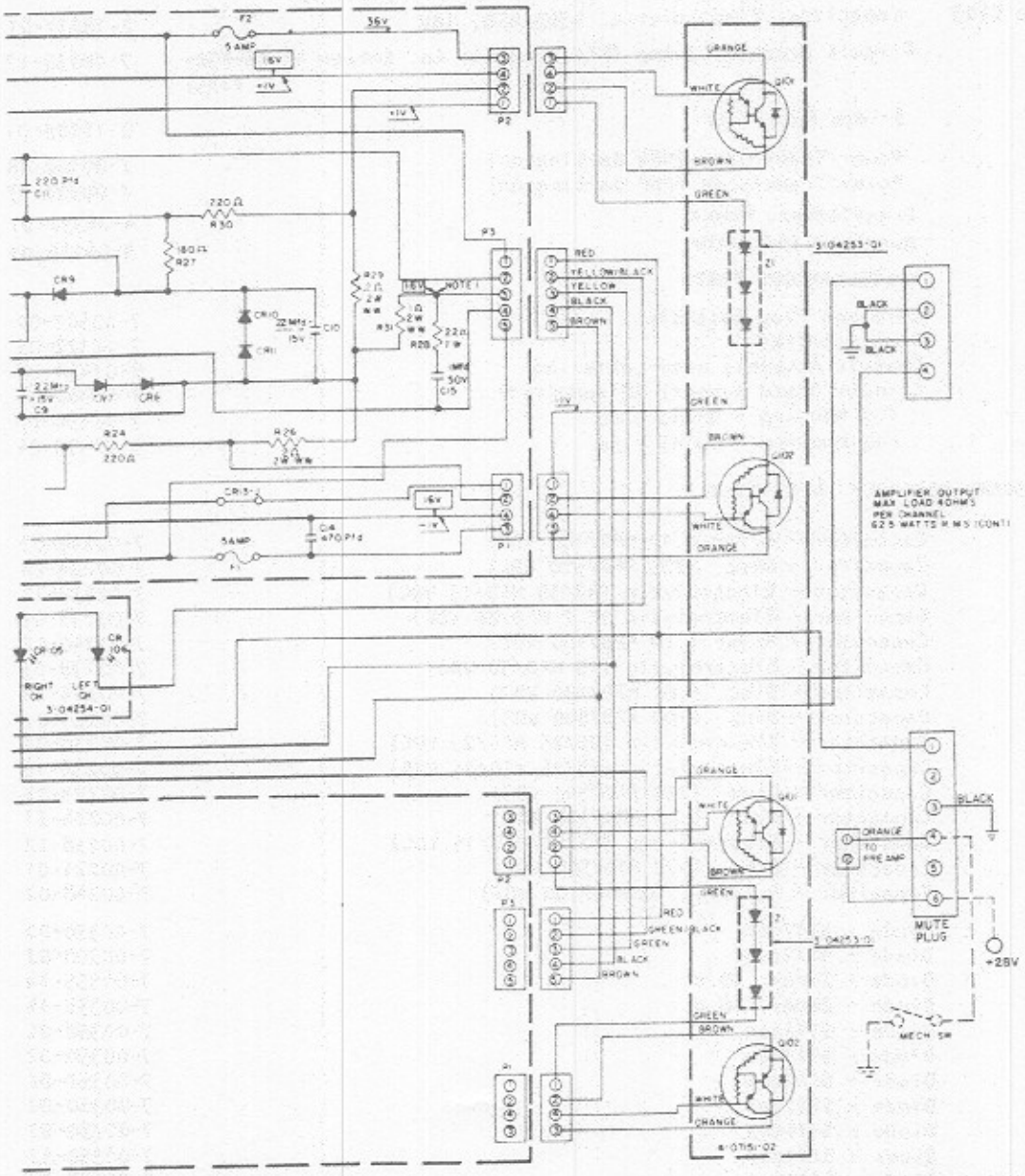
3. FILTER CAPACITORS - Check filter capacitor, parallel an extra 500 Mfd. 50V capacitor in chassis. If hum drops, replace capacitor.

4. If External Inputs are used, the equipment driving those inputs must not be tied to Earth ground.



NOTES

1. R13 POTENTIOMETER SET FOR 0V ± 005VDC @ OUTPUT NO LOAD (NO POWER PACK CONNECTED)
2. T101 TAPS (PRIMARY)
   - ① 120V (NOM) TO 132 MAX AC
   - ② 132V TO 140V AC
3. ALL RESISTORS 1/4 WATT UNLESS OTHERWISE SPECIFIED
4. ALL VOLTAGE TAKEN WITH CHASSIS REFERENCE
5. ▭ INDICATES AC SIGNAL VOLTAGE NO LOAD
6. ⏚ INDICATES DC VOLTAGES NO LOAD
7. IDLE CURRENT (Q101 OR Q102 EMITTER) 15 MA ± 10 MA S



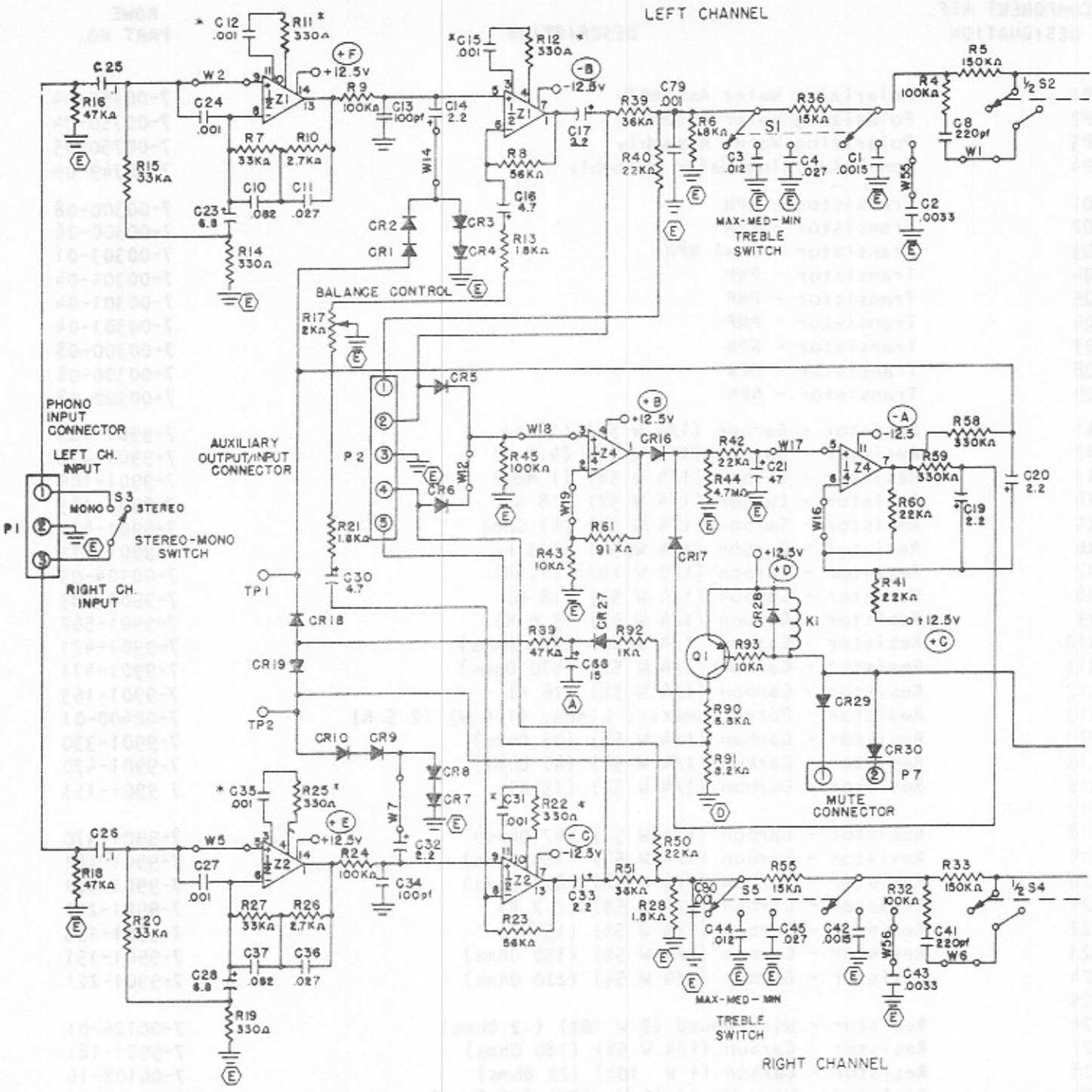
EQUIVALENT ENG'G DRAWING 6-07438-0A,07-0-2 125W POWER AMPLIFIER SCHEMATIC DIAGRAM

COMPONENT REF. DESIGNATION	DESCRIPTION	ROWE PART NO.
125 W POWER AMPLIFIER 6-07438-06		
C101	Capacitor, Mylar, 0.1 MFD, 400V (Paktron Type MB; Sprague Type 225P; Electromotive No. P91141-1)	7-00213-01
C102 to C103	Capacitor, Electrolytic, 4700 MFD, 50V	2-18231-01
CB101	Circuit Breaker, 3 Amp (ETA Products Co. Series 41-06-P30-1125)	7-00733-17
CR101	Bridge Rectifier	2-18225-01
Q101	Power Transistor (NPN Darlington)	7-00302-06
Q102	Power Transistor (PNP Darlington)	7-00302-07
T101	Transformer, Power	4-06337-01
	Overload Indicator	3-04254-01
	MISCELLANEOUS PARTS	
	Cord and Plug Assembly	7-00502-02
	Strain Relief	7-02322-05
	Chassis Assembly with Lettering	6-07441-03
	Circuit Board Support (8 required)	7-05000-04
	Cap Housing - Combo Line	3-07490-03
	Cap Housing - Combo Line	3-07490-04
DRIVER BOARD ASSEMBLY 4-07101-01		
C1	Capacitor - Mylar (.10 MFD/100 VDC)	7-00240-02
C2	Capacitor - Disc (220 PFD/500 VDC)	7-00224-06
C3	Capacitor - Electrolytic (47/50 MFD/15 VDC)	7-00238-12
C4	Capacitor - Electrolytic (2.2 MFD/80 VDC)	7-00238-05
C5	Capacitor - Mylar (.10 MFD/100 VDC)	7-00240-02
C6	Capacitor - Electrolytic (15 MFD/50 VDC)	7-00238-09
C7	Capacitor - Disc (.01 MFD/100 VDC)	7-00224-21
C8	Capacitor - Disc (100 PFD/500 VDC)	7-00224-07
C9	Capacitor - Electrolytic (22/25 MFD/25 VDC)	7-00238-10
C10	Capacitor - Electrolytic (22/25 MFD/25 VDC)	7-00238-10
C11	Capacitor - Disc (220 PFD/500 VDC)	7-00224-06
C12	Capacitor - Disc (.01 MFD/100 VDC)	7-00224-21
C13	Capacitor - Electrolytic (47/50 MFD/15 VDC)	7-00238-12
C14	Capacitor - Disc (470 PFD/500 VDC)	7-00224-01
C15	Capacitor - Mylar (.10 MFD/100 VDC)	7-00240-02
CR1	Diode - Silicon	7-00350-02
CR2	Diode - Silicon	7-00350-02
CR3	Diode - Zener 10 V	7-00355-14
CR4	Diode - Zener 10 V	7-00355-14
CR5	Diode - Silicon	7-00350-02
CR6	Diode - Silicon	7-00350-02
CR7	Diode - Silicon	7-00350-02
CR8	Diode - Silicon	7-00350-02
CR9	Diode - Silicon	7-00350-02
CR10	Diode - Silicon	7-00350-02
CR11	Diode - Silicon	7-00350-02
CR12	Diode - Silicon	7-00350-02
CR13	Bare Wire	0-05039-00
F1	Fuse - 5 Amp	7-00720-10
F2	Fuse - 5 Amp	7-00720-10

COMPONENT REF. DESIGNATION	DESCRIPTION	ROWE PART NO.
P1	Polarizing Wafer Assembly	7-00750-04
P2	Polarizing Wafer Assembly	7-00750-04
P3	Polarizing Wafer Assembly	7-00750-05
P4	Non-Polarizing Wafer Assembly	7-00749-04
Q1	Transistor - NPN	7-00300-08
Q2	Transistor - NPN	7-00300-08
Q3	Transistor - Dual NPN	7-00303-01
Q4	Transistor - PNP	7-00301-04
Q5	Transistor - PNP	7-00301-04
Q6	Transistor - PNP	7-00301-04
Q7	Transistor - NPN	7-00300-08
Q8	Transistor - NPN	7-00300-08
Q9	Transistor - NPN	7-00300-08
R1	Resistor - Carbon (1/4 W 5%) (18 K)	7-9901-183
R2	Resistor - Carbon (1/4 W 5%) (4.7 K)	7-9901-472
R3	Resistor - Carbon (1/4 W 5%) (1 Meg)	7-9901-105
R4	Resistor - Carbon (1/4 W 5%) (18 K)	7-9901-183
R5	Resistor - Carbon (1/4 W 5%) (47 Ohm)	7-9901-470
R6	Resistor - Carbon (1/4 W 5%) (2.2 K)	7-9901-222
R7	Resistor - Carbon (1/2 W 10%) (1.5K)	7-00104-05
R8	Resistor - Carbon (1/4 W 5%) (18 K)	7-9901-183
R9	Resistor - Carbon (1/4 W 5%) (5.6 K)	7-9901-562
R10	Resistor - Carbon (1/4 W 5%) (470 Ohms)	7-9901-471
R11	Resistor - Carbon (1/4 W 5%) (470 Ohms)	7-9901-471
R12	Resistor - Carbon (1/4 W 5%) (16 K)	7-9901-163
R13	Resistor - Potentiometer, Linear (1/4 W) (2.5 K)	7-00400-01
R14	Resistor - Carbon (1/4 W 5%) (33 Ohms)	7-9901-330
R15	Resistor - Carbon (1/4 W 5%) (47 Ohms)	7-9901-470
R16	Resistor - Carbon (1/4 W 5%) (15 K)	7 9901-153
R17		
R18	Resistor - Carbon (1/4 W 5%) (47 Ohms)	7-9901-470
R19	Resistor - Carbon (1/4 W 5%) (180 Ohms)	7-9901-181
R20	Resistor - Carbon (1/4 W 5%) (820 Ohms)	7-9901-821
R21	Resistor - Carbon (1/4 W 5%) (2.2 K)	7-9901-222
R22	Resistor - Carbon (1/4 W 5%) (15 K)	7-9901-153
R23	Resistor - Carbon (1/4 W 5%) (150 Ohms)	7-9901-151
R24	Resistor - Carbon (1/4 W 5%) (220 Ohms)	7-9901-221
R25		
R26	Resistor - Wire Wound (2 W 10%) (.2 Ohms)	7-00126-01
R27	Resistor - Carbon (1/4 W 5%) (180 Ohms)	7-9901-181
R28	Resistor - Carbon (1 W 10%) (22 Ohms)	7-00108-16
R29	Resistor - Wire Wound (2 W 10%) (.2 Ohms)	7-00126-01
R30	Resistor - Carbon (1/4 W 5%) (220 Ohms)	7-9901-221
R31	Resistor - Wire Wound (2 W 10%) (.1 Ohms)	7-00126-02
R32	Resistor - Carbon (1/4 W 5%) (150 Ohms)	7-9901-151
W1 - W2	Bare Wire	0-05039-00

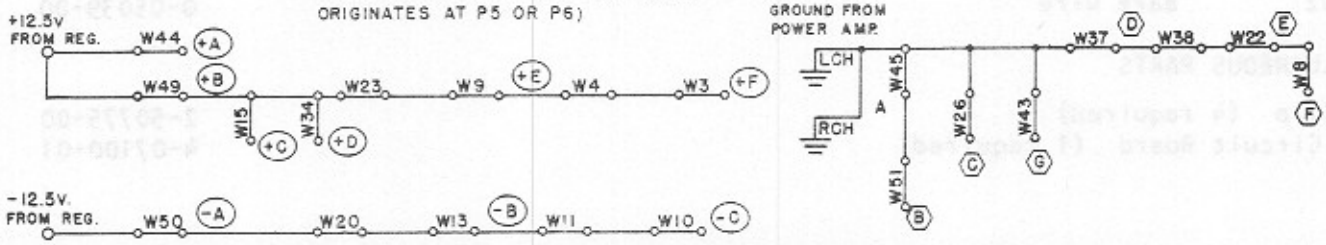
MISCELLANEOUS PARTS

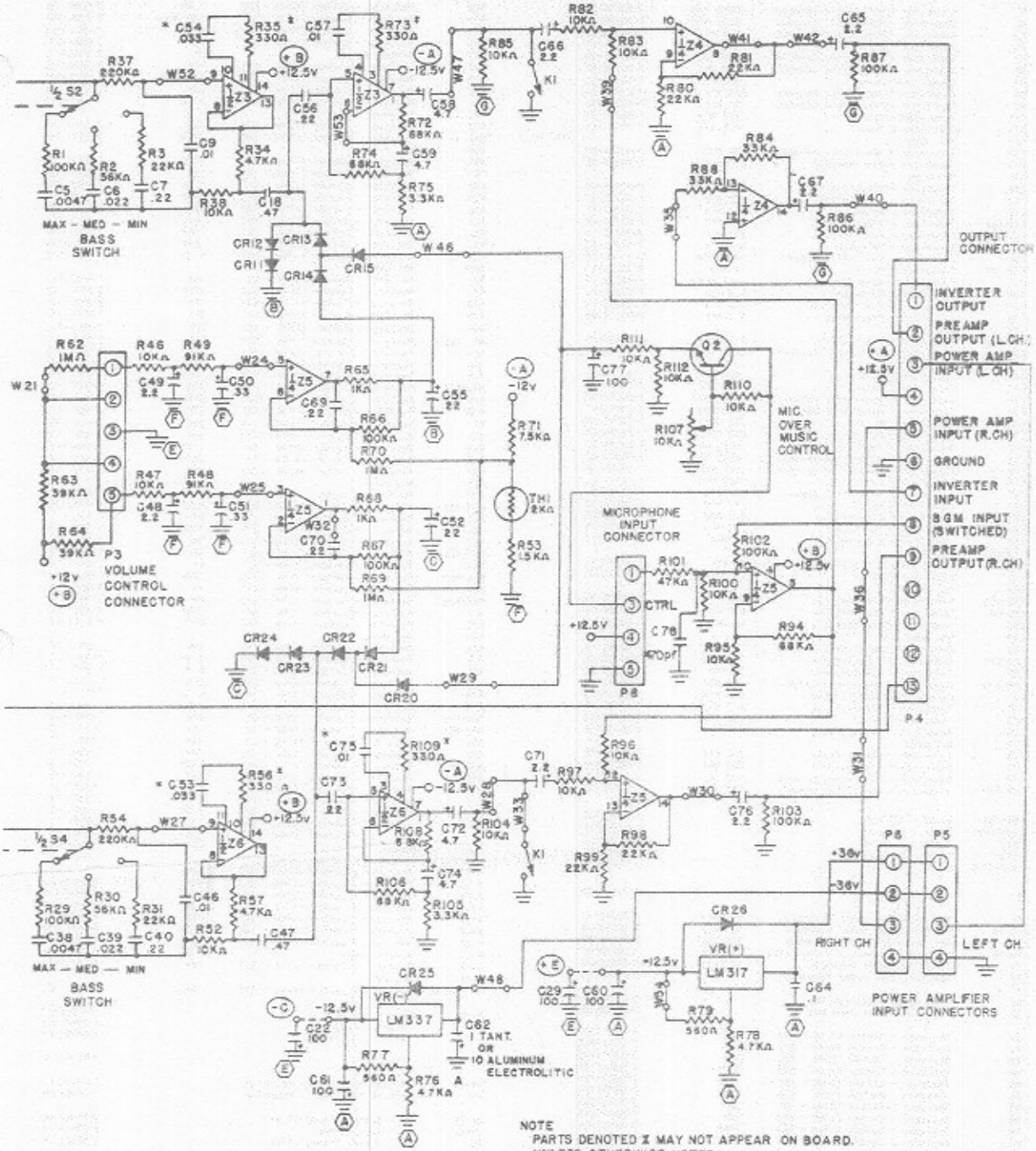
Fuse Clip (4 required)	2-50775-00
Drive Circuit Board (1 required)	4-07100-01



POWER SUPPLY JUMPER DIAGRAM

+12.5v, -12.5v, AND GROUND CONNECTIONS
(+12.5v, -12.5v LINE STARTING FROM EACH RESPECTIVE REGULATOR AND THE GROUND LINE STARTING FROM THE POWER AMP. GROUND WHICH ORIGINATES AT P5 OR P6)





NOTE
PARTS DENOTED ✕ MAY NOT APPEAR ON BOARD.
UNLESS OTHERWISE NOTED:
ALL CAPACITORS ARE RATED IN μf.
ALL RESISTORS ARE 1/4 WATT.
INVERTER INTENDED FOR LEFT CHANNEL USAGE ONLY

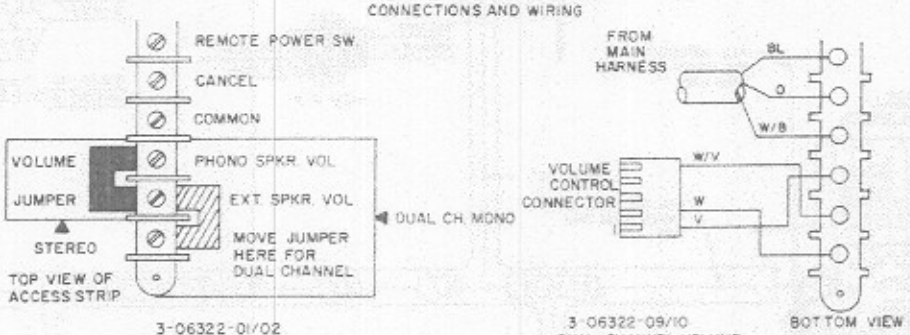
STEREO PREAMPLIFIER ASS'Y
EQUIVANT ENG DWG 6-07925-01-Q-2 F

