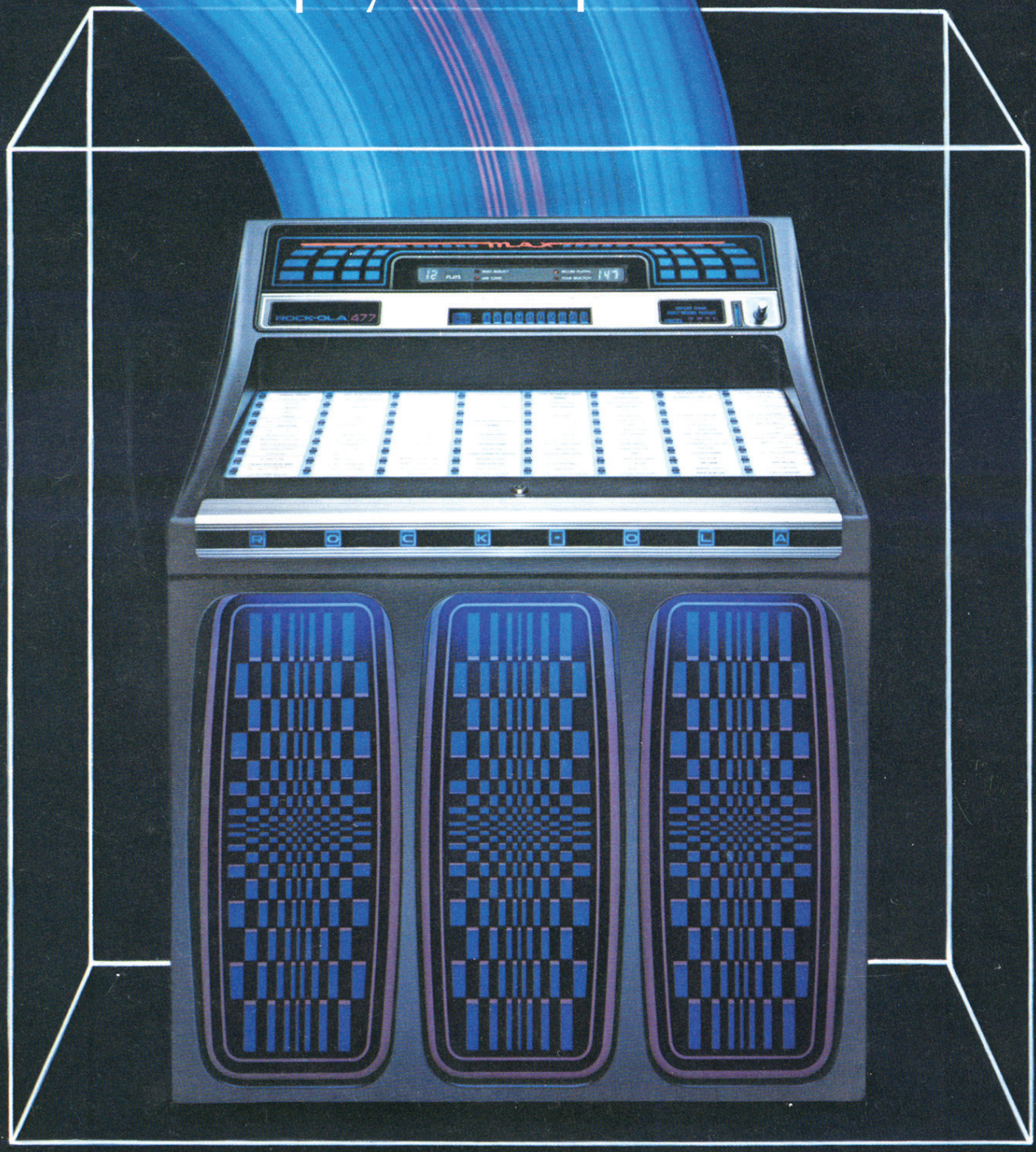
Meet Max

The compact Rock-Ola machine that puts 160 plays in the space of 100.



ROCK-OLA

Model 477

Isn't it time you met Max?

Mighty Max, the first electronic phonograph of the 80's, packs added profit into every inch of space. With 160 plays programmed into its microprocessors, Max outperforms all small size machines.

Max boosts income with the Random Complimentary Play. The money-making