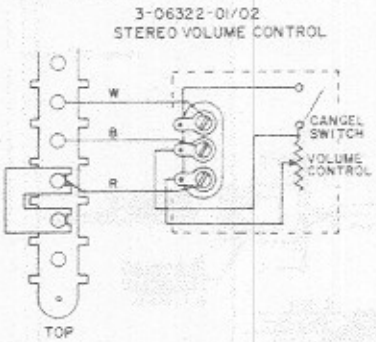
COMPONENT LIST

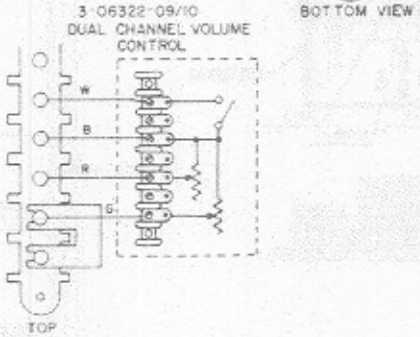
C1	Capacitor - Monolithic Ceramic	.0015 Mfd	7-00286-21
C2	Capacitor - Monolithic Ceramic	.0033 Mfd	7-00286-27
C3	Capacitor - Monolithic Ceramic	.012 Mfd	7-00286-38
C4	Capacitor - Mylar	.027 Mfd	7-00215-35
C5	Capacitor - Monolithic Ceramic	.0047 Mfd	7-00286-30
C6	Capacitor - Monolithic Ceramic	.022 Mfd	7-00286-41
C7	Capacitor - Mylar	.22 Mfd	7-00215-53
C8	Capacitor - Monolithic Ceramic	220 Pfd	7-00286-06
C9	Capacitor - Monolithic Ceramic	.01 Mfd	7-00286-17
C10	Capacitor - Mylar	.082 Mfd	7-00215-47
C11	Capacitor - Mylar	.022 Mfd	7-00215-35
C12	Not Used		
C13	Capacitor - Monolithic Ceramic	100 Pfd	7-00286-01
C14	Capacitor - Electrolytic	2.2 Mfd	7-00238-05
C15	Not Used		
C16	Capacitor - Electrolytic	4.7 Mfd	7-00238-06
C17	Capacitor - Electrolytic	2.2 Mfd	7-00238-05
C18	Capacitor - Mylar	.47 Mfd	7-00215-57
C19-C20	Capacitor - Electrolytic	2.2 Mfd	7-00238-05
C21-C22	Capacitor - Electrolytic	100 Mfd	7-00238-14
C23	Capacitor - Tantalum	6.8 Mfd	7-00251-20
C24	Capacitor - Monolithic Ceramic	.001 Mfd	7-00286-18
C25-C26	Capacitor - Mylar	.1 Mfd	7-00215-49
C27	Capacitor - Monolithic Ceramic	.001 Mfd	7-00286-18
C28	Capacitor - Tantalum	6.8 Mfd	7-00251-20
C29	Capacitor - Electrolytic	100 Mfd	7-00238-14
C30	Capacitor - Electrolytic	4.7 Mfd	7-00238-06
C31	Not Used		
C32-C33	Capacitor - Electrolytic	2.2 Mfd	7-00238-05
C34	Capacitor - Monolithic Ceramic	100 Pfd	7-00286-01
C35	Not Used		
C36	Capacitor - Mylar	.022 Mfd	7-00215-35
C37	Capacitor - Mylar	.082 Mfd	7-00215-47
C38	Capacitor - Monolithic Ceramic	.0047 Mfd	7-00286-30
C39	Capacitor - Monolithic Ceramic	.022 Mfd	7-00286-41
C40	Capacitor - Mylar	.22 Mfd	7-00215-53
C41	Capacitor - Monolithic Ceramic	220 Pfd	7-00286-06
C42	Capacitor - Monolithic Ceramic	.0015 Mfd	7-00286-21
C43	Capacitor - Monolithic Ceramic	.0033 Mfd	7-00286-27
C44	Capacitor - Monolithic Ceramic	.012 Mfd	7-00286-38
C45	Capacitor - Mylar	.027 Mfd	7-00215-35
C46	Capacitor - Monolithic Ceramic	.01 Mfd	7-00286-17
C47	Capacitor - Mylar	.47 Mfd	7-00215-57
C48-C49	Capacitor - Electrolytic	2.2 Mfd	7-00238-05
C50-C51	Capacitor - Tantalum	33 Mfd	7-00251-19
C52	Capacitor - Electrolytic	22 Mfd	7-00238-10
C53-C54	Not Used		
C55	Capacitor - Electrolytic	22 Mfd	7-00238-10
C56	Capacitor - Mylar	.22 Mfd	7-00215-53
C57	Not Used		
C58-C59	Capacitor - Electrolytic	4.7 Mfd	7-00238-06
C60-C61	Capacitor - Electrolytic	100 Mfd	7-00238-14
C62	Capacitor - Electrolytic	10 Mfd	7-00238-08
C63	Not Used		
C64	Capacitor - Monolithic Ceramic	.1 Mfd	7-00285-14
C65-C67	Capacitor - Electrolytic	2.2 Mfd	7-00238-05
C68	Capacitor - Electrolytic	15 Mfd	7-00238-09
C69-C70	Capacitor - Monolithic Ceramic	.22 Mfd	7-00285-10
C71	Capacitor - Electrolytic	2.2 Mfd	7-00238-05
C72	Capacitor - Electrolytic	4.7 Mfd	7-00238-06
C73	Capacitor - Mylar	.22 Mfd	7-00215-53
C74	Capacitor - Electrolytic	4.7 Mfd	7-00238-06
C75	Not Used		
C76	Capacitor - Electrolytic	2.2 Mfd	7-00238-05
C77	Capacitor - Electrolytic	100 Mfd	7-00238-14
C78	Capacitor - Monolithic Ceramic	470 pF	7-00286-12
C79-C80	Capacitor - Monolithic Ceramic	.001 MFD	7-00286-18
CR1-CR24	Diode - Silicon		7-00350-07
CR25-CR26	Diode - Silicon		7-00350-05
CR27	Diode - Silicon		7-00350-07
CR28	Diode - Silicon		7-00350-05
CR29-CR30	Diode - Silicon		7-00350-07
K1	Relay - Reed		7-00422-07
P1	Non-Polarized Wafer Assembly	(3 Ckt)	7-00749-23
P2-P3	Non-Polarized Wafer Assembly	(5 Ckt)	7-00749-23
P4	Non-Polarized Wafer Assembly	(13 Ckt)	7-00749-31
P5-P6	P. C. Bd. Connector - Top Entry	(4 Ckt)	7-00748-02
P7	Polarized Wafer Assembly	(2 Ckt)	7-00750-02
P8	Non-Polarized Wafer Assembly	(5 Ckt)	7-00749-23
Q1	Transistor - Silicon PNP		7-00301-04
Q2	Transistor - Silicon NPN		7-00300-08
R1	Resistor - Carbon (1/4W - 5%)	100K	7-9901-104
R2	Resistor - Carbon (1/4W - 5%)	56K	7-9901-563
R3	Resistor - Carbon (1/4W - 5%)	22K	7-9901-223
R4	Resistor - Carbon (1/4W - 5%)	100K	7-9901-104
R5	Resistor - Carbon (1/4W - 5%)	150K	7-9901-154
R6	Resistor - Carbon (1/4W - 5%)	1.8K	7-9901-182
R7	Resistor - Carbon (1/4W - 5%)	33K	7-9901-333
R8	Resistor - Carbon (1/4W - 5%)	56K	7-9901-563
R9	Resistor - Carbon (1/4W - 5%)	100K	7-9901-104
R10	Resistor - Carbon (1/4W - 5%)	2.7K	7-9901-272
R11-R12	Not Used		
R13	Resistor - Carbon (1/4W - 5%)	1.8K	7-9901-182
R14	Resistor - Carbon (1/4W - 5%)	330 Ohms	7-9901-331
R15	Resistor - Carbon (1/4W - 5%)	33K	7-9901-333
R16	Resistor - Carbon (1/4W - 5%)	47K	7-9901-473
R17	Potentiometer	2K	7-00400-12
R18	Resistor - Carbon (1/4W - 5%)	47K	7-9901-473
R19	Resistor - Carbon (1/4W - 5%)	330 Ohms	7-9901-331
R20	Resistor - Carbon (1/4W - 5%)	33K	7-9901-333
R21	Resistor - Carbon (1/4W - 5%)	1.8K	7-9901-182
R22	Not Used		
R23	Resistor - Carbon (1/4W - 5%)	56K	7-9901-563
R24	Resistor - Carbon (1/4W - 5%)	100K	7-9901-104
R25	Not Used		
R26	Resistor - Carbon (1/4W - 5%)	2.7K	7-9901-272
R27	Resistor - Carbon (1/4W - 5%)	33K	7-9901-333
R28	Resistor - Carbon (1/4W - 5%)	1.8K	7-9901-182
R29	Resistor - Carbon (1/4W - 5%)	100K	7-9901-104
R30	Resistor - Carbon (1/4W - 5%)	56K	7-9901-563
R31	Resistor - Carbon (1/4W - 5%)	22K	7-9901-223
R32	Resistor - Carbon (1/4W - 5%)	100K	7-9901-104
R33	Resistor - Carbon (1/4W - 5%)	150K	7-9901-154
R34	Resistor - Carbon (1/4W - 5%)	4.7K	7-9901-472
R35	Not Used		
R36	Resistor - Carbon (1/4W - 5%)	15K	7-9901-153
R37	Resistor - Carbon (1/4W - 5%)	220K	7-9901-224
R38	Resistor - Carbon (1/4W - 5%)	10K	7-9901-103
R39	Resistor - Carbon (1/4W - 5%)	36K	7-9901-363
R40	Resistor - Carbon (1/4W - 5%)	22K	7-9901-223
R41-R42	Resistor - Carbon (1/4W - 5%)	22K	7-9901-223
R43	Resistor - Carbon (1/4W - 5%)	10K	7-9901-103
R44	Resistor - Carbon (1/4W - 5%)	4.7M	7-9901-475
R45	Resistor - Carbon (1/4W - 5%)	100K	7-9901-104
R46-R47	Resistor - Carbon (1/4W - 5%)	10K	7-9901-103
R48-R49	Resistor - Carbon (1/4W - 5%)	91K	7-9901-913
R50	Resistor - Carbon (1/4W - 5%)	22K	7-9901-223
R51	Resistor - Carbon (1/4W - 5%)	36K	7-9901-363
R52	Resistor - Carbon (1/4W - 5%)	10K	7-9901-103
R53	Resistor - Carbon (1/4W - 5%)	1.5K	7-9901-152
R54	Resistor - Carbon (1/4W - 5%)	220K	7-9901-224
R55	Resistor - Carbon (1/4W - 5%)	15K	7-9901-153
R56	Not Used		
R57	Resistor - Carbon (1/4W - 5%)	4.7K	7-9901-472
R58-R59	Resistor - Carbon (1/4W - 5%)	330K	7-9901-334
R60	Resistor - Carbon (1/4W - 5%)	91K	7-9901-913
R61	Resistor - Carbon (1/4W - 5%)	100K	7-9901-104
R62	Resistor - Carbon (1/4W - 5%)	1M	7-9901-105
R63-R64	Resistor - Carbon (1/4W - 5%)	39K	7-9901-393
R65	Resistor - Carbon (1/4W - 5%)	1K	7-9901-102
R66-R67	Resistor - Carbon (1/4W - 5%)	100K	7-9901-104
R68	Resistor - Carbon (1/4W - 5%)	1K	7-9901-102
R69-R70	Resistor - Carbon (1/4W - 5%)	1M	7-9901-105
R71	Resistor - Carbon (1/4W - 5%)	7.5K	7-9901-752
R72	Resistor - Carbon (1/4W - 5%)	68K	7-9901-683
R73	Not Used		
R74	Resistor - Carbon (1/4W - 5%)	68K	7-9901-683
R75	Resistor - Carbon (1/4W - 5%)	3.3K	7-9901-332
R76	Resistor - Carbon (1/4W - 5%)	4.7K	7-9902-472
R77	Resistor - Carbon (1/4W - 5%)	560 Ohm	7-9902-561
R78	Resistor - Carbon (1/4W - 5%)	4.7K	7-9902-472
R79	Resistor - Carbon (1/4W - 5%)	560 Ohm	7-9902-561
R80-R81	Resistor - Carbon (1/4W - 5%)	22K	7-9901-223
R82-R83	Resistor - Carbon (1/4W - 5%)	10K	7-9901-103
R84	Resistor - Carbon (1/4W - 5%)	33K	7-9901-333
R85	Resistor - Carbon (1/4W - 5%)	10K	7-9901-103
R86-R87	Resistor - Carbon (1/4W - 5%)	100K	7-9901-104
R88	Resistor - Carbon (1/4W - 5%)	33K	7-9901-333
R89	Resistor - Carbon (1/4W - 5%)	47K	7-9901-473
R90	Resistor - Carbon (1/4W - 5%)	6.8K	7-9901-682
R91	Resistor - Carbon (1/4W - 5%)	8.2K	7-9901-822
R92	Resistor - Carbon (1/4W - 5%)	1K	7-9901-102
R93	Resistor - Carbon (1/4W - 5%)	10K	7-9901-103
R94	Resistor - Carbon (1/4W - 5%)	68K	7-9901-683
R95-R97	Resistor - Carbon (1/4W - 5%)	10K	7-9901-103
R98-R99	Resistor - Carbon (1/4W - 5%)	22K	7-9901-223
R100	Resistor - Carbon (1/4W - 5%)	10K	7-9901-103
R101	Resistor - Carbon (1/4W - 5%)	47K	7-9901-473
R102-R103	Resistor - Carbon (1/4W - 5%)	100K	7-9901-104
R104	Resistor - Carbon (1/4W - 5%)	10K	7-9901-103
R105	Resistor - Carbon (1/4W - 5%)	3.3K	7-9901-332
R106	Resistor - Carbon (1/4W - 5%)	68K	7-9901-683
R107	Potentiometer	10K	7-00400-14
R108	Resistor - Carbon (1/4W - 5%)	68K	7-9901-683
R109	Not Used		
R110-R112	Resistor - Carbon (1/4W - 5%)	10K	7-9901-103
S1-S2	Switch - Slide		3-07862-03
S3	Switch - Slide		3-07862-02
S4-S5	Switch - Slide		3-07862-03
TH1	Thermistor		7-00370-02
VR+	Voltage Regulator - Positive		7-00365-07
VR-	Voltage Regulator - Negative		7-00365-08
Z1-Z3	IC - Stereo Preamplifier		3-08002-06
Z4-Z5	IC - Quad Op Amp		3-08002-15
Z6	IC - Stereo Preamplifier		3-08002-06
W1-W56	Jumper - Bare Wire		0-05039-00
DP1 - Housing			7-00755-03
Terminal			7-00756-01
DP2 - Housing			7-00755-05
Terminal			7-00756-01

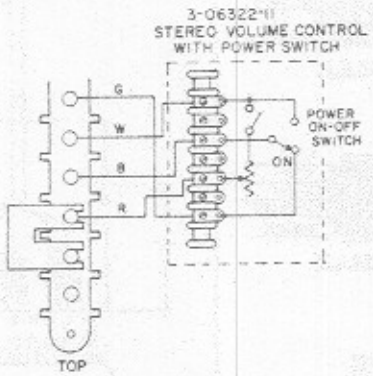
PARTS LIST STEREO PREAMPLIFIER 6-07925-01-Q-2

REMOTE VOLUME CONTROL
CONNECTIONS AND WIRING

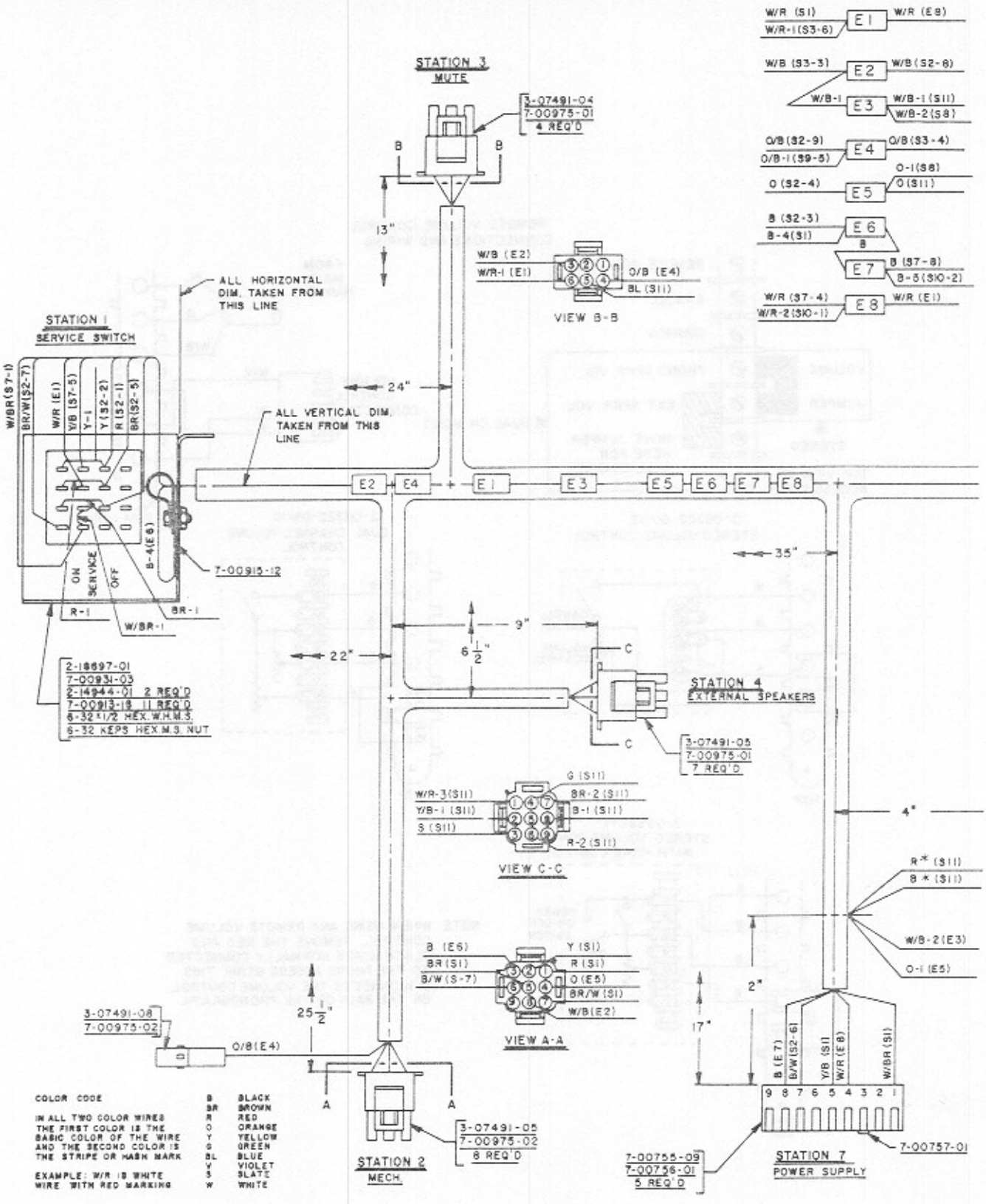


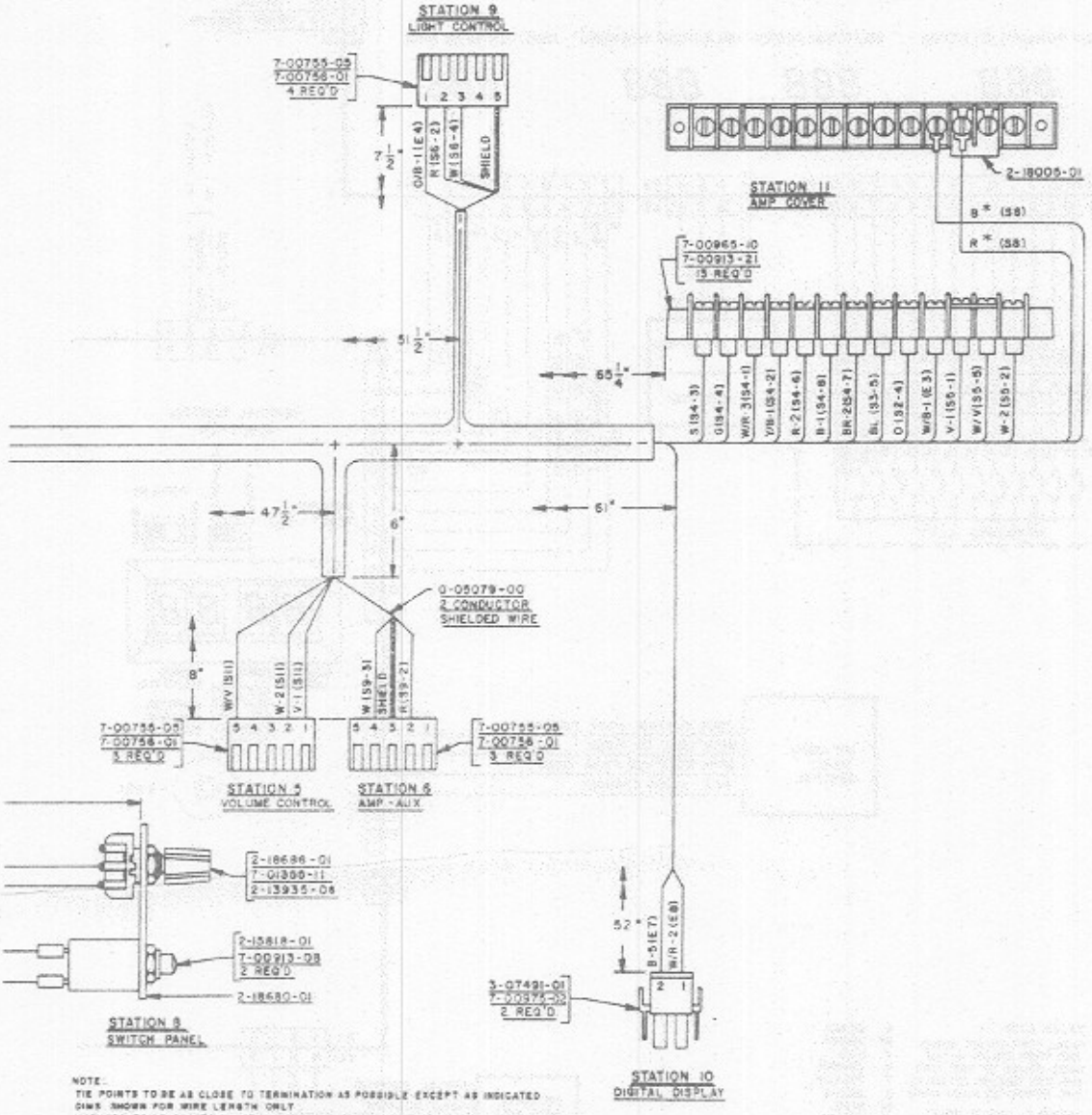






NOTE: WHEN USING ANY REMOTE VOLUME CONTROL, REMOVE THE RED AND BLACK WIRES NORMALLY CONNECTED TO THE PHONO ACCESS STRIP. THIS DISCONNECTS THE VOLUME CONTROL ON THE BACK OF THE PHONOGRAPH.


STATION 3
MUTE
3-07491-04
7-00975-01
4 REQ'D
B
B
13"
W/B (E2)
W/R-1 (E1)
O/B (E4)
BL (S11)
VIEW B-B
ALL HORIZONTAL DIM. TAKEN FROM THIS LINE
STATION 1
SERVICE SWITCH
W/BR(S7-1)
BR/W(S2-7)
W/R (E1)
V/B (S7-5)
Y-1
Y (S2-2)
R (S2-1)
BR (S2-5)
24"
ALL VERTICAL DIM. TAKEN FROM THIS LINE
E2
E4
E1
E3
E5
E6
E7
E8
ON
SERVICE
OFF
B-4(E6)
7-00915-12
R-1
W/BR-1
BR-1
2-18697-01
7-00931-03
2-14944-01 2 REQ'D
7-00913-18 11 REQ'D
6-32 x 1/2 HEX. W.H.M.S.
6-32 KEPS HEX M.S. NUT
22"
9"
6 1/2"
C
C
STATION 4
EXTERNAL SPEAKERS
3-07491-05
7-00975-01
7 REQ'D
G (S11)
W/R-3(S11)
BR-2 (S11)
Y/B-1 (S11)
B-1 (S11)
S (S11)
R-2 (S11)
VIEW C-C
35"
4"
R* (S11)
B* (S11)
W/B-2(E3)
O-1 (E5)
B (E6)
BR(S1)
B/W (S-7)
Y (S1)
R (S1)
O (E5)
BR/W (S1)
W/B(E2)
VIEW A-A
2"
17"
25 1/2"
3-07491-08
7-00975-02
O/B(E4)
A
A
B (E7)
B/W(S2-6)
Y/B (S11)
W/R (E8)
W/BR (S1)
9 8 7 6 5 4 3 2 1
7-00757-01
STATION 7
POWER SUPPLY
7-00755-09
7-00756-01
5 REQ'D
STATION 2
MECH.
3-07491-05
7-00975-02
8 REQ'D
W/R (S1)
W/R-1 (S3-6)
W/R (E8)
W/B (S3-3)
W/B (S2-8)
W/B-1
W/B-1 (S11)
W/B-2 (S8)
O/B (S2-9)
O/B-1 (S9-5)
O/B (S3-4)
O (S2-4)
O-1 (S8)
O (S11)
B (S2-3)
B-4 (S1)
B (S7-8)
B-5 (S10-2)
W/R (S7-4)
W/R-2 (S10-1)
COLOR CODE
IN ALL TWO COLOR WIRES THE FIRST COLOR IS THE BASIC COLOR OF THE WIRE AND THE SECOND COLOR IS THE STRIPE OR HASH MARK
EXAMPLE: W/R IS WHITE WIRE WITH RED MARKING
B BLACK
BR BROWN
R RED
O ORANGE
Y YELLOW
G GREEN
BL BLUE
V VIOLET
S SLATE
W WHITE

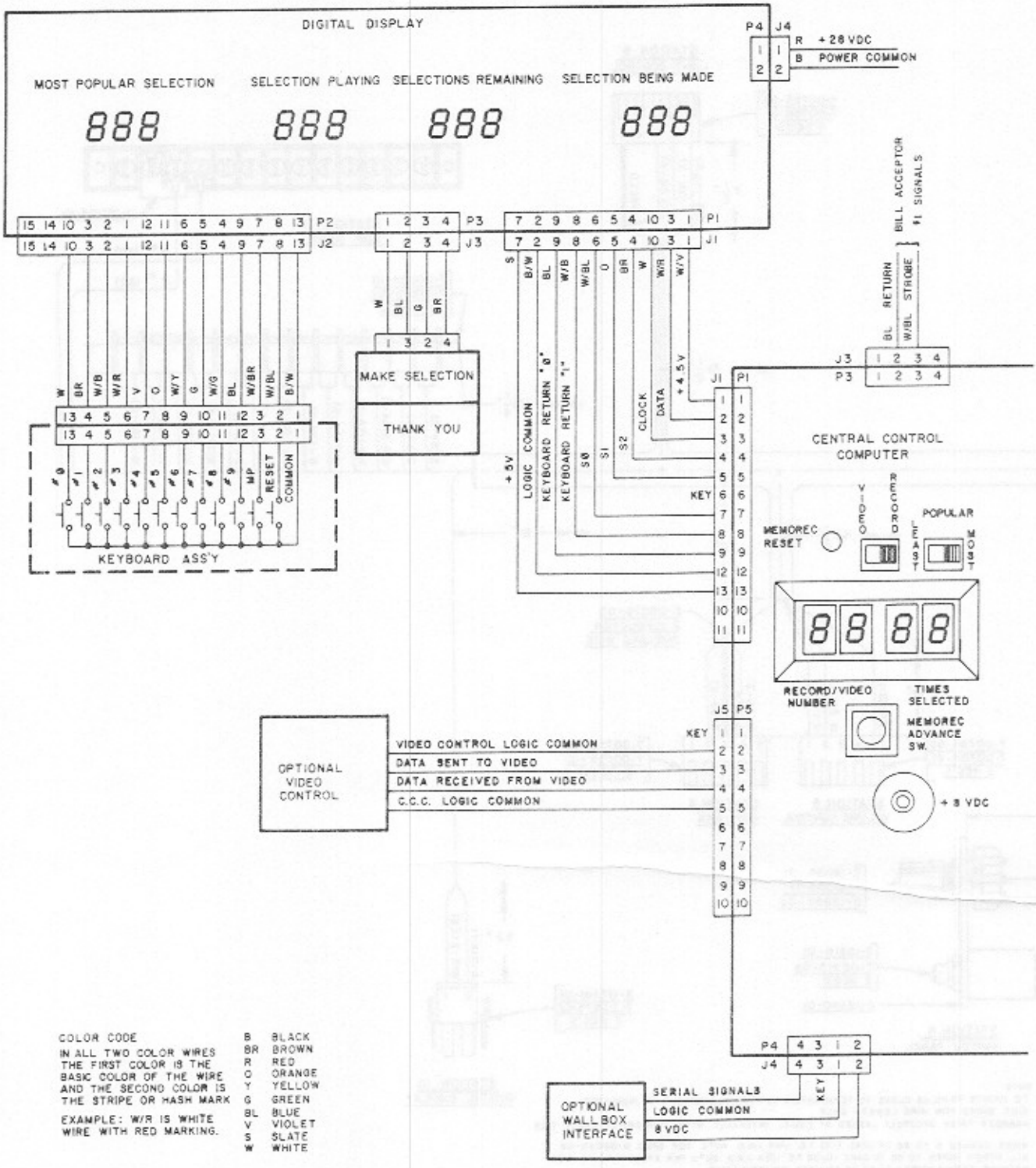


NOTE:
TIE POINTS TO BE AS CLOSE TO TERMINATION AS POSSIBLE EXCEPT AS INDICATED.
DIMS. SHOWN FOR WIRE LENGTH ONLY.
HARNESS TO BE SECURELY LASHED AT EQUAL INTERVALS WITH 7-08001-01 CABLE TIES.

WIRES MARKED * TO BE 24 GAGE 7/32 T.C. 1/64 A.W.M. 80°C PER SPEC. 0-08040-00
ALL OTHER WIRES TO BE 20 GAGE 10/30 T.C. 1/64 A.W.M. 80°C PER SPEC. 0-08010-00
MACHINE TERMINATIONS MUST BE CRIMPED ON INSULATION.
MACHINE TERMINATIONS MUST BE CRIMPED ON WIRE TO WITHSTAND 7# PULL.
WIRE LENGTH TOL. ± 1/4 UNLESS NOTED.

Equiv. Eng'g. Drawing 6-09819-01

R-89 WIRING DIAGRAM

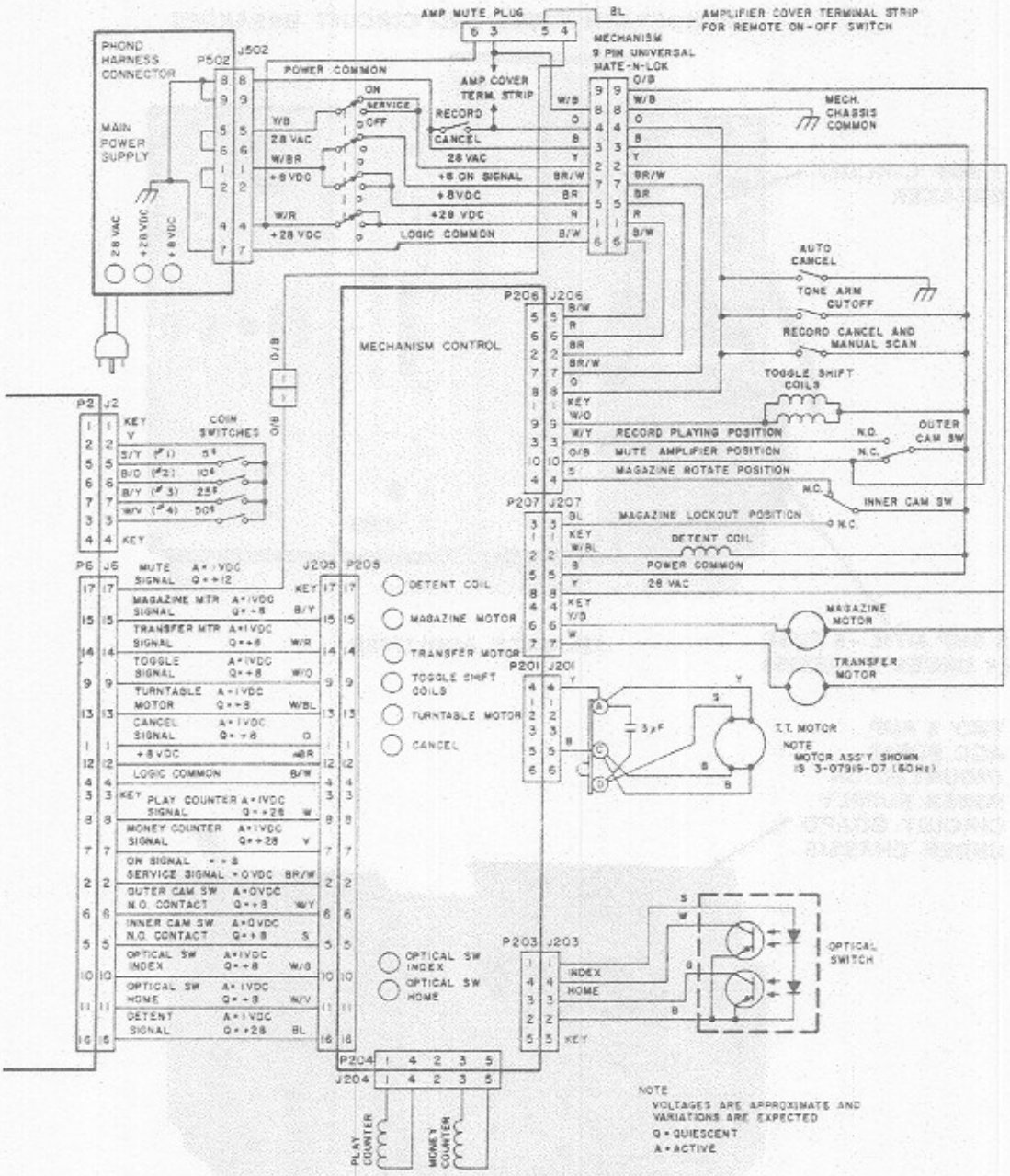


COLOR CODE

IN ALL TWO COLOR WIRES THE FIRST COLOR IS THE BASIC COLOR OF THE WIRE AND THE SECOND COLOR IS THE STRIPE OR HASH MARK

EXAMPLE: W/R IS WHITE WIRE WITH RED MARKING.

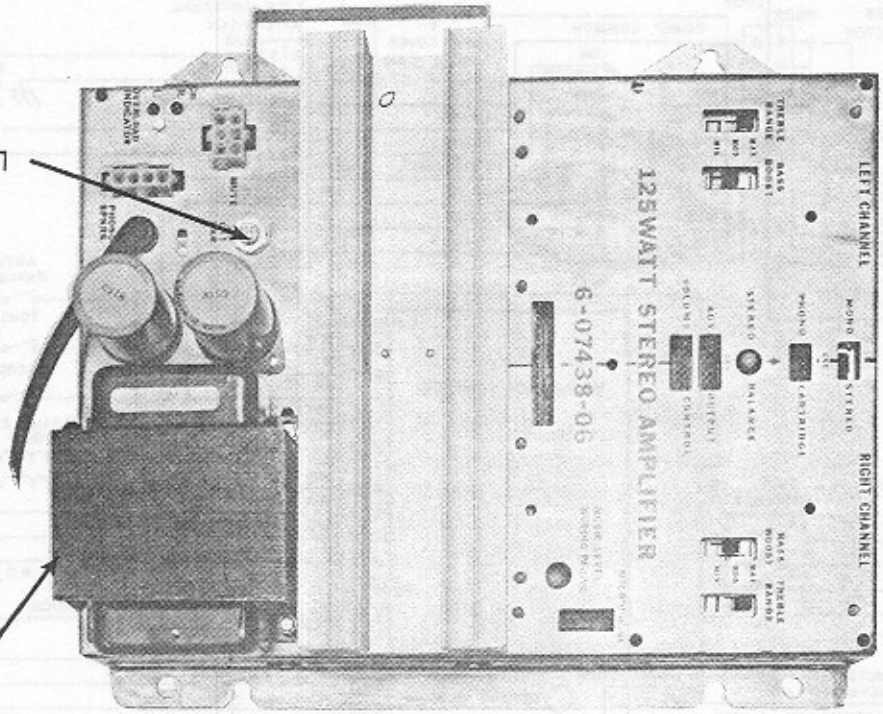
B	BLACK
BR	BROWN
R	RED
O	ORANGE
Y	YELLOW
G	GREEN
BL	BLUE
V	VIOLET
S	SLATE
W	WHITE



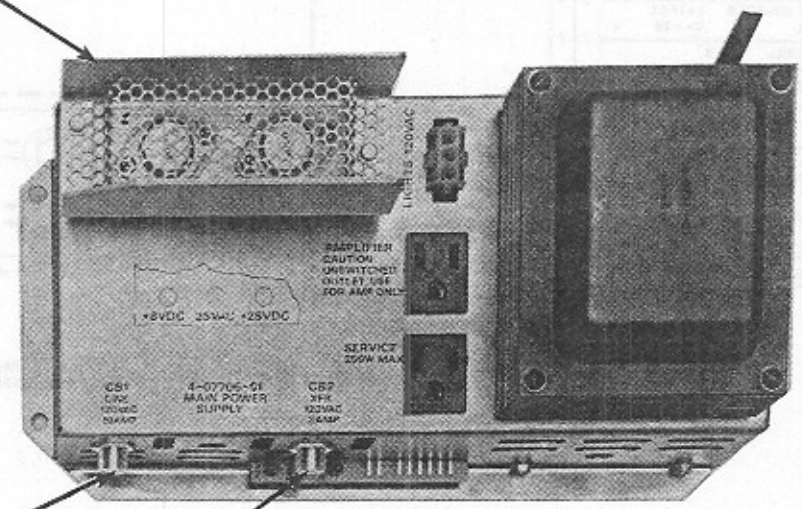
6-09800-07-Q7

R-89 PHONOGRAPH
BLOCK DIAGRAM

PHONOGRAPH FUSES AND CIRCUIT BREAKERS



125 WATT AMPLIFIER

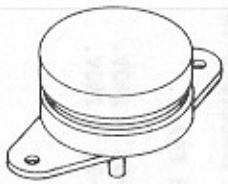
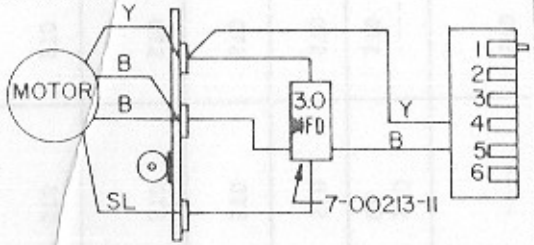
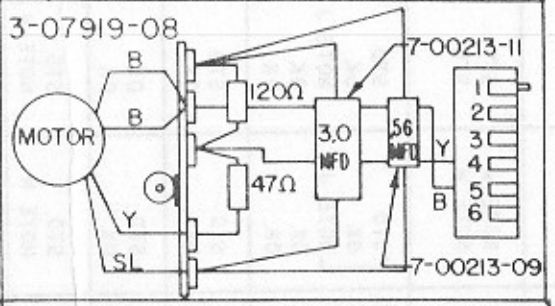
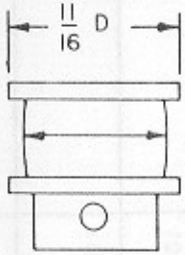
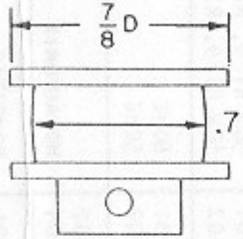


LOCATION OF FUSES AND CIRCUIT BREAKERS

COMPATIBILITY CHART

	PART #	DESCRIPTION	R-88 VIDEO	R-89	R-89 VIDEO
CENTRAL CONTROL COMPUTER	4-07773-01 4-07773-02		STD ----	---- STD	---- STD
WALLBOX INTERFACE	6-09843-01 6-09843-02 6-09843-03	WRD WRA-WRC WRE	NOTE W NOTE W	STD STD	STD STD
AMPLIFIER	6-07439-05 6-07439-04 6-07439-02 6-09189-01 6-09189-02	125W INCLUDES OUTPUT TRANSFORMERS 50W RI-4, RI-5 50W RI-4, RI-5	STD OK NOTE J OK OK	STD OK NOTE J OK OK	STD OK NOTE J OK OK
MECHANISM ASSEMBLY	6-08700-01 6-08700-02	60HZ 50HZ	STD OK	STD OK	STD OK
MECH. CONTROL	4-07221-02 4-07221-03	 NO AUTOMIX	STD OK	OK OK	OK OK
POWER SUPPLY	4-07706-01 4-65092-01	DOMESTIC EXPORT	STD NOTE N	STD NOTE N	STD NOTE N
FLASHING LIGHT CONTROL	4-07800-01	BAR GRAPH	----	STD	----
OBA	6-50570-03 6-50570-12		STD OK	---- STD	---- STD
VIDEO CONTROLLER	4-07775-01		STD	STD	STD
GRAPHICS CONTROLLER	4-07774-01		STD	STD	STD
VIDEO CASSETTE RECORDER	6-09719-01		STD	STD	STD
POWER SUPPLY (VIDEO)	4-07776-01		STD	STD	STD

A. OK - SAME FEATURES AS R-84.
B. OK - SAME FEATURES AS R-85 IF -03 OR -04 PRICE BD.
C. OK - SAME FEATURES AS R-84 IF -01 OR -02 PRICE BD.
D. DIODES 353 & 354 NOT AVAIL. #334 GIVES 160 PLAYS.
E. OK BUT SAME PRICE FEATURES AS R-84..
F. OK BUT SAME PRICE FEATURES AS R-84 UNLESS COMPATIBLE COMPUTER BOARD USED.
G. ADDED CR. LEVEL RATIOS. ADDED 16 PLAY DIODE. CHANGED 120 TO 160 PLAY (LABELED RI-3) = 6-08878-05.
H. 6-08988-02 PIGGY BACK ALTERNATE USING PROM.
I. NEEDS SPECIAL TONE ARM CABLE AND VOL. CONTROL (INCLUDED IN KIT).
J. NEEDS SPECIAL ADAPTOR HARNESS.
K. OK REMOVE MECH MOUNT PLATE AND MOUNT TO BOTTOM FRAME.
L. OK MOUNT TO BOTTOM BRACKET.
M. 4-65087-01 = 120V, 4-65084-02 = 220V, 4-65087-03 = 240V.
N. 4-65092-01 = 120V, 4-65092-02 = 220V, 4-65087-03 = 240V.
P. INTERCHANGEABLE
Q. USE R-86 POWER HARNESS FOR BA-5. 3-50693-02
R. USE R-85 POWER HARNESS FOR BA-5. 3-50693-01
S. OK BUT NO LONGER IN PRODUCTION.
T. INTERCHANGEABLE WITH 6-07439-04.
U. STD AFTER DEC 1, 1982.
V. ADD DIODE FOR 160 PLAY
W. CHANGE C.C.C. TO 4-07773-03

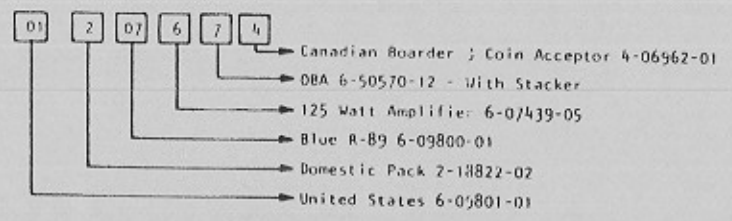
TURNTABLE MOTOR PART NUMBER AND IDENTIFYING FEATURES	60Hz MOTOR ASSEMBLY ACTUAL CAPACITORS SHOWN ARE TYPICAL. TOTAL CAP. VALUES MAY HAVE BEEN OBTAINED BY OTHER COMBINATIONS. CAPS. ARE 100V.	50Hz MOTOR ASSEMBLY ACTUAL CAPACITORS SHOWN ARE TYPICAL. TOTAL CAP. VALUES MAY HAVE BEEN OBTAINED BY OTHER COMBINATIONS. CAPS. ARE 100V, RESISTORS 2W.
 3-07920-04, MFG. BY NORTH AMER. PHILIPS, LABELED A81743-M5. HAS FLAT BOTTOM COVER NO FLAT ON SHAFT.	3-07919-07 	3-07919-08 
	 CLEAR ANODIZED ALUMINUM T.T. MOTOR PULLEY 2-18178-01	 RED ANODIZED ALUMINUM T.T. MOTOR PULLEY 2-18178-02

SECTION 7 – PARTS CATALOG

COUNTRY 1st & 2nd DIGIT	PACK 3rd DIGIT	R-89 SUB-ASSEMBLY 4th & 5th DIGIT	AMPLIFIER 6th DIGIT	BILL ACCEPTOR 7th DIGIT	COIN ACCEPTOR 8th DIGIT
01 = US =6-09801-01 02 = Arg =6-09801-02 03 = Australia =6-09801-03 04 = Aus = " -04 05 = Bah = " -05 06 = Belg = " -06 07 = Canada = " -07 08 = Chile = " -08 09 = Col = " -09 10 = Costa R = " -10 11 = Neutral Stock = " -11 12 = Denmark = " -12 13 = Ecuador = " -13 14 = El Salv = " -14 15 = England = " -15 16 = Finland = " -16 17 = France = " -17 18 = Germany = " -18 19 = 20 = Guat = " -20 21 = Holland = " -21 22 = Hon = " -22 23 = Italy = " -23 24 = Belize = " -24 25 = Japan = " -25 26 = 27 = Nic = " -27 28 = Norway = " -28 29 = Aruba = " -29 30 = Panama = " -30 31 = Curaco = " -31 32 = 33 = Sweden = " -33 34 = Swiss Fr = " -34 35 = Swiss Ge = " -35 36 = Swiss It = " -36 37 = Trinidad = " -37 38 = 39 = Venez = " -39 40 = Zambia = " -40 41 = Puerto R = " -41 42 = Guyana = " -42 43 = Brazil = " -43 44 = Barbados = " -44 45 = Surinam = " -45 46 = Yugo = " -46 47 = S. Africa = " -47	1 = Unpack = 2-18822-01 2 = DomPack = 2-18822-02 3 = ExPack = 2-18822-03 4 = Sp'l Pack = ?	07 = Blue (60HZ) 6-09800-01 08 = Brown (60HZ) 6-09800-02 09 = Blue (50HZ) 6-09800-04 10 = Brown (50HZ) 6-09800-05 41 = Blue Static - Video Mono 6-09800-03 42 = Blue Static - Video Mono With (2-18826-01) Monitor Kit 6-09800-06 43 = Blue Static - Video Stereo 6-09800-07 44 = Blue Static - Video Stereo With (2-18826-01) Monitor Kit 6-09800-08 45 = Blue Static (60HZ) 6-09800-09 46 = Brown Static (60HZ) 6-09800-10 47 = Blue Static (50HZ) 6-09800-11 48 = Brown Static (50HZ) 6-09800-12	0 = None 1 = 2 = 3 = 4 = 5 = 50W = 6-09189-07 6 = 125W = 6-07439-05 7 = 125W = 6-07439-06 Canada	0 = None 1 = 2 = 3 = 4 = 5 = 6 = 7 = OBA = 6-50570-12 W/Stacker 8 =	0 = None 1 = 3 Coin Acceptor = 4-06961-01 2 = 4 Coin Acceptor = 4-07156-01 3 = Export Rejector (Special) 7-09519-XX 4 = 3 Coin Canadian Border = 4-06962-01 5 = 4 Coin Canadian Border = 4-07159-01 (5,10,25,50) 6 = 7 = 4 Coin $ Acceptor = 4-07156-02 ($,10,25,$) 8 = 2 Coin Acceptor = 4-07156-03 (25,$) 9 = Canadian Border $ = 4-07159-02 ($,10,25,$)

4th & 5th DIGIT	4th & 5th DIGIT	4th & 5th DIGIT
01-04 R-80	05-06 R-88 Audio	07-10 R-89
11-20 R-81	11-20 R-88 Video	
21-24 R-82	25-30 R-86	
31-34 RI-2	35-40 RI-4 & 5	
41-50 RI-3		41-50 R-89
51-54 CTI-1S	55-60 R-87	
61-70 R-83		
71-72 CTI-2	73-80 CTI-3	
81-90 R-84		
91-99 R-85		

SAMPLE:



R-89 PHONOGRAPH CODE

REV. A

INTRODUCTION

This parts catalog lists procurable replacement parts for the R-89 Phonograph.

The purpose of this parts catalog is to locate and identify replaceable components and to supply ordering information.

DESCRIPTION

The parts catalog is divided into 14 major assemblies called "FIGURES" corresponding to the illustrations used. Some major assemblies require more than one illustration to identify the procurable parts, sheet numbers are assigned to the figure.

Parts of riveted or welded units are not listed since repair of these parts is normally impractical in the field, however, these parts are available as assemblies.

To be sure that this parts catalog contained the latest information, last minute revisions were made. In these instances the additions were added in sequence with a letter added to the identification numbers both in the parts list and corresponding illustrations. That is 1A, 1B, 1C, etc.

The Parts List contains four columns:

Fig. and Index No. - The first entry in this column lists the figure number of the corresponding illustration. An index number when listed corresponds to the index number appearing on the illustration. Index numbers are not used when:

- Items are listed for reference purposes only.
- The item listed is an alternate part.

Rowe Part No. - This column lists the part number of the item which should be specified for ordering purposes.

Description - This column contains a brief word description of the assembly or part. Each item is indented to show its proper relationship to the unit of which it is a part or to its next higher assembly.

Qty. Per Ass'y. - This column contains the quantity of the part used in the assembly. When a figure covers more than one model of an assembly, the "Qty. Per Ass'y." column is divided to show each model.

ORDERING REPLACEMENT PARTS

All replacement parts must be ordered directly from an authorized ROWE Distributor.

Once the replacement item is determined, complete a standard parts order form available from your ROWE distributor at no charge. Very often parts orders are delayed because of inadequate or incomplete information. To insure prompt parts delivery always specify the following information.

- Part Number and Description. State color if applicable.
- Quantity required.
- Model and Serial Number of machine for which the repair part is needed.
- Complete shipping address including ZIP code.
- Shipping Instructions must be specified. If the shipping method selected is Parcel Post, Air Parcel Post, United Parcel Service or Air UPS, indicate an alternate shipping method if there is a possibility the packages may exceed the size and weight limits established by these services. If you would like ROWE to select the best way to ship your parts order, specify "BEST WAY". If fastest delivery is the requirement, specify "FASTEST WAY". ROWE will select the carrier for those orders which justify shipment by truck.

FIGURE 1

R-89 PHONOGRAPH ASSEMBLY SHEET 1

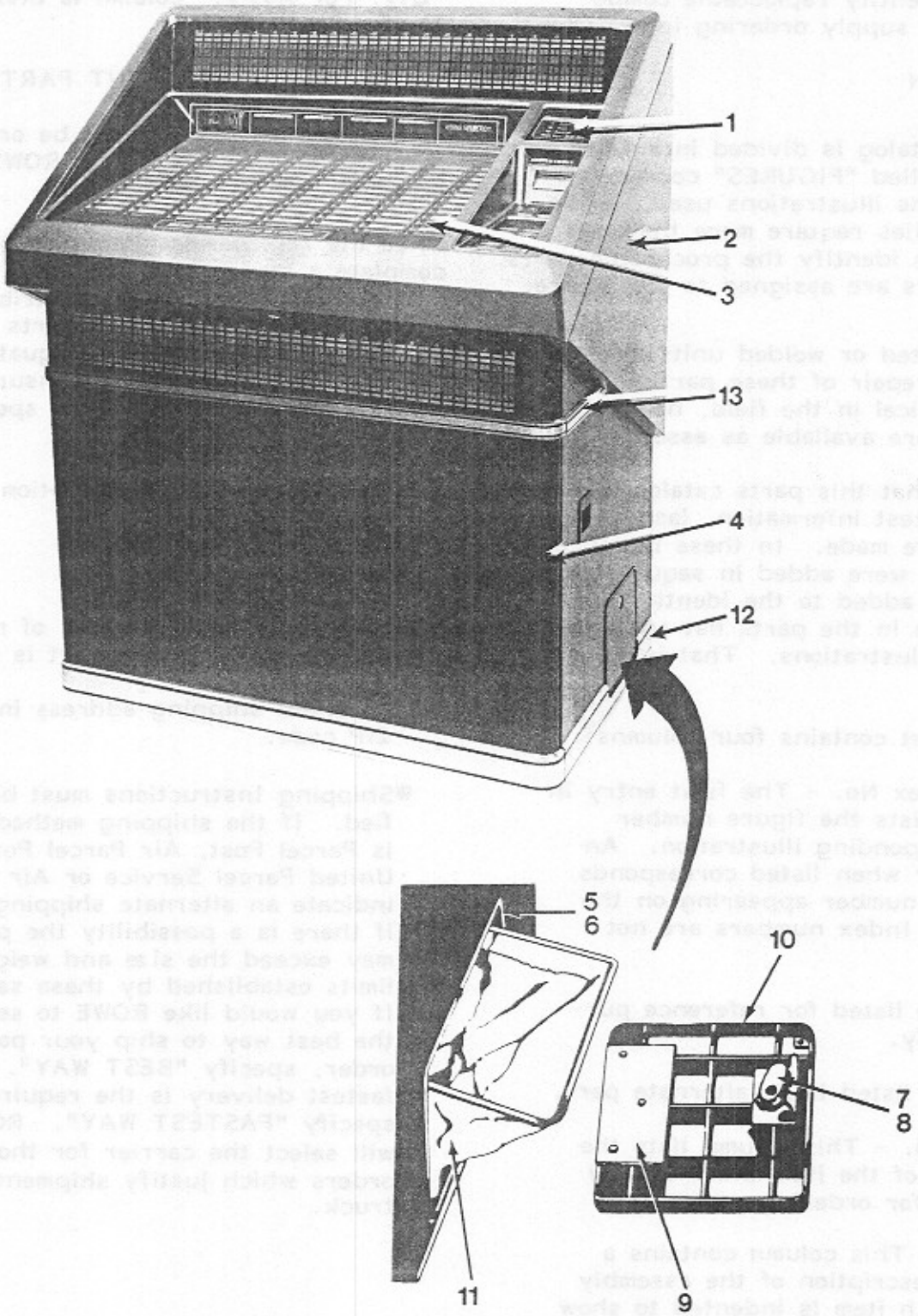


FIGURE 1

FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
1-	See pg.	R-89 Phonograph Assembly (Sapphire 89) Blue	
1-	See pg.	R-89 Phonograph Assembly (Golden 89) Brown	
1	3-08857-01	. Standard Price Card	1
2	6-09802-01	. Side Trim Panel (LH) (Silver)	1
	6-09803-01	. Side Trim Panel (RH) (Silver)	1
	6-09802-02	. Side Trim Panel (LH) (Gold)	1
	6-09803-02	. Side Trim Panel (RH) (Gold)	1
3	6-09820-01	. Top Door (Sapphire 89)	1
	6-09820-02	. Top Door (Golden 89)	1
4	6-09821-01	. Front Door (Sapphire 89)	1
	6-09821-02	. Front Door (Golden 89)	1
5	4-05276-05	. Cash Box Door Frame	1
6	2-17760-05	. "U" Type Speed Clip	1
	2-11866-05	. Cash Box Door Assembly	1
7	7-01600-16	. Cylinder Lock	1
8	2-06695-01	. Lock Support	1
9	2-07703-01	. Catch Bracket	1
10	6-03267-05	. Cash Box Door	1
11	3-07026-01	. Cash Bag	1
12	4-07805-01	. Side Trim (RH) (Silver)	1
	4-07804-01	. Side Trim (LH) (Silver) (Not Shown)	1
	2-18823-01	. . Cup Washer (Not Shown)	6
	4-07804-02	. Side Trim (LH) (Gold)	1
	4-07805-02	. Side Trim (RH) (Gold)	1
13	4-07802-03	. Side Trim (Upper) (Silver)	2
	4-07802-04	. Side Trim (Upper) (Gold)	2
	7-02125-07	. Felt Adhesive Tape	1
	4-07858-01	. Blockout Bracket (When Bill Acceptor is not used Not Shown)	1
	2-18841-01	. Blockout Assembly	1

FIGURE 1

R-89 PHONOGRAPH ASSEMBLY
SHEET 2

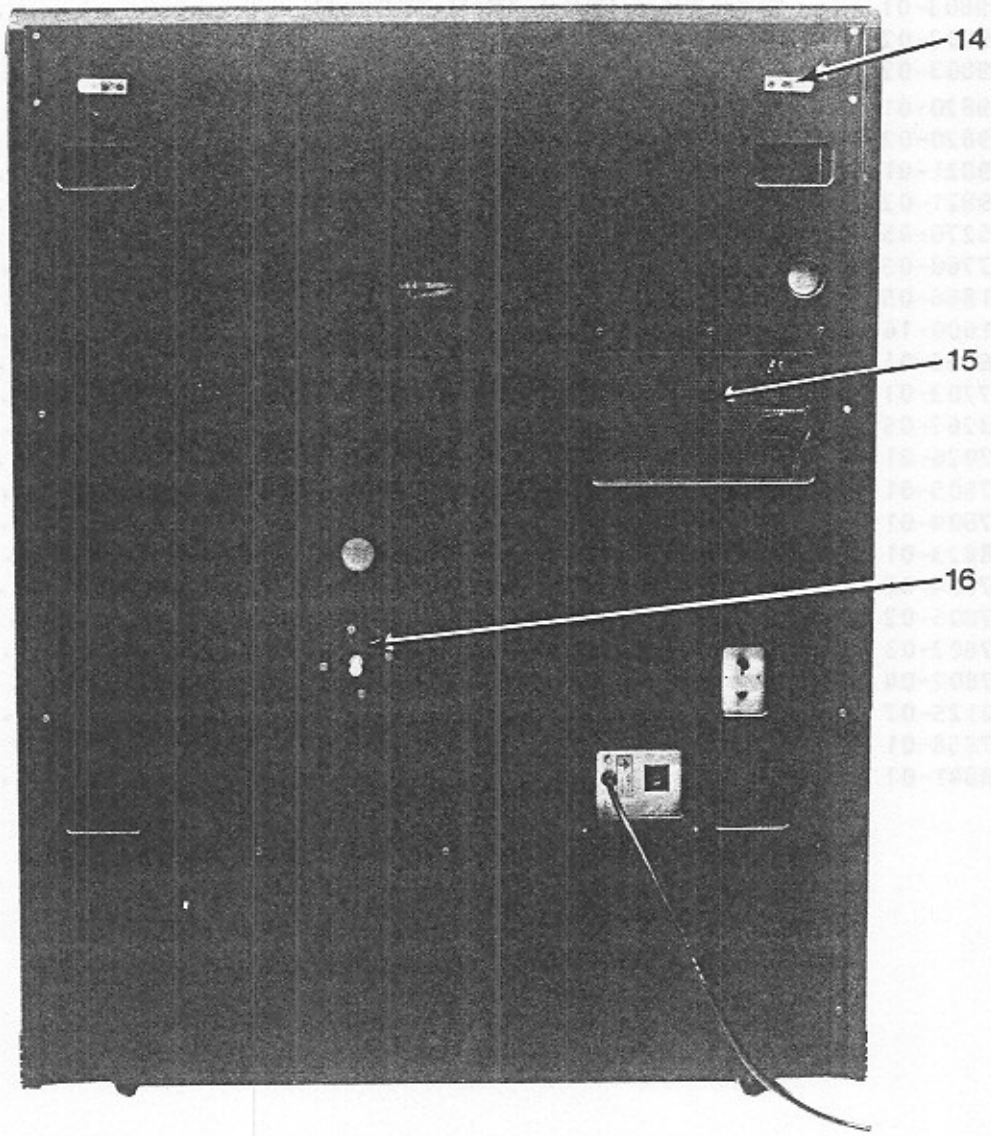


FIGURE 1

FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
1-	See pg.	R-89 Phonograph Assembly (Sapphire 89) (Continued)	
1-	See pg.	R-89 Phonograph Assembly (Golden 89) (Continued)	
14	2-08795-02	. Retainer Bracket	2
15	3-08684-02	. Enclosure Screen	1
16	2-12652-03	. Tie Down Plate Assembly	1

FIGURE 1

R-89 PHONOGRAPH ASSEMBLY
SHEET 3

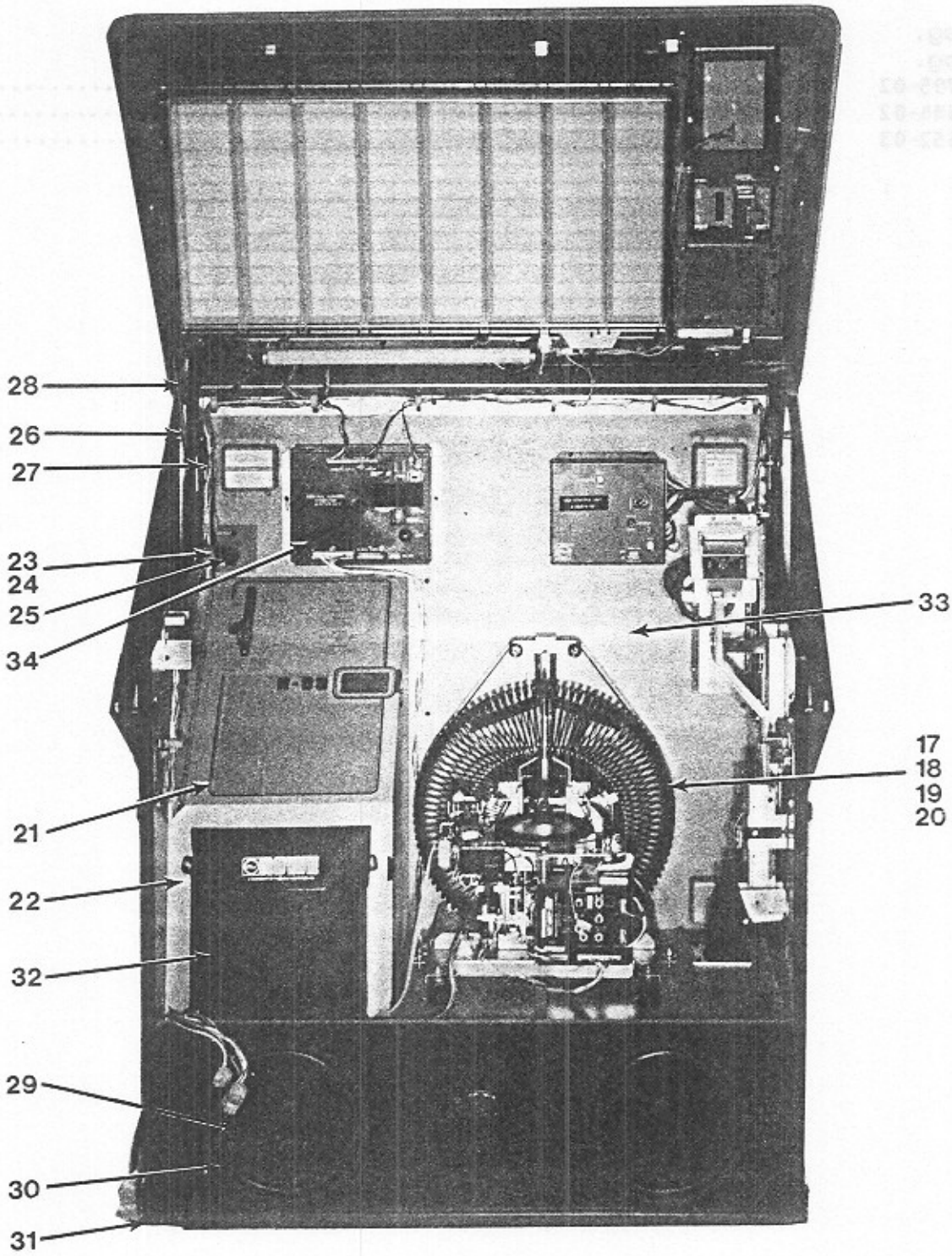


FIGURE 1

FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
1-	See pg.	R-89 Phonograph Assembly (Sapphire 89) (Continued)	
1-	See pg.	R-89 Phonograph Assembly (Golden 89) (Continued)	
17	6-08700-01	. Mechanism Assembly (See Figure 11) (60Hz)	1
18	6-08700-02	. Mechanism Assembly (See Figure 11) (50Hz)	1
19	2-11537-01	. Lower Spring Support	4
20	2-12036-01	. Mech Tie Down Bolt	2
21	4-07726-03	. Hinge & Cover Assembly	1
22	3-08697-01	. Amplifier Panel Assembly	1
23	2-18235-01	. Catch Bracket	2
24	2-17518-04	. Spring Catch	3
25	2-17593-01	. Cord Hold Cover	2
26	3-08655-01	. Pivot Bracket	2
27	2-17976-01	. Ball Stud	2
28	4-07149-05	. Pneumatic Spring	2
29	4-07374-01	. Woofer	2
30	2-17807-01	. Speaker Retaining Bracket	8
31	6-09823-01	. Door Mtg. Bracket	1
32	2-17305-14	. Handycase Containing: (Not Shown)	1
	2-11988-01	. . Accessories Bag	1
	7-00975-01	. . Contact (Pin)	6
	7-00975-02	. . Contact (Socket)	6
	7-00756-01	. . Contact (Post)	10
	7-00910-12	. . Terminal Lug	10
	7-00720-10	. . Fuse (5 Amp)	2
	7-00721-06	. . Fuse (5 Amp)	2
	3-07922-01	. . Turntable Drive Belt	1
	2-18700-01	. . Snap-in Fastener	2
	3-08857-02	. . Alternate Price Card	1
	2-18633-01	. . Lamp & Envelope Assembly	1
	2-18622-01	. . . Lamp & Socket Assembly	5
	2-66908-09	. . Troubleshooting Aid	1
	2-66931-08	. . Accessories Booklet	1
	2-14043-02	. . Heat Label	1
33	6-09850-01	. Shell Assembly (Sapphire 89)	1
	6-09850-02	. Shell Assembly (Golden 89)	1

FIGURE 1

R-89 PHONOGRAPH ASSEMBLY
SHEET 4

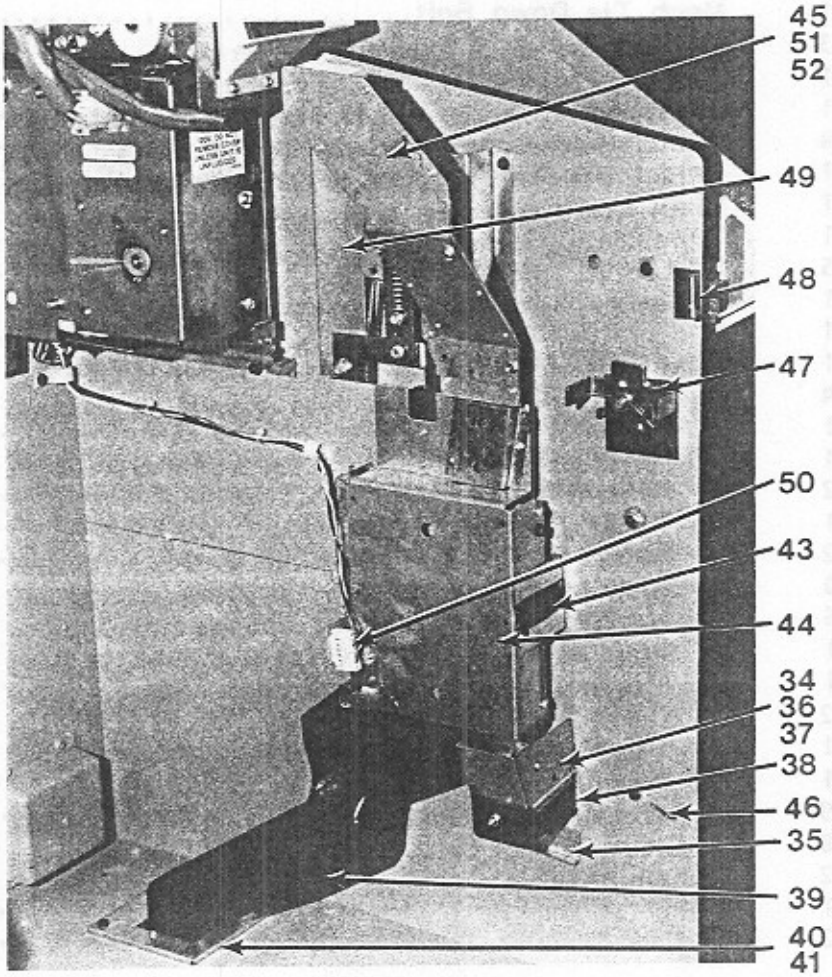


FIGURE 1

FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
1-	See pg.	R-89 Phonograph Assembly (Sapphire 89) (Continued)	
1-	See pg.	R-89 Phonograph Assembly (Golden 89) (Continued)	
34	2-17412-01	. Slug Chute	1
35	2-17930-01	. Slug Cup Bracket	2
36	2-13578-02	. Elastic Stop Nut	1
37	2-17929-01	. Slug Cup Door	1
38	3-07817-02	. Slug Cup	1
	2-06368-01	. . Stud	1
	3-05787-02	. . Coin Switch Assembly	1
	2-17902-02	. . Rejector Hinge	1
	2-14114-01	. . Spacer (Not Used with 3 coin Rejector)	1
	4-05793-01	. . Slug Rejector Mounting Bracket Assembly	1
45	3-08903-01	. . Coin Chute Assembly (Upper)	1
	2-17901-01	. . Support Hinge	1
	4-07371-02	. . Slug Rejector Support	1
46	2-17300-01	. Fall Stop Hook	2
47	2-17128-01	. Latch Assembly (RH)	1
	2-17127-01	. Latch Assembly (LH) (Not Shown)	1
48	2-18840-01	. Upstop Bracket	2
49	4-07860-01	. Mounting Plate & Scavenger Assembly	1
	2-18844-01	. . Scavenger Link	1
	2-18845-01	. . . Scavenger Shaft	1
	2-17656-01	. . Compression Spring	1
	2-09225-02	. . . Spacer	4
	2-09225-25	. . . Spacer	4
	4-07865-01	. . Coin Chute Mounting Plate & Scavenger Assembly	1
	2-18453-01	. . Slug Rejector Actuator	1
	2-51569-04	. . Shoulder Washer	1
	2-12562-01	. . Tension Spring. ,	1
50	3-08336-08	. Coin Switch Harness	1
51	3-08914-01	. Upper Mounting Support	1
52	3-08904-01	. Lower Mounting Support	1

FIGURE 1

R-89 PHONOGRAPH ASSEMBLY
SHEET 5

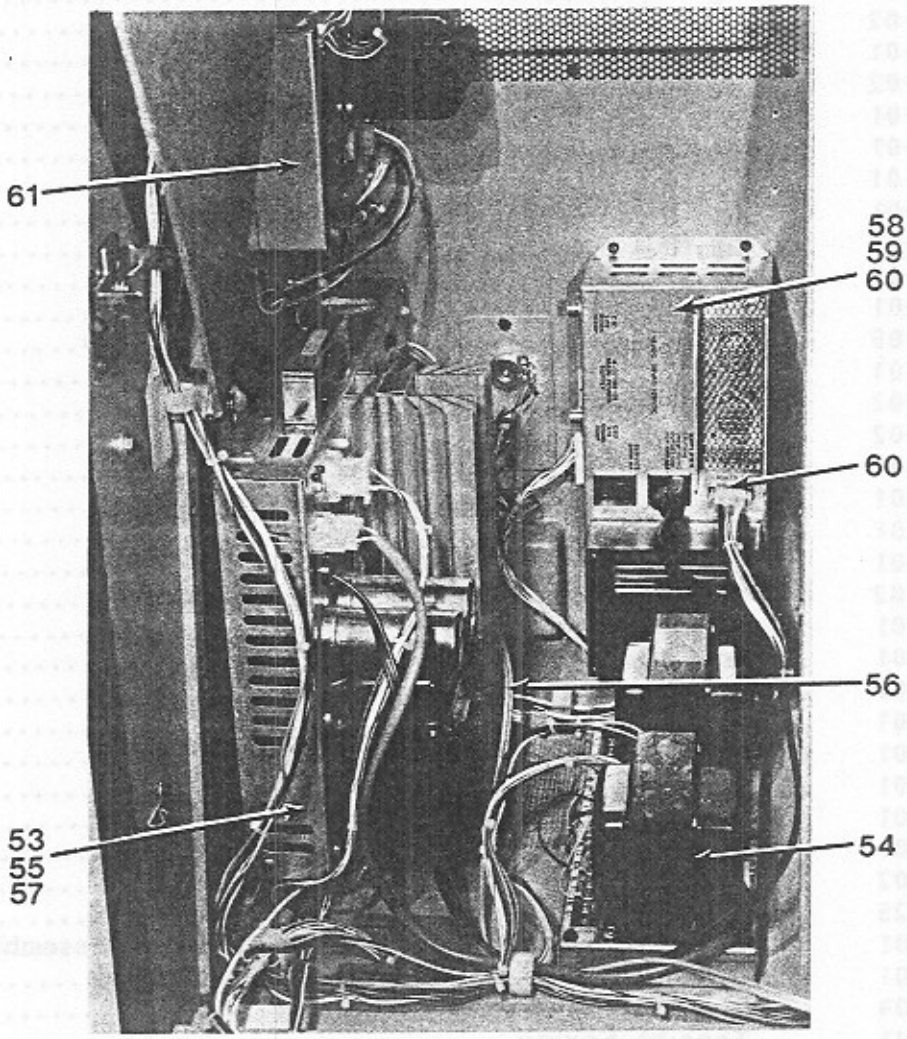


FIGURE 1

FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
1-	See pg.	R-89 Phonograph Assembly (Sapphire 89) (Continued)	
1-	See pg.	R-89 Phonograph Assembly (Golded 89) (Continued)	
53	6-07439-05	. 125 Watt Stereo Amplifier and Transformer Assembly	1
54	4-06336-05	. 125 Watt Output Transformer Assembly (See Figure 8)	1
55	6-07438-06	. 125 Watt Stereo Amplifier (See Figure 6)	1
56	3-08324-02	. Tone Arm Cable and Plug Assembly	1
57	4-02426-01	. Amplifier Mounting Bracket Assembly	1
58	4-07706-01	. Main Power Supply (120V) (See Figure 10)	1
	4-65092-02/03	. Main Power Supply (220V, 240V)	1
59	2-09256-01	. Junction Box Mounting Bracket	1
60	4-07819-01	. 110 Volt Harness Assembly	3
	3-07491-02	. . Plug Housing	5
	7-00991-01	. . Self-Stripping Splice	3
61	4-07800-01	. Light Display Controller (See Figure 5)	1

FIGURE 1

R-89 PHONOGRAPH ASSEMBLY
SHEET 6

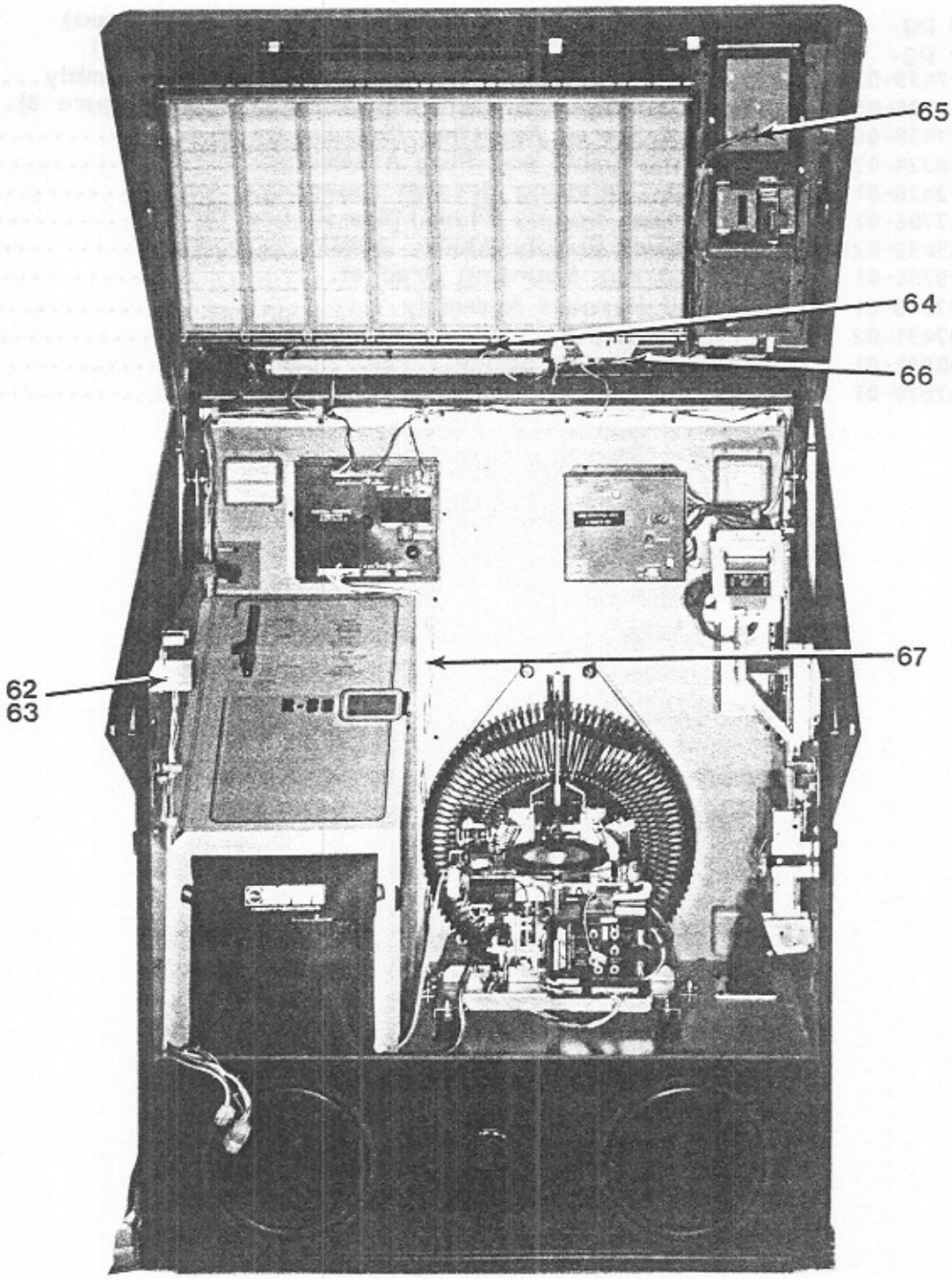


FIGURE 1

FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
1-	See pg.	R-89 Phonograph Assembly (Sapphire 89) (Continued)	
1-	See pg.	R-89 Phonograph Assembly (Golden 89) (Continued)	
62	6-09819-01	. Harness & Switch Assembly	1
	7-00991-01	. . Self Stripping Splice	8
	3-07491-05	. . Housing Plug (9 Ckt)	2
	7-00975-01	. . Universal Contact	13
	7-00975-02	. . Universal Contact	9
	3-07491-04	. . Plug Housing (Univ. Conn. - 6 Pin)	1
	7-00755-05	. . Connector Housing	3
	7-00755-09	. . Connector Housing (9 Ckt)	1
	7-00756-01	. . Contact Post	15
	3-07491-01	. . Plug Housing Universal Connector	1
	3-07491-08	. . Plug Housing Universal Connector	1
	7-00965-10	. . Terminal Strip	1
	7-00913-21	. . Slip-On Terminal Lug	13
	2-18805-01	. . Jumper	1
	2-18686-01	. . Volume Control Knob	1
	7-01855-11	. . Palnut	1
	2-13935-08	. . Volume Control & Terminal Assembly	1
	7-00757-01	. . Keying Plug	2
	2-15818-01	. . Pushbutton Switch	1
	7-00913-08	. . Slip-On Terminal Lug	1
	2-18680-01	. . Control Plate	1
	2-18697-01	. . Housing & Actuator Assembly	1
	2-18698-01	. . Housing Switch Assembly	1
	2-18696-01	. . Actuator Assembly	1
	7-00931-03	. . Cable Clamp	2
	7-00913-16	. . Slip-On Terminal Lug	11
	7-00915-12	. . Ring Terminal Lug	1
63	2-18837-01	. Reset Actuator Assembly	1
64	3-08855-01	. Digital Display Harness Assembly	1
65	3-08853-01	. Keyboard Harness Assembly	1
66	3-08883-01	. Make Selection Harness Assembly	1
67	3-08845-01	. Mech. Computer Harness	1

FIGURE 2

FRONT DOOR ASSEMBLY

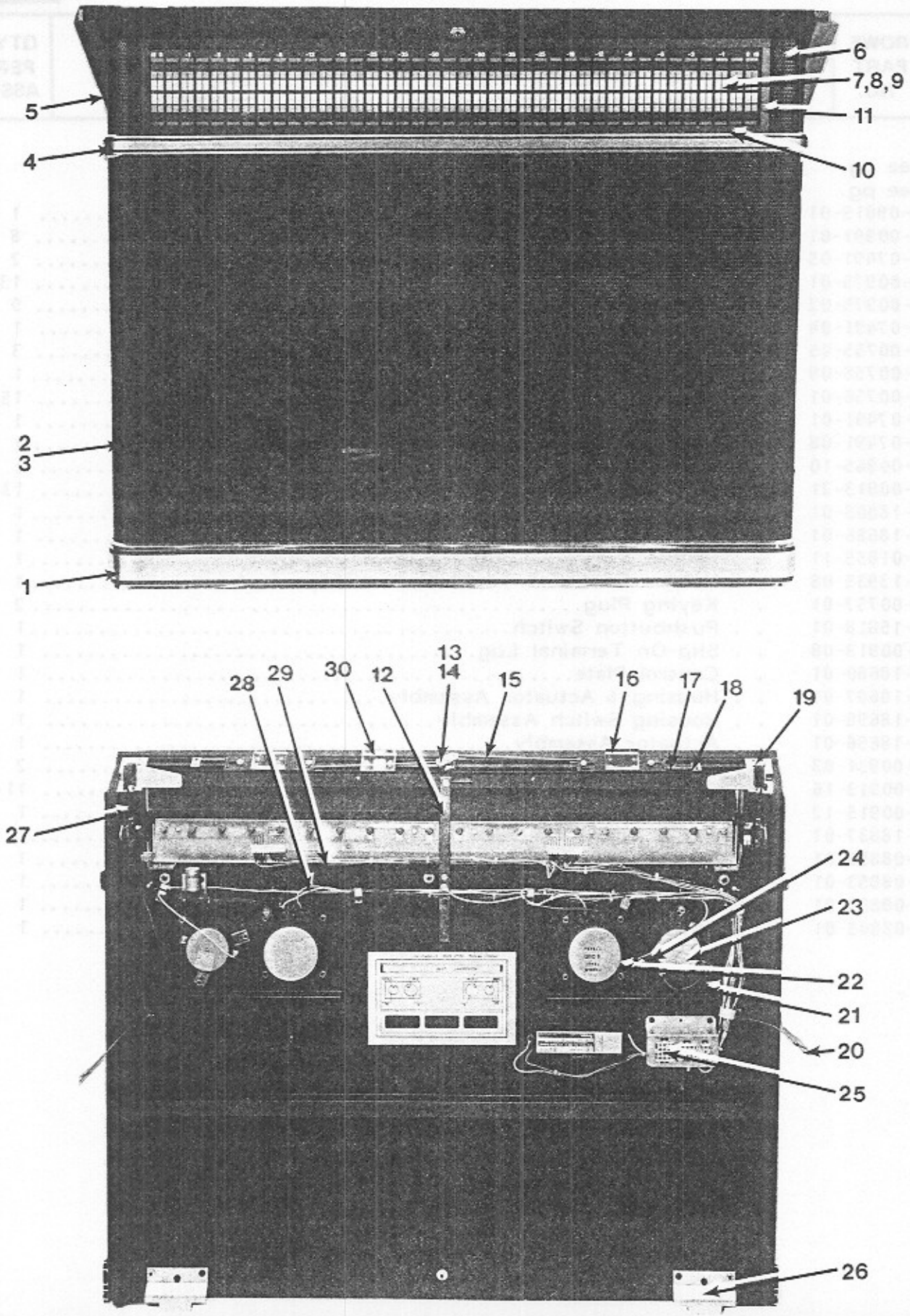
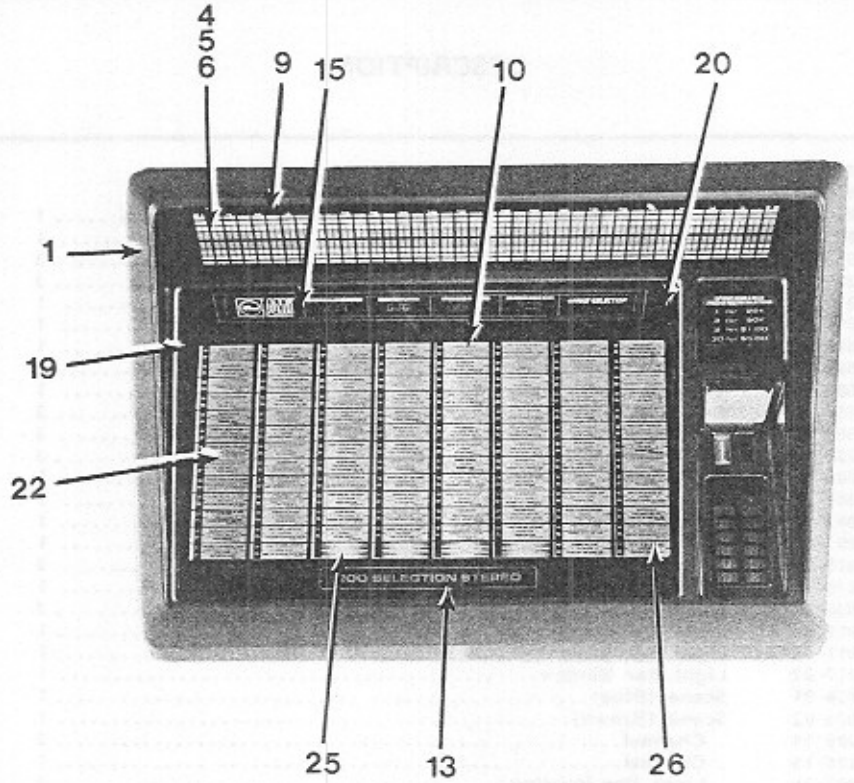


FIGURE 2

FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
2-	6-09821-01	Front Door Assembly (Sapphire 89)	
2-	6-09821-02	Front Door Assembly (Golden 89)	
1	4-70803-01	. Door Trim (Silver)	1
	4-70803-02	. Door Trim (Gold)	1
	3-08850-01	. Extrusion T-Bolt	3
	7-01200-10	. Washer	3
2	6-09814-01	. Front Door Panel	1
3	6-09815-01	. Front Door Grille (Black)	1
	6-09815-02	. Front Door Grille (Brown)	1
4	4-70802-01	. Cabinet Trim (Silver)	1
	4-70802-02	. Cabinet Trim (Gold)	1
	3-08850-01	. Extrusion T-Bolt	3
	2-51569-14	. Spacer	3
	7-01200-10	. Washer	3
5	4-07806-01	. Post Grille (LH) (Black)	1
	4-07806-02	. Post Grille (LH) (Brown)	1
6	4-07807-01	. Post Grille (RH) (Black)	1
	4-07807-02	. Post Grille (RH) (Brown)	1
	2-18819-01	. Trim Retainer (Not Shown)	2
	2-17870-03	. Foamed Pad - Bottom Grille (Not Shown)	1
	2-18830-01	. Foamed Pad - Post Grille (Not Shown)	2
7	6-09811-04	Light Bar Assembly (Sapphire)	1
	6-09811-05	. Light Bar Assembly (Golden)	1
8	2-18217-02	. Light Bar Window	1
9	6-09826-01	. Scene (Blue)	1
	6-09826-02	. Scene (Brown)	1
	2-18206-14	. . Channel	2
	2-18206-15	. . Channel	2
	6-09807-01	. . Light Bar Housing	2
	2-17760-10	. . Speed Clip Fastener "U" Type	2
	6-09808-01	. . Printed Wiring Board	2
	2-18622-01	. . Lamp & Socket Assembly	20
	7-01355-08	. . Psinut	6
10	4-07851-02	. Light Bar Trim - Long	2
11	2-18804-02	. Light Bar Trim Assembly - Short (Side)	2
	4-07851-01	. . Light Bar Trim	2
	2-07545-01	. . Clip	2
12	3-08878-01	. Center Brace	1
13	6-09835-01	. Lock Bolt	1
14	7-01632-06	. Common Keying Cylinder Lock	1
15	2-17249-03	. Lock Bar Link	2
16	2-18651-02	. Lock Bar Assembly (LH)	1
	2-18652-02	. Lock Bar Assembly (RH)	1
	2-09225-02	. Spacer	4
17	2-12562-01	. Tension Spring	2
18	2-15674-01	. Spring Retainer	2
	4-07835-01	. Seal Bracket	1
	7-02204-53	. Foamed Tape (Not Shown)	1
19	3-08881-01	. Brace & Strike Assembly (LH)	1
	3-08882-01	. Brace & Strike Assembly (RH)	1
20	2-15276-01	. Fall Stop Cable	2
21	3-08874-01	. Speaker Panel Assembly	2
22	4-07822-01	. Speaker Midrange	2
23	3-08876-01	. Speaker Tweeter	2
24	2-18825-01	. Speaker Clamp	6
25	4-07853-01	. Universal Connector Mounting Bracket	1
26	3-08852-01	. Door Hanger	2
27	4-07816-01	. Light Harness Assembly (60Hz)	1
	3-08594-01	. Ballast 30W	1
	2-18827-01	. Lamp Bracket (LH)	1
	2-18828-01	. Lamp Bracket (RH)	1
	2-18267-19	. Lamp Holder	2
	2-00295-01	. Starter Socket	1
	3-07490-02	. Cap Housing	1
	7-00975-04	. Contact	1
	2-18322-02	. Starter Socket Bracket	1
	7-00993-01	. Self Stripping Splice	4
	7-00991-01	. Self Stripping Splice	2
28	4-07857-01	. Front Door Speakers Harness Assembly	1
	3-07490-05	. . Cap Housing	1
	7-08001-01	. . Cable Tie	14
	7-00934-01	. . Cable Clamps	4
	7-00934-02	. . Cable Clamps	1
29	4-07855-01	. Bar Graphics Harness Assembly	1
30	2-18816-01	. Guide	1

FIGURE 3

TOP DOOR ASSEMBLY



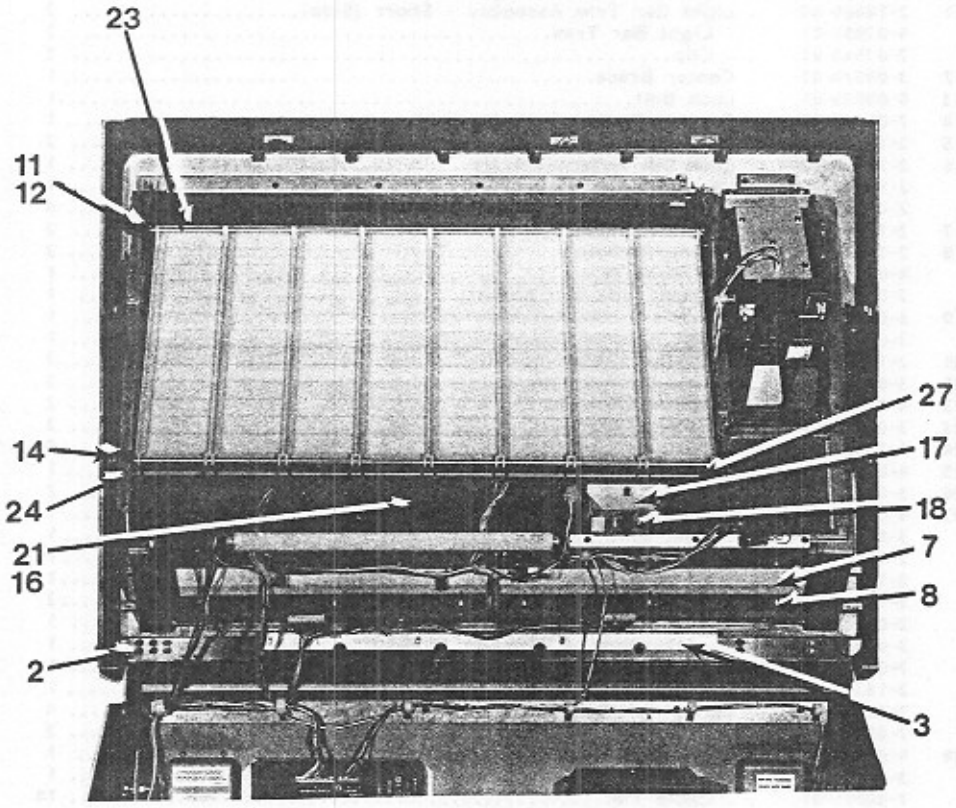
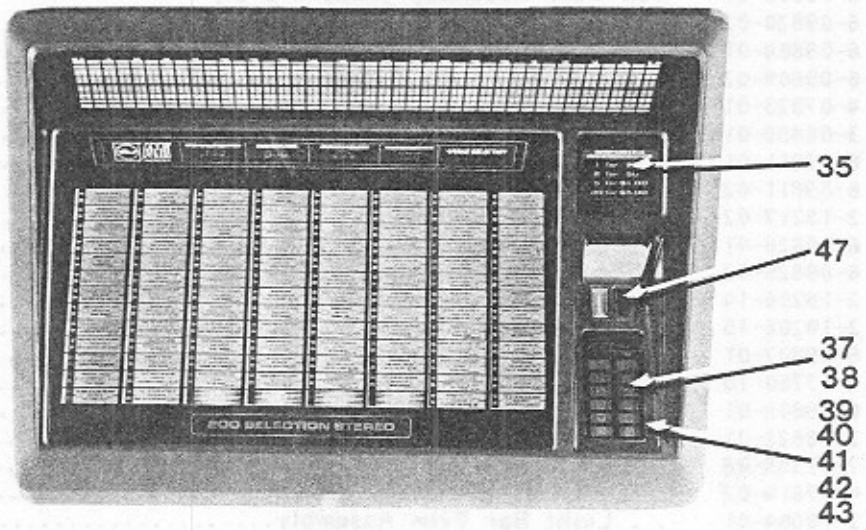


FIGURE 3

FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
3-	6-09820-01	Top Door Assembly (Sapphire 89)	
3-	6-09820-02	Top Door Assembly (Golden 89)	
1	6-09804-01	. Top Door Frame (Silver)	1
	6-09804-02	. Top Door Frame (Gold)	1
2	4-07823-01	. Hinge	1
3	3-08859-01	. Light Bar Retainer	1
4	6-09811-01	. Light Bar Assembly (Black)	1
	6-09811-02	. Light Bar Assembly (Brown)	1
5	2-18217-02	. Light Bar Window	1
6	6-09826-01	. Scene (Black)	1
	6-09826-02	. Scene (Brown)	1
	2-18206-14	. . Channel	2
	2-18206-15	. . Channel	2
7	6-09807-01	. Light Bar Housing	2
	2-17760-10	. Speed Clip Fastener "U" Type	2
	6-09808-01	. Printed Wiring Board	2
8	2-18622-01	. Lamp & Socket Assembly	20
	7-01355-08	. Palnut	6
9	4-07814-02	. Light Bar Trim	2
	2-18804-01	. . Light Bar Trim Assembly	2
	7-02122-03	. Closed Cell (Sponge Rubber)	2
	7-02122-04	. Closed Cell (Sponge Rubber)	2
10	2-18456-04	. Window	1
11	6-09824-01	. Title Rack Housing Assembly (Black)	1
	6-09824-02	. Title Rack Housing Assembly (Brown)	1
12	6-09818-01	. . Title Rack Housing	1
13	3-08863-01	. . Selection Decal	1
14	3-08901-01	. . Title Rack Hanger Assembly (LH)	1
	3-08902-01	. . Title Rack Hanger Assembly (RH)	1
15	6-09827-01	. . Digital Display Decal (Black)	1
	6-09827-02	. . Digital Display Decal (Brown)	1
16	6-09833-01	. . Digital Display Assembly	1
17	4-07828-01	. . Lamp Housing	1
18	4-07845-01	. . Printed Wiring Board (2 Lamp)	1
	7-05002-09	. . Self-Retaining Spacer	3
19	3-08866-01	. . Liscense Holder	2
20	2-18807-01	. . Liscense Retainer	2
	7-01355-08	. . Palnut	4
21	4-07863-01	. . Digital Display Board Cover	1
22	4-07826-01	. Title Rack Assembly	1
	6-07571-02	. . Title Rack	8
	3-08867-01	. . Number Strip	1
	3-08867-02	. . Number Strip	1
	3-08867-03	. . Number Strip	1
	3-08867-04	. . Number Strip	1
	3-08867-05	. . Number Strip	1
	3-08867-06	. . Number Strip	1
	3-08867-07	. . Number Strip	1
	3-08867-08	. . Number Strip	1
23	2-17944-14	. . Rod	1
24	2-17944-15	. . Rod	1
	7-01430-03	. . External Retaining Ring	2
	2-15689-01	. . Push Clip Nut	2
25	2-18846-01	. . Decorative Strip	4
26	4-07827-01	. Title Blockout Assembly	1
	6-09817-01	. . Title Blockout	4
27	2-17944-16	. . Rod	2
	7-01430-03	. . External Retaining Ring	2
	2-15689-01	. . Push Clip Nut	2
	7-02204-75	. . Foamed Tape	1

FIGURE 3

TOP DOOR ASSEMBLY



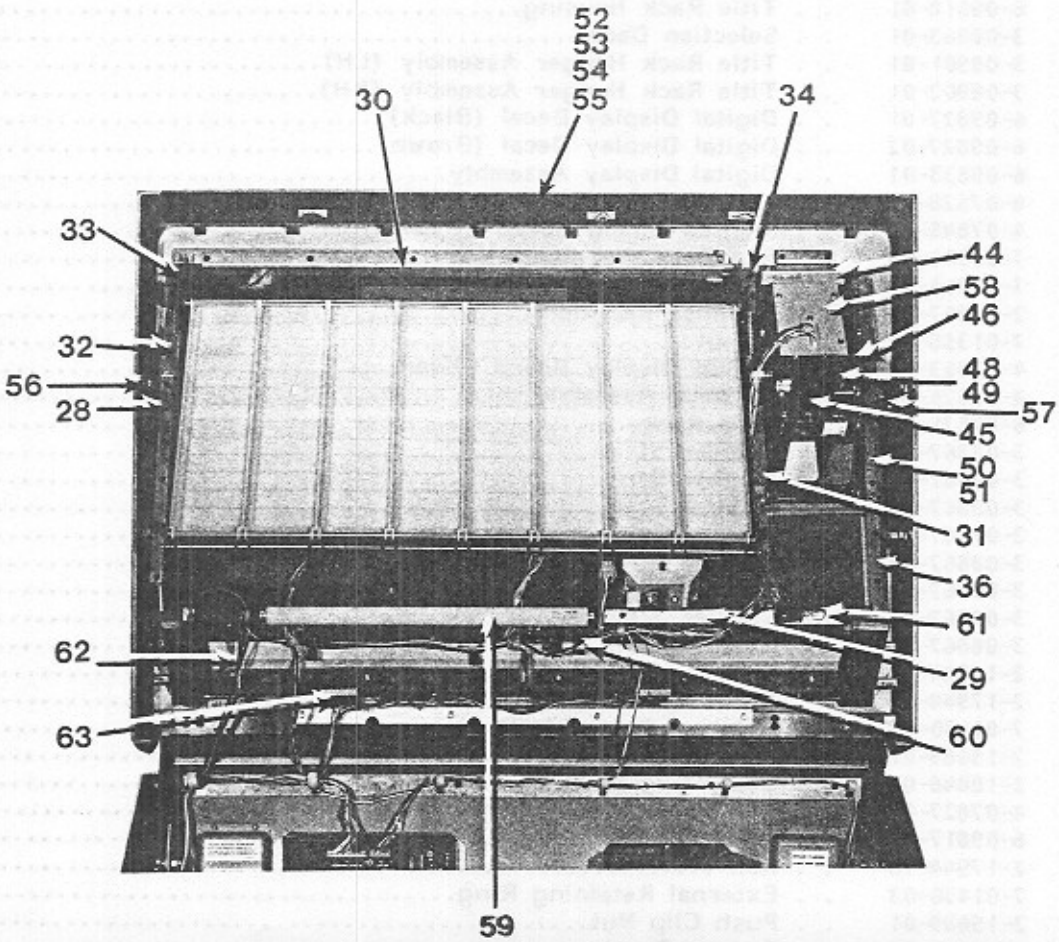
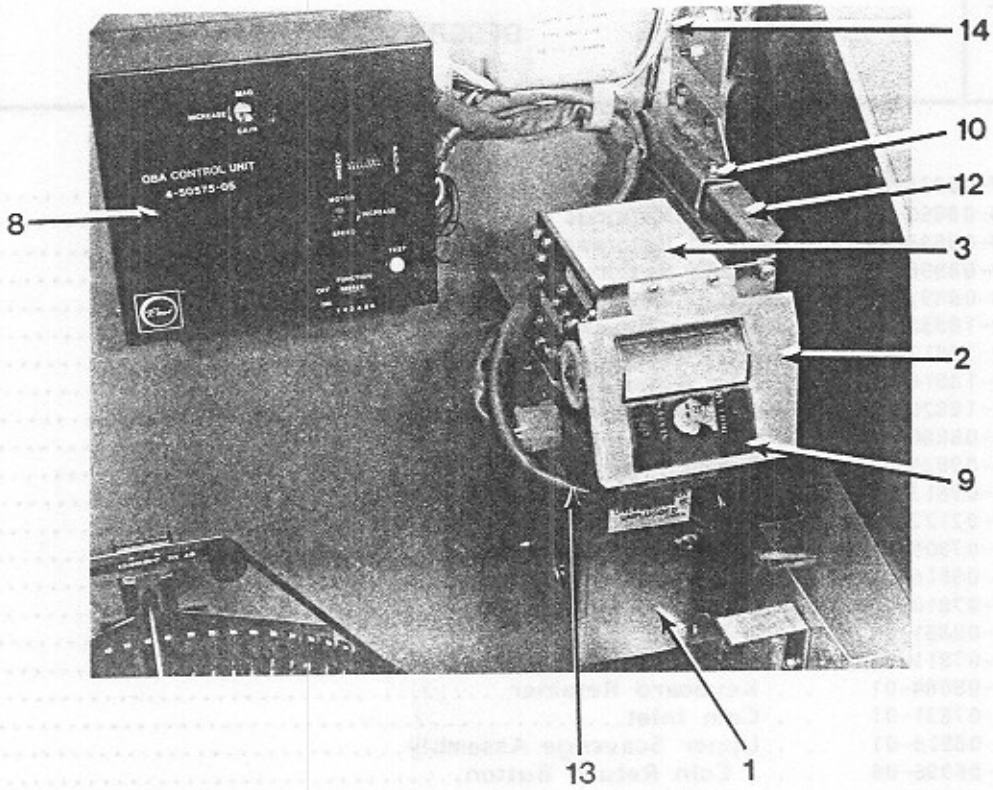


FIGURE 3

FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
	7-00934-01	. . Cable Clamps	4
28	3-08860-01	. Shroud Retainer (LH)	1
29	3-08895-01	. Shroud Retainer (Bottom)	1
30	3-08896-01	. Shroud Retainer (Top)	1
31	3-08891-01	. Shroud Retainer (RH)	1
32	2-18838-01	. Actuator Bracket	1
33	2-18817-01	. Catch Assembly (LH)	1
34	2-18818-01	. Catch Assembly (RH)	1
35	2-18829-01	. Price Card Window	1
36	3-08880-01	. Price Card Retainer	1
37	6-09825-01	. Selector Assembly	1
38	6-09813-01	. . Selector Housing	1
	7-02122-05	. . Sponge Rubber Closed Cell	1
39	4-07809-01	. . Keyboard Assembly	1
40	6-09816-01	. . . Light Conducting Panel	1
41	4-07810-01	. . . Swith Assembly	1
42	3-08851-01	. . . Switch Button	12
43	4-07811-01	. . . Selector Overlay	1
44	3-08884-01	. . Keyboard Retainer	1
45	4-07831-01	. . Coin Inlet	1
46	3-08916-01	. . Upper Scavenge Assembly	1
47	3-06996-06	. . . Coin Return Button	1
48	2-18229-01	. . . Spring	1
49	2-17413-03	. . . Coin Return Shaft	1
	2-18348-01	. . . Channel	2
50	3-08899-01	. Selector Retainer	1
51	3-08861-01	. Selector Retainer	2
52	2-18803-01	. Trim & Catch Assembly	1
53	4-07832-01	. . Catch Trim	1
54	2-18814-01	. . Strike	2
55	2-18815-01	. . Guide	1
56	3-08888-01	. Door Support Assembly (LH)	1
57	3-08889-01	. Door Support Assembly (RH)	1
	7-02204-74	. Foamed Tape	1
	7-00931-05	. Cable Clamp	1
58	7-02124-06	. Cork Composition Strip	1
59	7-00600-22	. Flourescent Lamp	1
60	7-00800-01	. Flourescent Starter	1
61	7-00604-14	. Global Lamp	1
62	4-07817-01	. Light Harness Assembly (60Hz)	1
	3-08595-01	. . Ballast (15W, 60Hz)	1
	2-18322-06	. . Lamp Bracket	2
	2-18322-07	. . Lamp Bracket	1
	2-18267-19	. . Flourescent Lamp Holder	2
	2-18834-01	. . Candleabra Lampholder	1
	2-00295-01	. . Starter Socket	1
	3-07490-02	. . Cap Housing	1
	4-07817-10	. . Light Harness	1
	7-00901-01	. . Self Stripping Splice	2
	7-00921-04	. . Solder Connector	2
	7-08001-01	. . Cable Tie	15
63	4-07854-01	. Bar Graphics Harness Assembly	1
	7-00755-12	. . Connector Housing	1
	7-00757-01	. . Keying Plug	1
	7-08001-01	. . Cable Tie	12

FIGURE 4

OEM BILL ACCEPTOR KIT



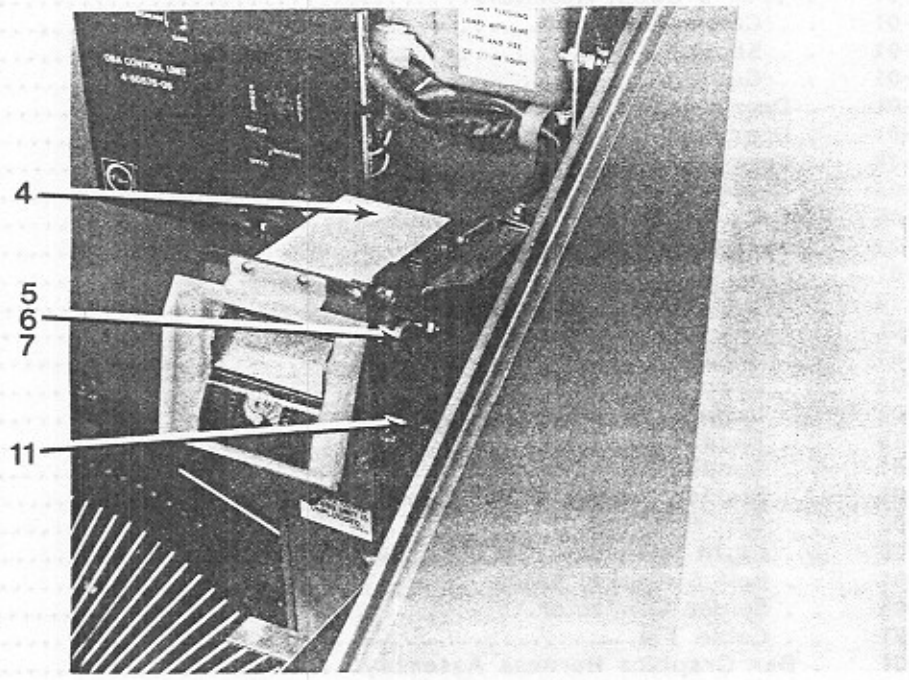
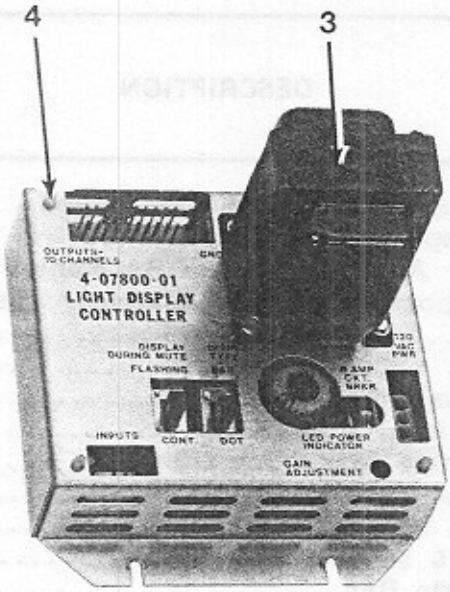


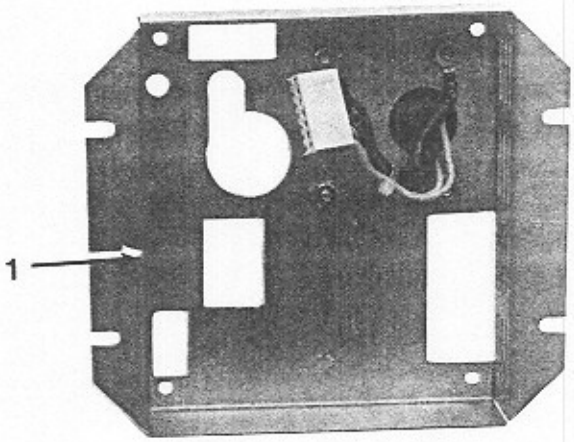
FIGURE 4

FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
4-	6-50570-12	OEM Bill Acceptor Kit-Factory Installed	
	6-50570-13	OEM Bill Acceptor Kit-Field Installed	
1	6-09715-01	. Bill Stacker Assembly (See OBA Manual for P.L.)	1
2	6-09718-02	. OBA Transport & Support Assembly (See OBA for P.L.)	1
3	2-12848-02	. Reflector	1
4	2-52137-01	. Light Block - Back	1
5	3-08588-01	. Slide Bar Assembly	2
6	2-18752-01	. Spacer - Slide	2
7	87844400	. #10-32 Machine Screw Keps Nut	1
8	4-50575-05	. OBA Control Unit (See OBA for P.L.)	1
9	3-08910-01	. Label - Bill Insertion	1
	2-18832-01	. Decal - $1 & $5 (Not Shown)	1
10	2-52126-01	. Clamp - Slide Bar	1
11	2-18282-01	. Spacer - Roller	1
12	4-07841-01	. Mounting Plate	1
13	4-50576-06	. Harness - Interconnect	1
14	6-09721-07	. Harness Assembly - OBA Stacker	1

FIGURE 5

LIGHT DISPLAY CONTROL





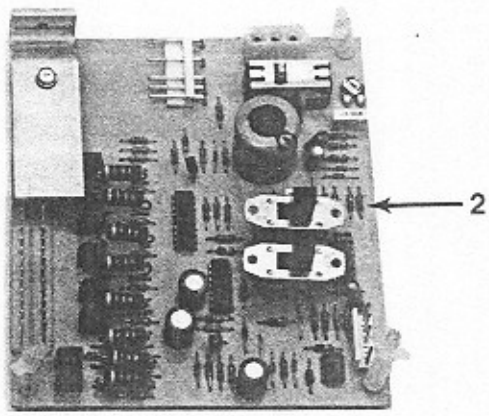


FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
5-	4-07800-01	Light Display Controller Assembly	
1	4-07866-01	. Cover	1
2	6-09805-01	. Circuit Board Assembly	1
3	4-07502-02	. Transformer	1
4	7-05000-13	. Circuit Board Support	1

SHELL ASSEMBLY

FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
5-	6-09850-01	Shell Assembly (Sapphire 89)	
5-	6-09850-02	Shell Assembly (Golden 89)	
	2-15372-01	. Teenut (Mechanism Tie Down)	2
	2-17506-12	. Vent Tube	1
	2-17506-15	. Vent Tube	1
	7-02401-26	. Wire Mesh Screen	1
	3-06257-01	. Hand Hole Cover	4
	2-14518-01	. Lock Spring	1
	3-06340-01	. Caster & Cup Assembly	4
	4-07802-06	. Skid Rail	1
	2-09326-01	. Teenut	2
	6-09279-01	. Cash Bag Bracket	1

FIGURE 6 STEREO AMPLIFIER SYSTEM ASSEMBLY

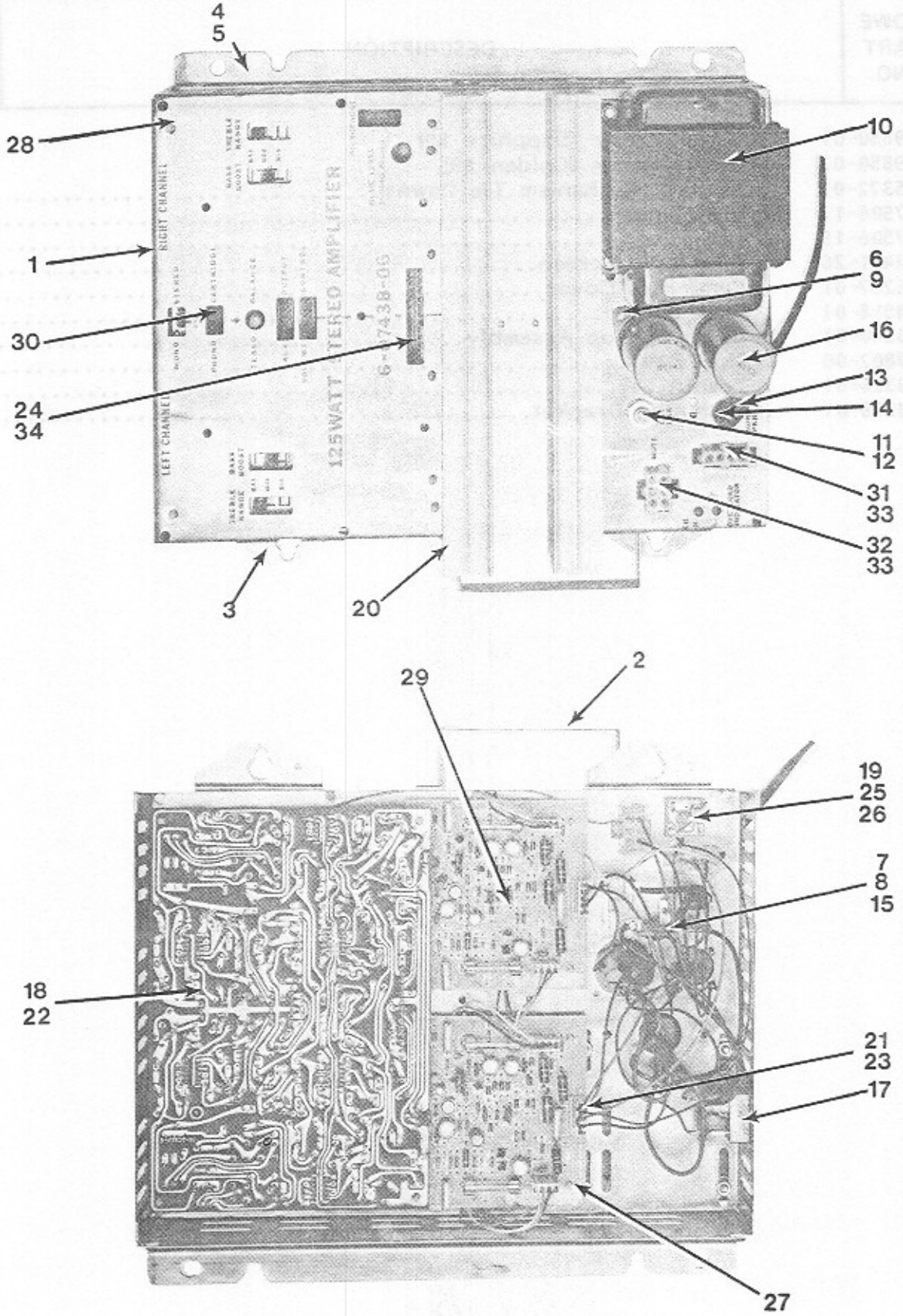


FIGURE 6

FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
6-	6-07438-06	Stereo Amplifier Assembly (Figure 1, Item 75)	REF
1	6-07441-05	. Chassis Assembly	1
2	2-14881-01	. Handle	2
3	2-09272-01	. Mounting Bracket	1
4	3-06273-01	. Mounting Bracket	10
5	7-01113-20	. Semi Tubular Rivet	1
6	2-13910-01	. Mounting Wafer	1
7	2-17241-01	. Terminal Strip	1
8	7-01110-26	. Semi Tubular Rivet	2
9	7-01110-07	. Semi Tubular Rivet	1
10	4-07378-03	. Power Transformer	1
11	7-00733-11	. Circuit Breaker	1
12	7-01220-11	. Washer	1
13	7-00502-02	. 3 Conductor Cord & Plug	1
14	7-02322-05	. Strain Relief	1
15	7-00213-01	. Mylar Capacitor	2
16	2-18231-01	. Electrolytic Capacitor	1
17	2-18225-01	. Bridge Rectifier	1
18	6-07925-01	. Stereo Preamp. Assembly (See Schem. for Parts List)	1
19	2-18140-02	. Self Locking Capnut	1
20	4-07151-02	. Heat Sink Assembly (See Figure 7)	2
21	7-00755-05	. Connector Housing (5 Ckt.)	1
22	7-00755-02	. Connector Housing (2 Ckt.)	11
23	7-00756-01	. Post Contact	1
24	7-00755-13	. Connector Housing (13 Ckt.)	1
25	7-01216-16	. Spacer	1
26	3-04254-01	. Speaker Overload Ind. Circuit Board Assembly	8
27	7-05000-04	. Circuit Board Support	4
28	7-05000-18	. Circuit Board Support	2
29	4-07101-01	. Driver Circuit Board Assembly (See Power Amplifier Schematic for Parts List)	1
30	7-00755-03	. Connector Housing (3 Ckt.)	1
31	3-07490-03	. Cap Housing	1
32	3-07490-04	. Cap Housing	8
33	7-00975-02	. Contacts	1
34	2-16207-02	. Amplifier Jumper Plug Assembly	

FIGURE 7

HEAT SINK ASSEMBLY

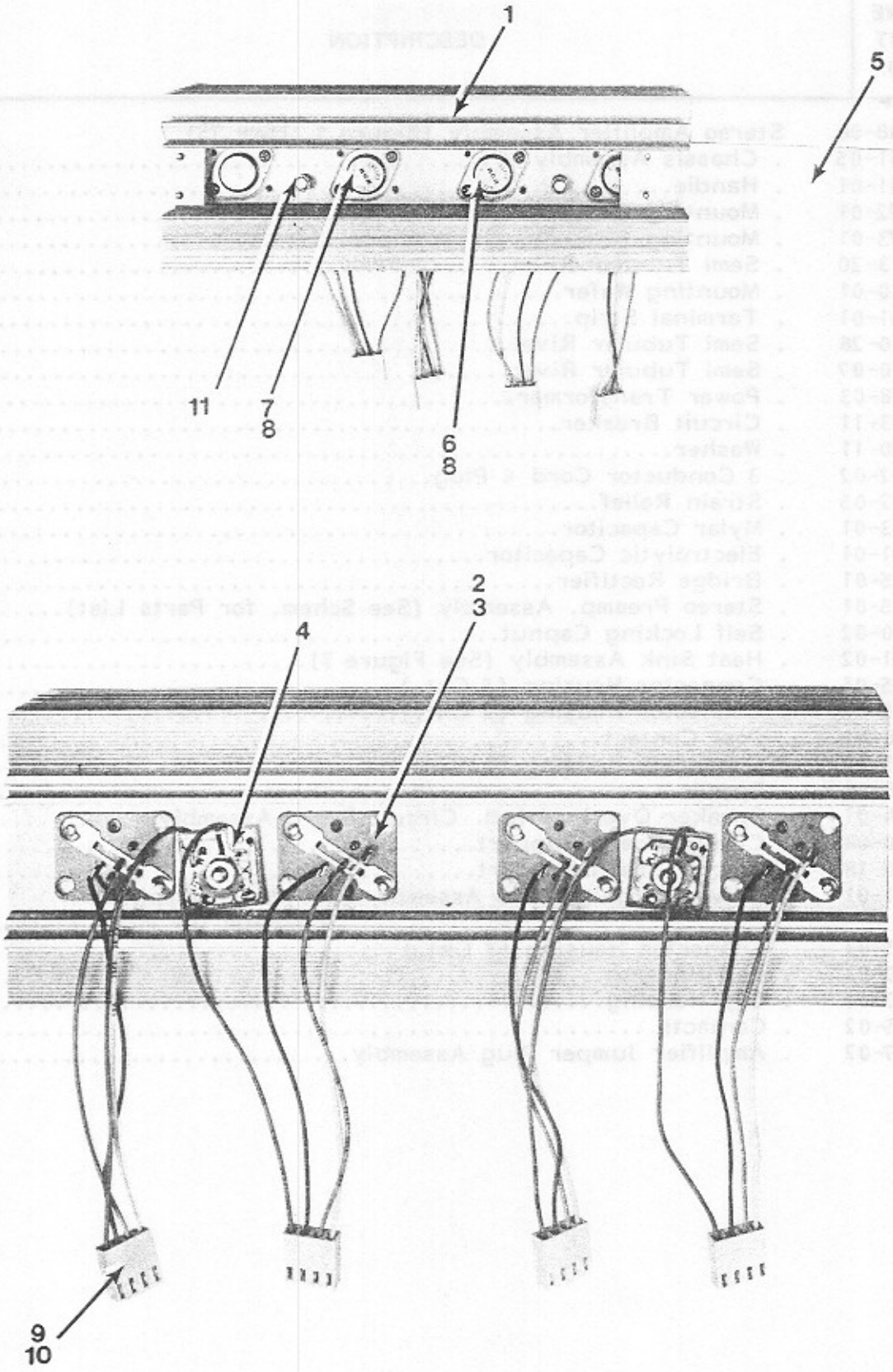
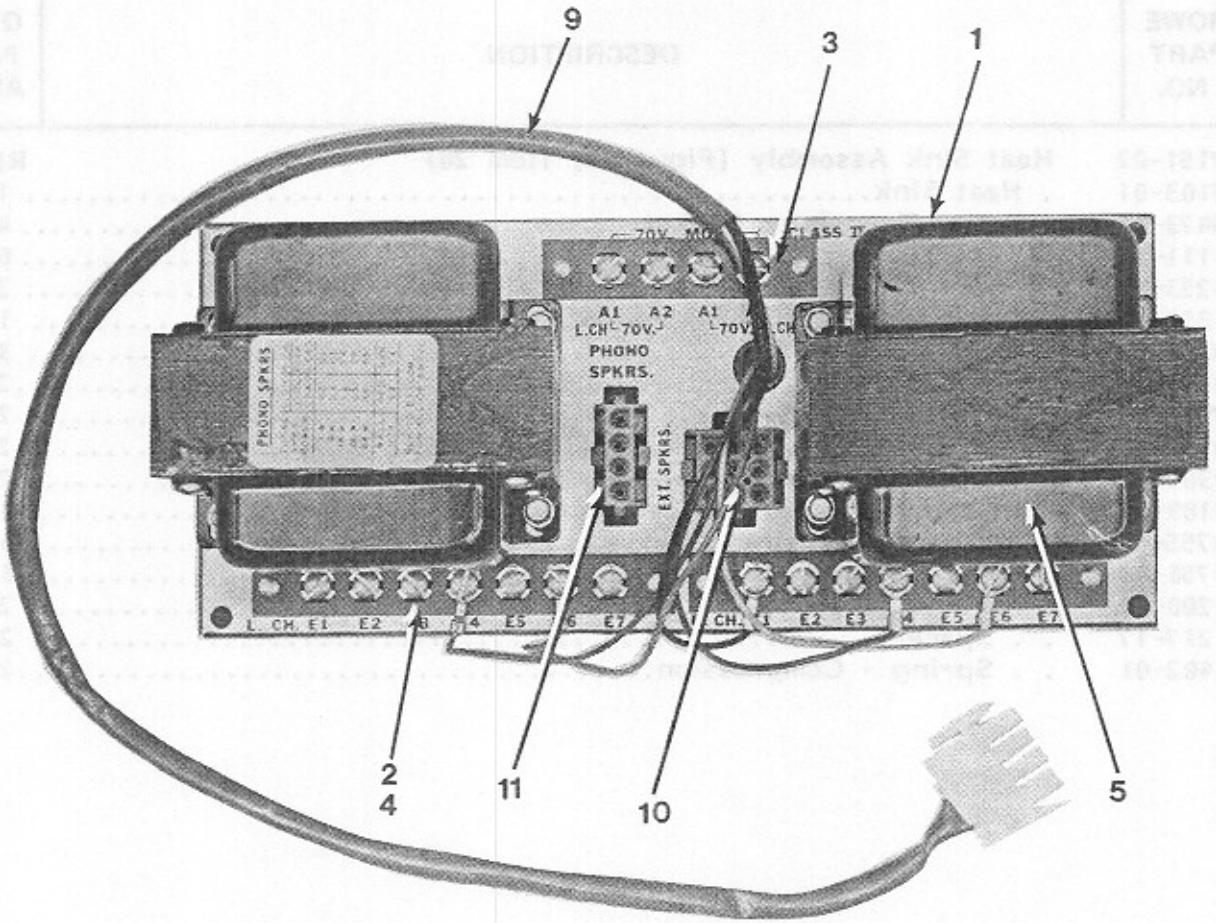


FIGURE 7

FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
7-	4-07151-02	Heat Sink Assembly (Figure 6, Item 20)	REF
1	4-07103-01	. Heat Sink	4
2	2-15473-01	. Power Transistor Socket	8
3	7-01111-14	. Semi Tubular Rivet	2
4	3-04253-01	. Power Amp Bias Circuit Board Assembly	1
	4-06359-01	. . Power Amp Bias Printed Wiring Board	1
	7-00350-02	. . Silicon Diode	3
	7-00756-01	. . Post Contact	2
5	2-17980-01	. Cover	2
6	7-00302-06	. Transistor (Darlington Amp)(M-SJ6366K, RCA-2N6283)	2
7	7-00302-07	. Transistor (Darlington Amp)(M-SJ6365K, FCA-2N6286)	2
8	2-13189-01	. Insulator	4
9	7-00755-04	. Connector Housing	4
10	7-00756-01	. Post Contact	6
11	7-01200-09	. Washer	2
	7-01217-17	. . Spacer	2
	2-18402-01	. . Spring - Compression	2

FIGURE 8 OUTPUT TRANSFORMER ASSEMBLY



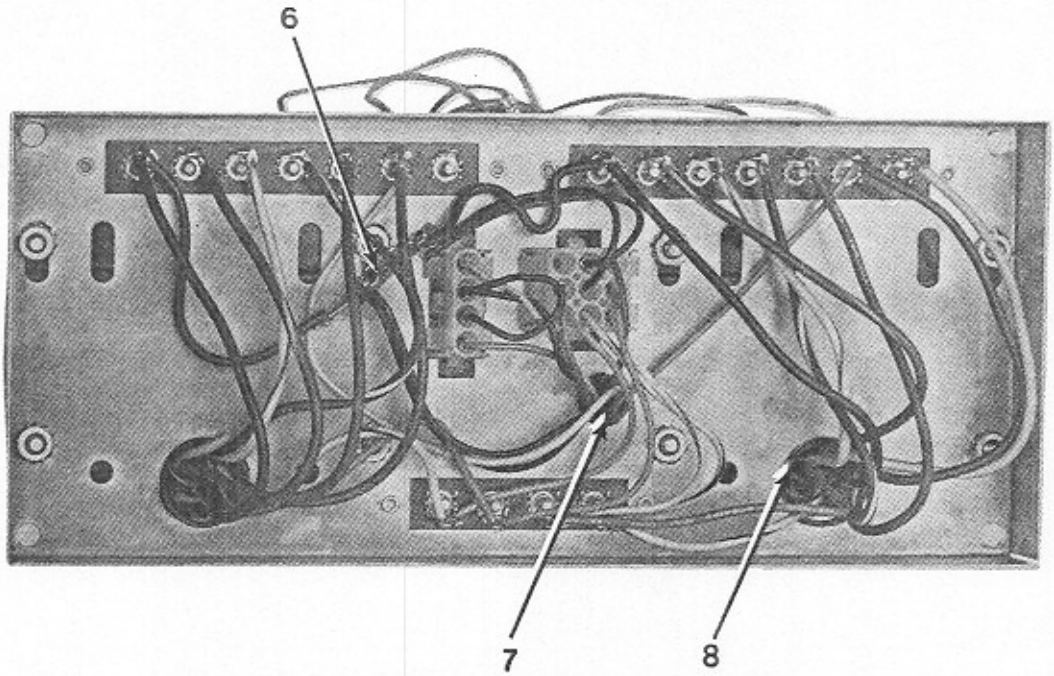


FIGURE 8

FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
8-	4-06336-05	Output Transformer Assembly (Figure 1, Item 74)	REF
1	3-06260-07	. Output Chassis	1
2	3-04267-05	. Binding Post Strip	2
3	3-04267-03	. Binding Post Strip	1
4	7-01110-07	. Semi Tubular Rivet	6
5	4-06335-01	. Output Transformer	2
6	3-04225-14	. Terminal Strip	1
7	7-02331-01	. Insulating Bushing	1
8	7-02331-02	. Insulating Bushing	2
9	2-15323-05	. Plug & Cable Assembly	1
	3-07491-03	. . Plug Housing	1
	7-00975-01	. . Contact (Pin)	4
10	3-07488-01	. Plug & Cable Assembly	1
	3-07490-05	. . Cap Housing (9 Ckt.)	1
	7-00975-02	. . Contact	8
	7-00910-12	. . Spade Terminal Lug	2
11	2-15373-04	. Plug & Cable Assembly	1
	7-00910-12	. . Spade Terminal Lug	3
	3-07490-03	. . Cap Housing	1
	7-00975-02	. . Contact	4

FIGURE 9 CENTRAL CONTROL COMPUTER

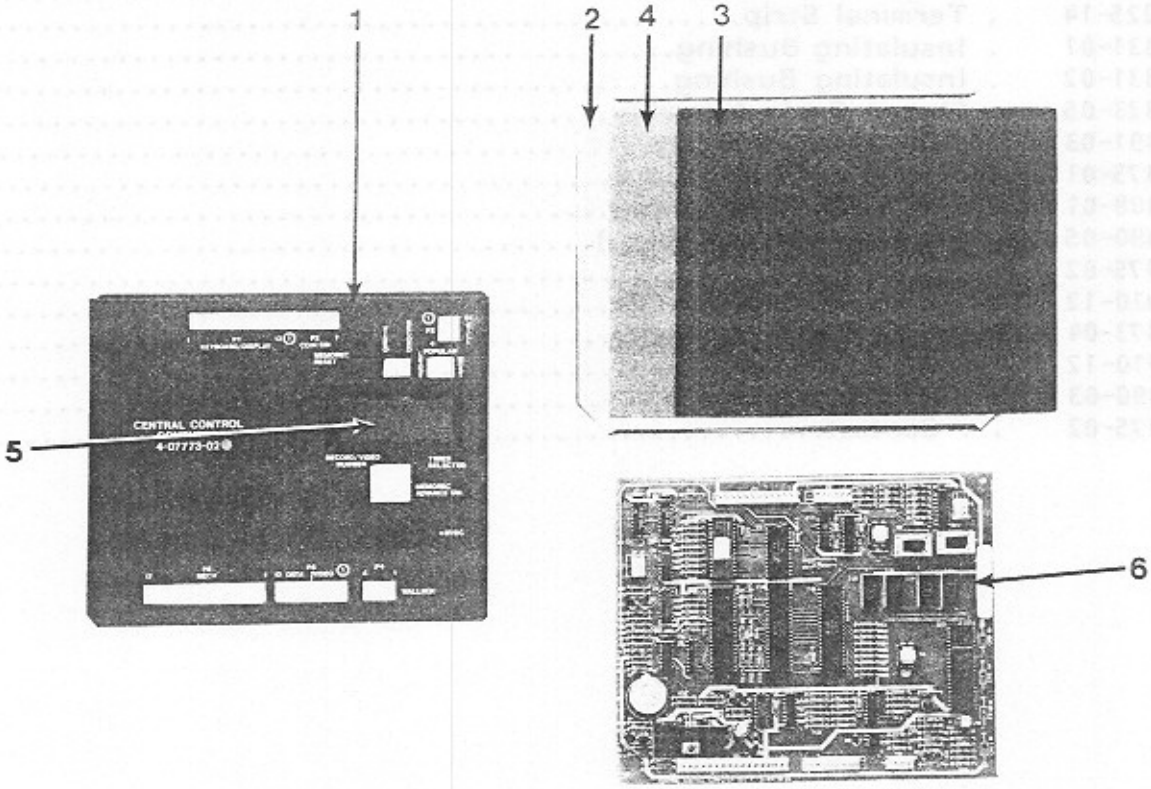


FIGURE 9

FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
9-	4-07773-02	Central Control Computer Assembly	
1	4-07792-02	. Central Control Computer Cover	1
2	4-07791-01	. Central Control Computer Base	1
3	2-17710-14	. Insulation Pad	1
4	2-17711-11	. Insulation Base	1
5	2-17819-05	. Light Filter Display Card	1
6	6-09738-02	. Central Computer Circuit Board Assembly	1

FIGURE 10

MAIN POWER SUPPLY

(120V MODEL)

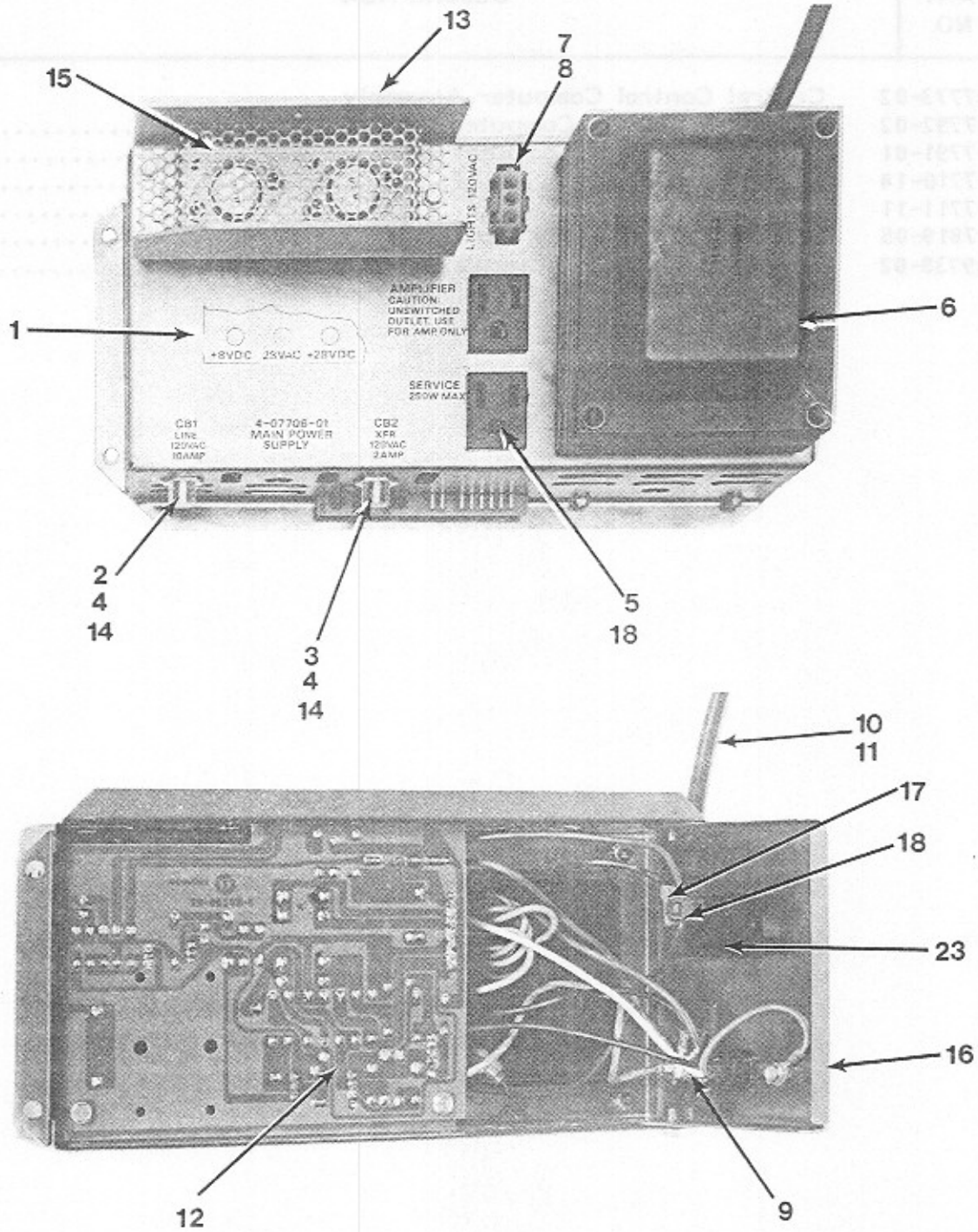


FIGURE 10

FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
10-	4-07706-01	Main Power Supply (120V)(Figure 1, Item 78)	
	4-65092-02	Main Power Supply (220V)	
	4-65092-03	Main Power Supply (240V)	1
1	4-07719-01	. Chassis Assembly	1
2	7-00734-25	. 10 Amp Circuit Breaker	1
3	7-00733-15	. 2 Amp Circuit Breaker	2
4	7-01220-01	. Washer (Internal Lock) Part of Breaker	2
5	2-13759-01	. 3 Wire Convenience Outlet	1
6	4-07720-01	. Transformer & Harness Assembly	1
	4-07720-26	. . Power Transformer (120V)	REF
	4-65093-26	. . Power Transformer (220V-240V)	6
	7-00756-01	. . Post Contact	5
	7-00756-01	. . Post Contact (220V-240V)	1
	7-00975-04	. . Contact	1
	7-00913-08	. . Terminal Lug	4
	7-00913-08	. . Terminal Lug (220V-240V)	1
7	3-07490-02	. Cap Housing	3
	7-00975-04	. . Contact (220V-240V)	2
8	7-00975-04	. Contact (120V)	2
	7-00913-08	. . Terminal Lug (120V)	4
	7-00913-08	. . Terminal Lug (220V-240V)	2
9	7-00915-11	. Ring Terminal	1
10	3-08345-06	. Power Cord Assembly (120V)	1
	3-65365-01	. . Power Cord Assembly (220V-240V)	1
11	7-02321-04	. Strain Relief	1
12	6-09357-01	. Circuit Board Assembly	1
13	4-07331-02	. Heat Sink and Power Transistor Assembly	1
	3-08343-01	. . Power Supply Heat Sink	2
	7-00308-07	. . Transistor (Darlington)(2N6055)(Motorola, RCA)	2
	2-13189-01	. . Insulator	2
	2-18342-01	. . Power Transistor Socket	2
	7-00755-04	. . Connector Housing	6
	7-00756-01	. . Post Contact	2
	7-00757-02	. . Keying Post	4
14	2-14086-02	. Straight Receptacle (120V)	8
	2-14086-02	. Straight Receptacle (220V-240V)	2
	7-00734-21	. Breaker 220/240 (5A)(Not Shown)	1
	7-00734-22	. Breaker 220/240 (6A)(Not Shown)	1
15	2-18281-01	. Heat Sink Cover	1
16	3-08673-01	. Switch Panel	4
17	7-00967-01	. Insulated Faston (120V)	3
	7-00967-01	. Insulated Faston (220V-240V)	5
18	7-00992-01	. Self Stripping Terminal	1
19	7-00991-01	. Self Stripping Terminal	1
20	7-00755-08	. Connector Housing (Not Shown)	1
21	7-00757-02	. Keying Plug (Not Shown)	1
22	7-00756-01	. Post Contact (120V)(Not Shown)	2
	7-00756-01	. Post Contact (220V-240V)	1
23	3-07857-01	. Rocker Switch (120V)	1
	3-07857-02	. Rocker Switch (220V-240V)	1
	2-17241-01	. Terminal Retainer Strip (220V-240V)	

FIGURE 11

MECHANISM ASSEMBLY SHEET 1

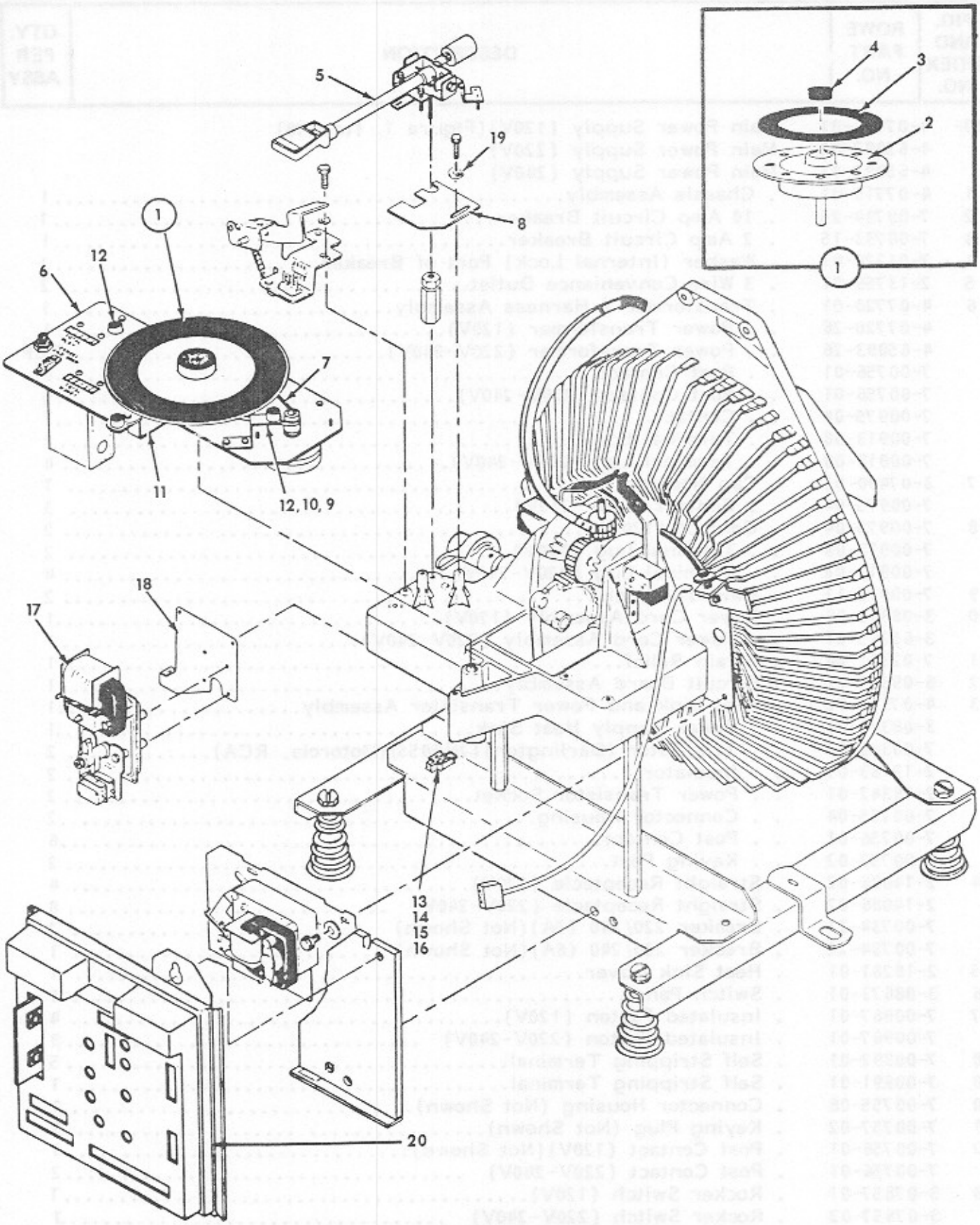


FIGURE 11

FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
11-	6-08700-01	Mechanism Assembly (Figure 1, Item 28)(60HZ)	REF
	6-08700-02	Mechanism Assembly (Figure 1, Item 29)(50HZ)	
1	3-07921-01	. Turntable Assembly	1
2	4-07215-01	. Turntable & Shaft Assembly	1
3	3-05235-01	. Turntable Face	1
4	2-18163-01	. Hole Plug	1
5	4-07217-01	. Tone Arm & Pivot Assembly (See Figure 12)	1
6	3-07935-01	. Plate & Counter Assembly	1
	2-15818-01	. . Momentary Contact Switch	1
	3-07942-01	. . Brush Holder	1
	2-02182-01	. . Brush	1
	4-07220-01	. . Counter Mounting Plate	1
	2-18137-01	. . Counter Assembly	1
	2-15383-02	. . . Counter	1
	2-14418-02	. . . Electric Counter	4
	7-00921-04	. . . Solderless Connector	1
	7-00755-05	. . . Connector Housing	4
	7-00756-01	. . . Post Contact	1
	7-00757-02	. . . Keying Plug	1
7	3-07922-01	. Turntable Drive Belt	1
8	3-07938-02	. Tone Arm Cutoff Circuit Board Assembly	1
	4-07225-02	. . Printed Wiring Board	1
	2-10726-02	. . Reed Switch	1
	7-00760-02	. . Polarizing Wafer 90°	1
	2-18181-01	. . Contact	2
	7-00770-01	. . Socket - Mini Spring	1
11	2-18188-01	. Bracket - Grommet & Rivet Assembly	1
12	2-18189-01	. Bracket - Grommet & Rivet Assembly	1
13	4-07224-01	. Mechanism Harness Assembly	1
	3-07490-05	. . Cap Housing (9 Ckt.)	7
	3-00795-01	. . Contact	2
	3-00795-03	. . Contact	1
	7-00755-02	. . Connector Housing	1
	7-00755-08	. . Connector Housing	1
	7-00755-10	. . Connector Housing	17
	7-00756-01	. . Post Contact	1
	7-00757-01	. . Keying Plug	2
	7-00757-02	. . Keying Plug	5
	7-00913-02	. . Terminal Lug	2
	7-00913-06	. . Terminal Lug	2
	7-00913-08	. . Terminal Lug	9
	7-00913-14	. . Terminal Lug	1
	7-00916-02	. . Spade Terminal Lug	1
	7-00921-07	. . Solderless Connector	20
	7-08001-07	. . Cable Tie	3
14	2-07545-01	. Clip	1
15	2-05545-01	. Cable Clip	1
16	7-00934-01	. Cable Clamp	1
17	4-07208-01	. Cam Switch & Motor Assembly (See Figure 14)	1
18	3-07907-01	. Motor Mounting Plate	1
19	7-01200-02	. Washer	1
20	4-07221-02	. Mechanism Control Unit	1
	3-07943-02	. . Mechanism Control Base	1
	2-17710-08	. . Insulating Pad	1
	2-17711-05	. . Insulating Base	1
	6-08708-03	. . Mechanism Control Circuit Bd. Ass'y. (See Schem. for P.L.)	1
	4-07231-02	. . Cover	1

FIGURE 11 MECHANISM ASSEMBLY SHEET 2

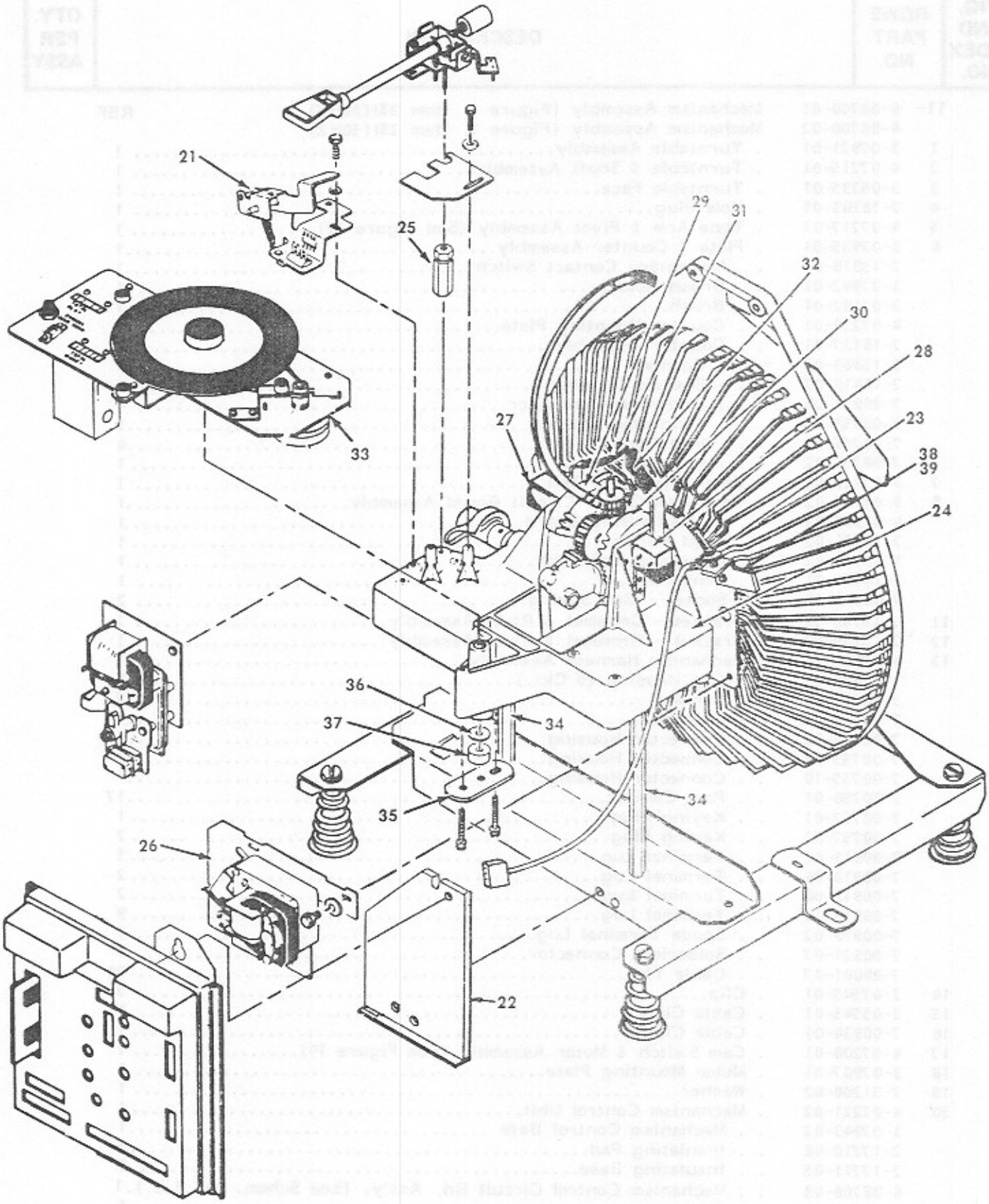


FIGURE 11

FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
11-	6-08700-01	Mechanism Assembly (Continued)	
21	3-07926-01	. Lifting Lever & Bracket Assembly	1
	2-18158-01	. . Lifting Lever Bracket Assembly	1
	2-18159-01	. . Lifting Lever Assembly	1
	7-01430-05	. . Retaining Ring	1
	2-15760-01	. . Tension Spring	1
	2-18162-02	. . Grounding Clip	1
	7-00745-04	. . Chassis Mount Wafer (4 Ckt.)	1
	7-01111-06	. . Semi Tubular Rivet	1
22	3-08541-01	. Mechanism Control Mount	1
23	3-07927-01	. Optical Switch Assembly	1
	3-07945-01	. . Mounting Bracket	1
	3-07944-01	. . Optical Switch & Connector Assembly	1
	4-07226-01	. . . Optical Switch	1
	7-00755-05	. . . Connector Housing	1
	7-00757-02	. . . Keying Plug	1
	7-00756-01	. . . Contact Post	4
	7-08001-01	. . Cable Tie	2
24	7-03122-01	. Mechanism Name Plate	1
25	2-10708-02	. Bearing Assembly	1
26	4-07219-01	. Sprag Assembly (See Fig 13)	1
27	2-18182-01	. Toggle Solenoid Assembly (L.H.)	1
28	2-18183-01	. Toggle Solenoid Assembly (R.H.)	1
29	3-07905-01	. Rotator Assembly (L.H.)	1
30	3-07906-01	. Rotator Assembly (R.H.)	1
31	2-18118-01	. Record Guide Assembly (L.H.)	1
32	2-18119-01	. Record Guide Assembly (R.H.)	1
33	3-07917-01	. Turntable Motor & Plate Assembly (60 HZ)	1
	3-07917-02	. Turntable Motor & Plate Assembly (50 HZ)	1
	3-07918-01	. . Turntable Motor Mounting Plate	1
	2-18171-02	. . Turntable Belt Guide	1
	3-07919-07	. . Turntable Motor Assembly (60 HZ)	1
	3-07919-08	. . Turntable Motor Assembly (50 HZ)	1
	2-18178-01	. . Motor Pulley (45 RPM)(60 HZ)	1
	2-18178-02	. . Motor Pulley (45 RPM)(50 HZ)	1
34	2-18125-01	. Mech Support	2
35	2-18124-01	. Cap Plate	1
36	2-10364-01	. Thrust Bearing	1
37	2-10866-01	. Spacer Bearing	1
38	2-18186-01	. Adjusting Bracket Assembly	1
39	2-18184-01	. Adjusting Knob	1

FIGURE 11

MECHANISM ASSEMBLY SHEET 3

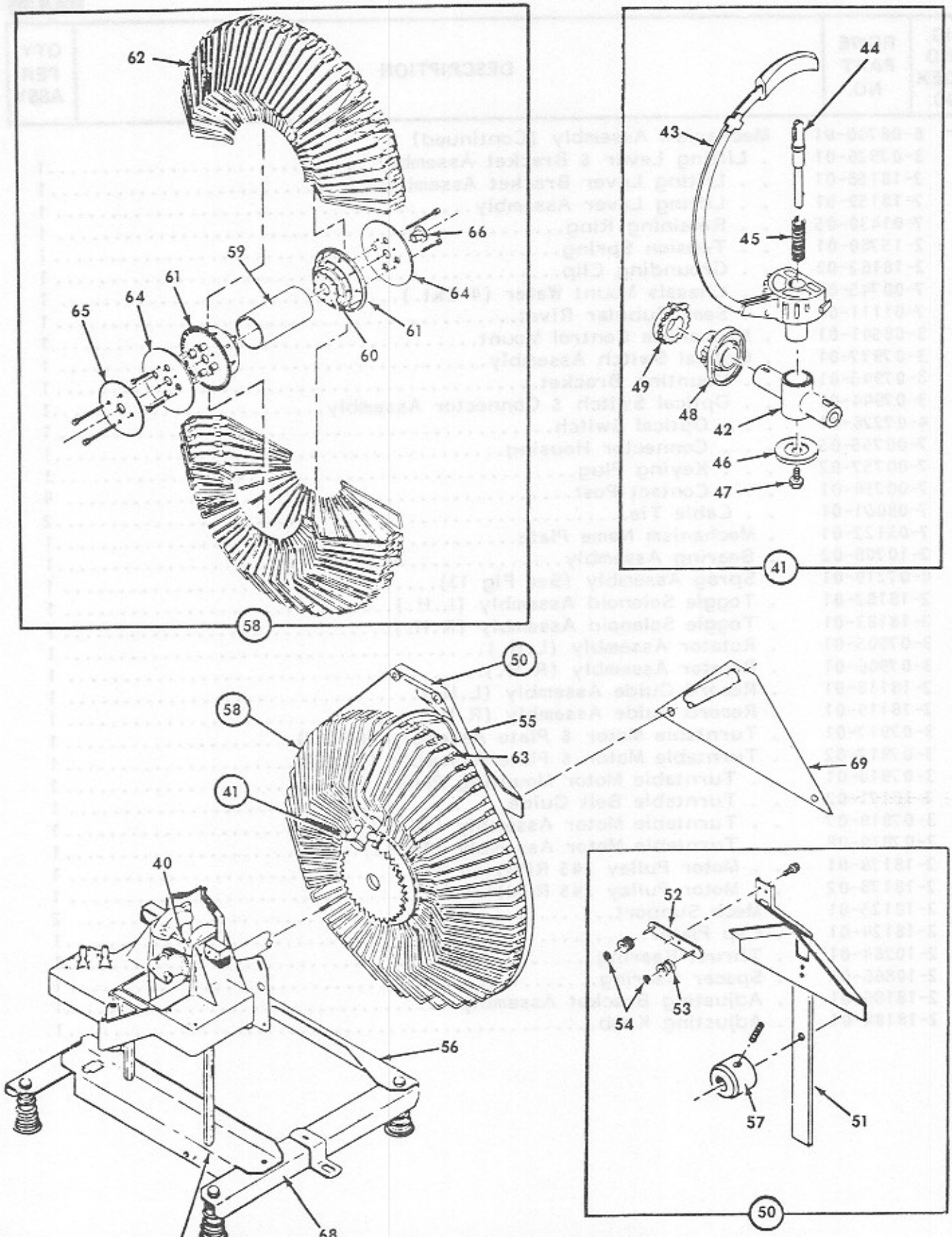


FIGURE 11

FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
11-	6-08700-01	Mechanism Assembly (Continued)	2
40	2-10792-02	. Trunnion Pin	1
41	4-07207-01	. Gripper & Trunnion Assembly	1
42	3-07910-01	. Trunnion	1
43	3-05197-02	. Gripper Bow & Hub Assembly	1
44	2-10808-03	. Inner Shoe Assembly	1
45	2-10811-01	. Record Release Spring	1
46	2-18115-01	. Cam Follower	1
47	2-18117-01	. Lock Screw	1
48	4-07204-01	. Cam Gear	1
49	4-07206-01	. Trunnion Gear	1
50	4-07212-01	. Guide & Belt Support Assembly	1
51	4-07213-01	. Gripper Bow Guide Assembly	1
52	2-10894-01	. Roller Bracket Assembly	2
53	2-03843-01	. Belt Roller	2
54	7-01430-03	. Retaining Ring	1
55	2-18138-01	. Belt	1
56	3-07925-01	. Support Frame Rear Angle	1
57	2-18126-01	. Collar	1
58	6-08703-01	. Magazine Assembly	1
59	4-07200-01	. Hub Spacer	2
60	3-07902-01	. Hub Anchor Plate	2
61	6-08702-01	. Magazine Hub	100
62	4-07201-01	. Record Magazine Separator	100
63	4-07202-01	. Belt Guide	2
64	3-07903-01	. Cover Plate	1
65	3-07904-01	. Magazine Gear	2
66	7-01460-01	. Bearing	2
67	2-11013-01	. Lock Nut	1
68	3-07914-01	. Mechanism Support & Spring Assembly	1
	3-07915-01	. . Mech Support Assembly	1
	2-06272-01	. . Spring Support (Upper)	4
	2-06128-03	. . Mech Mounting Spring	4
69	4-07232-01	. Support Magazine	1

FIGURE 11

MECHANISM ASSEMBLY SHEET 4

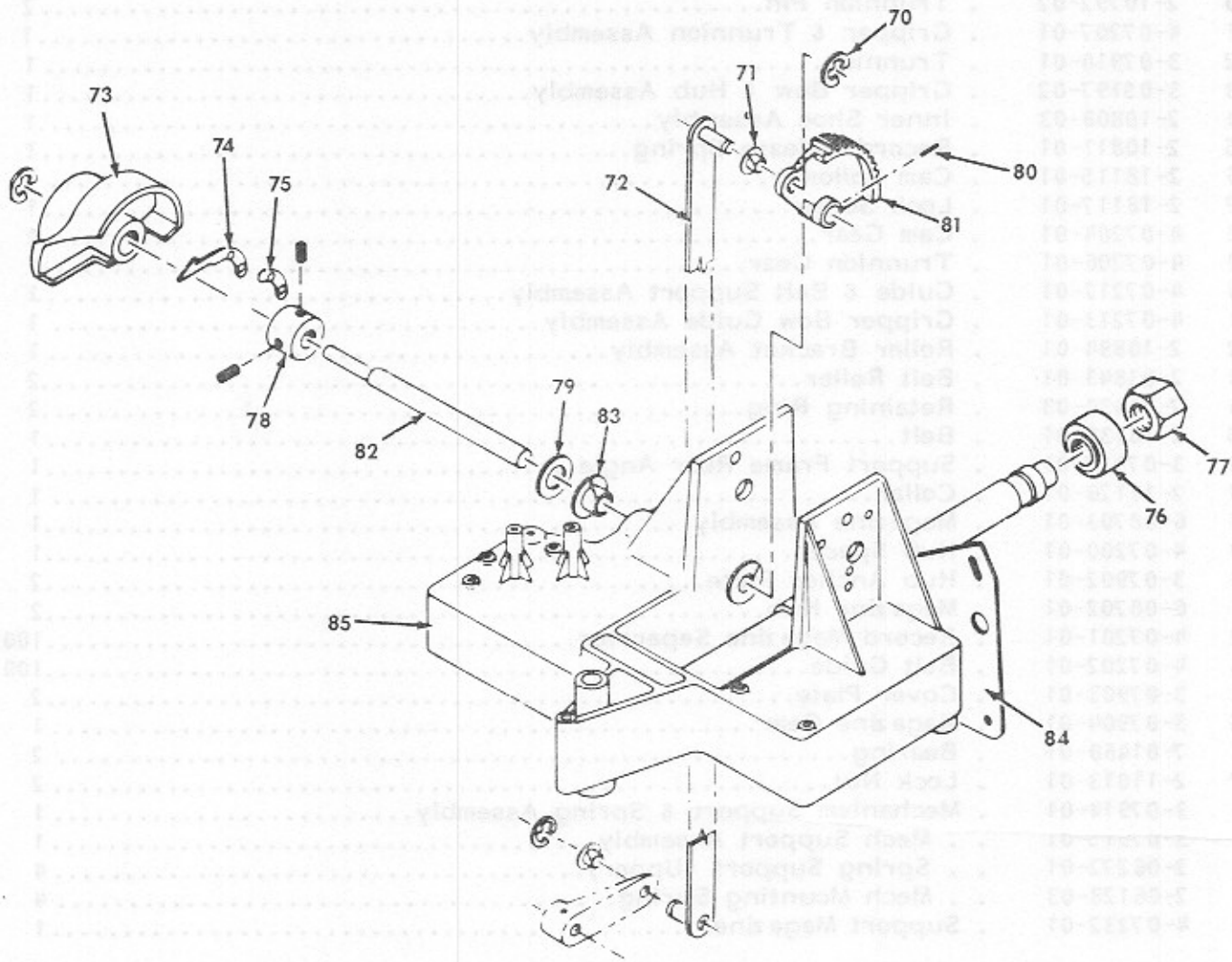


FIGURE 11

FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
11-	6-08700-01	Mechanism Assembly (Continued)	
70	7-01430-04	. Retaining Ring	3
71	7-01460-04	. Bearing	2
72	2-18102-01	. Transfer Link Assembly	1
73	2-18134-01	. Tone Arm Cam Assembly	1
	2-18187-01	. . Cam & Insert Assembly	1
74	2-18148-01	. Cam Spring	1
75	2-18149-01	. Cam Spring Plate	1
76	2-51569-06	. Shoulder Washer	1
77	7-01301-09	. 9/16 x 18 Jam Nut	1
78	2-18133-02	. Cam Collar	1
79	7-01225-33	. Bowed Washer	1
80	7-01130-19	. Roll Pin	1
81	4-07205-01	. Sector Gear	1
82	2-18132-01	. Cam Drive Shaft	1
83	7-01460-05	. Bearing	2
84	4-07218-01	. Intermediate Mounting Plate	1
85	4-07211-01	. Base Assembly	1
	6-08707-01	. . Mechanism Base	1
	3-07913-01	. . Magazine Support Shaft	1
	2-10377-01	. . Bearing	2

FIGURE 12

TONE ARM & PIVOT ASSEMBLY

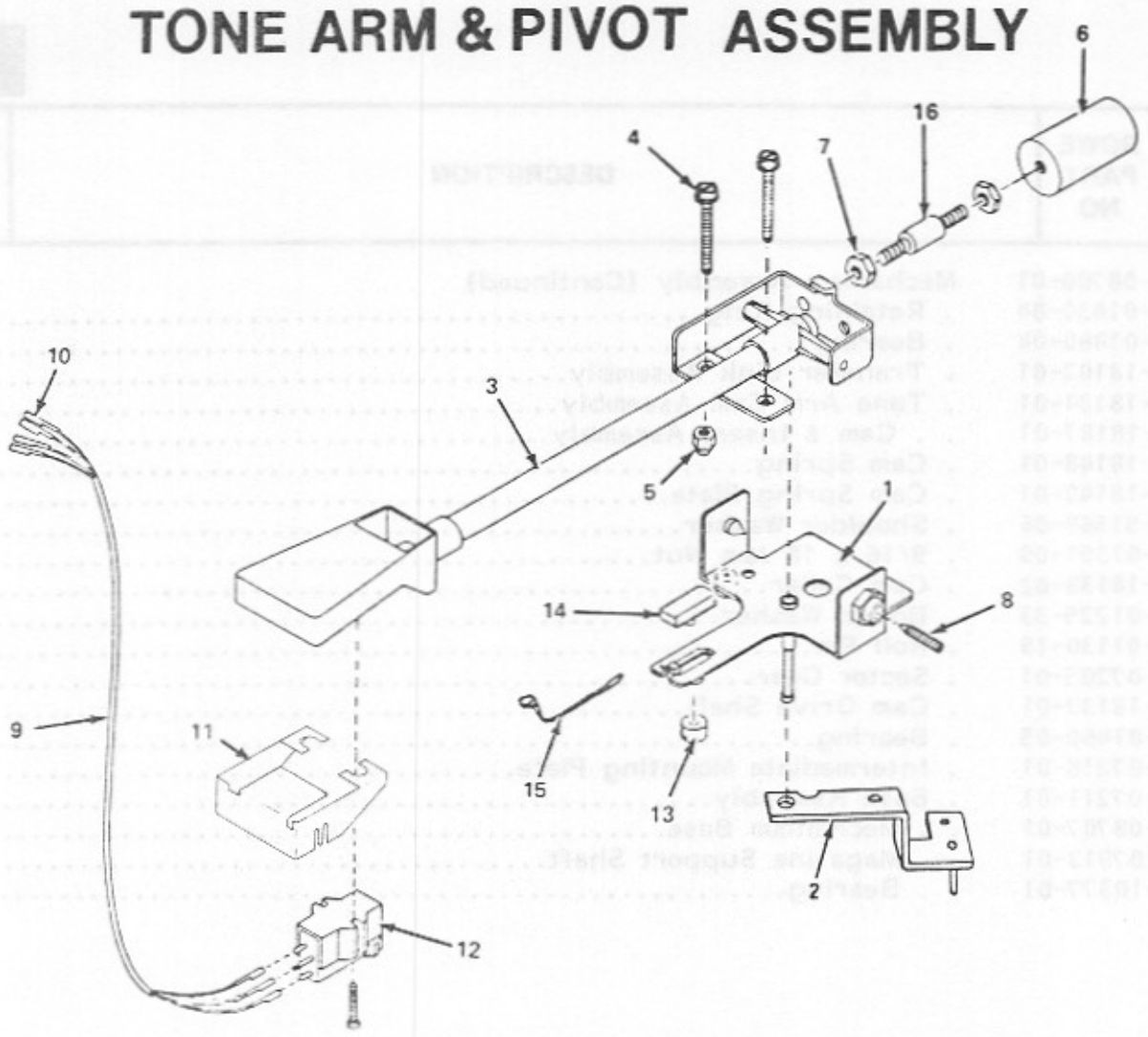


FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
12-	4-07217-01	Tone Arm & Pivot Assembly (Figure 11, Item 5)	REF
1	2-18141-01	. Bracket & Shaft Assembly	1
2	2-18142-01	. Guide Plate Assembly	1
3	3-07928-01	. Tone Arm & Lever Assembly	1
4	2-65025-01	. Contact Screw	2
5	2-18140-02	. Self Locking Cap Nut	1
6	2-18143-02	. Counter Weight	1
7	7-01355-02	. Locknut	1
8	2-10712-01	. Pivot Screw	1
9	2-18144-01	. Tone Arm Cable Assembly	1
10	7-00927-10	. Pin Receptacle	8
11	3-08915-01	. Tone Arm Shielding Clip	1
12	2-13011-01	. Stereo Phono Cartridge	1
	2-18340-01	. . Stylus Assembly	1
13	2-18147-01	. Magnet - Reed	1
14	2-18146-01	. Magnet Clip	1
15	7-08001-09	. Cable Tie	1
16	2-18177-01	. Vibration Isolator	1

SPRAG ASSEMBLY

FIGURE 13

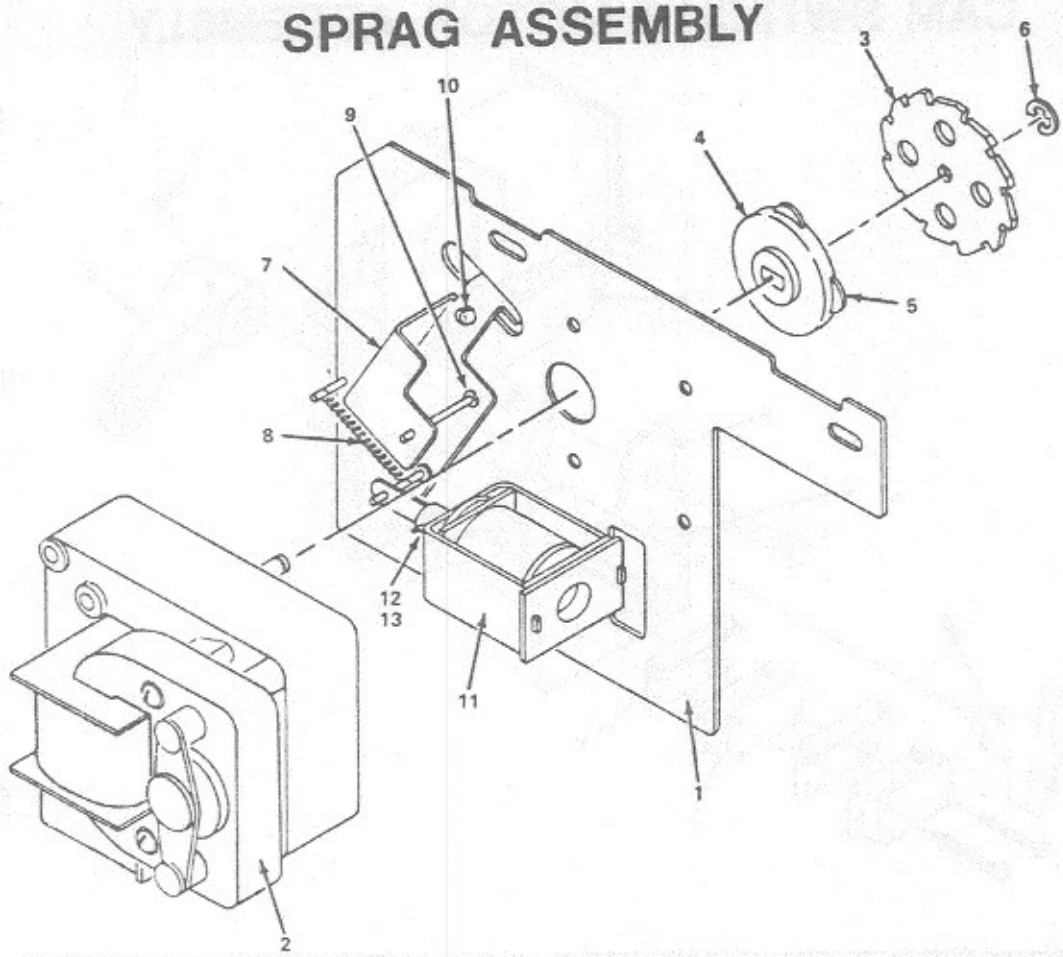


FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
13-	4-07219-01	Sprag Assembly (Figure 11, Item 26)	REF
1	3-07939-01	. Sprag Plate Assembly	1
2	4-07227-01	. Magazine Motor	1
3	4-07223-01	. Sprag Wheel	1
4	3-07933-01	. Sprag Wheel Hub	1
5	2-18161-01	. Stem Bushing	4
6	7-01430-03	. Retaining Ring	1
7	2-18160-01	. Sprag Lever Assembly	1
8	2-12562-01	. Tension Spring	1
9	7-01430-05	. Retaining Ring	1
10	2-51559-01	. Split Stem Bumper	2
11	2-11505-10	. Solenoid Assembly	1
12	2-10857-01	. Plunger Assembly	1
13	2-10849-02	. Plunger Stop	1

FIGURE 14

CAM SWITCH & MOTOR ASSEMBLY

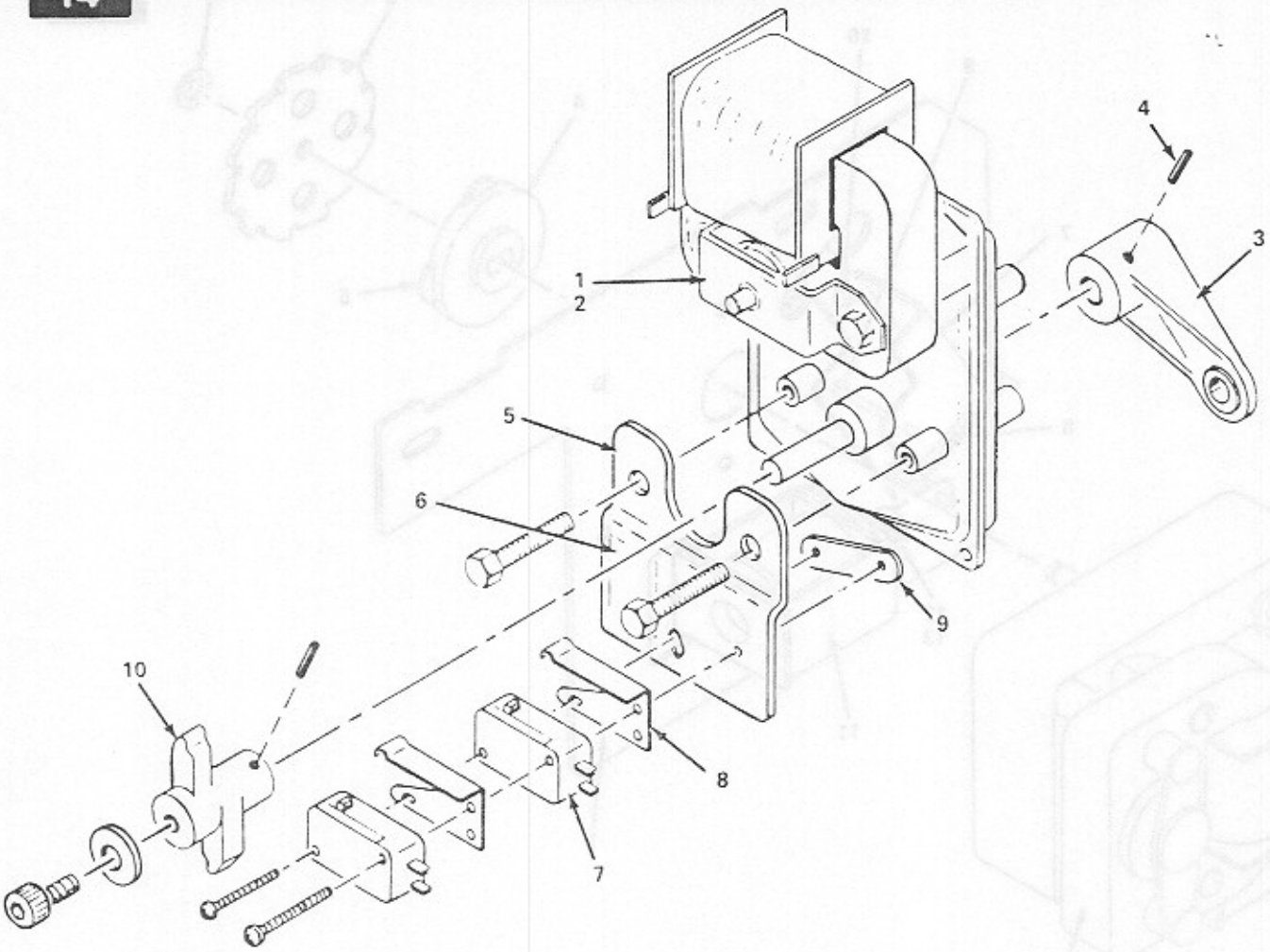


FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
14-	4-07208-01	Cam Switch & Motor Assembly (Figure 11, Item 17)	REF
1	3-07908-01	. Motor & Crank Assembly	1
2	4-07209-01	. Cam Motor	1
3	2-18104-01	. Trunnion Crank	1
4	7-01131-16	. Roll Pin	2
5	3-07909-01	. Switch Plate	1
6	2-18169-01	. Cam Switch Label	1
7	2-10731-01	. Switch	2
8	2-10829-01	. Switch Actuator	2
9	2-10830-01	. Twin Nut	1
10	3-07934-01	. Switch Cam	1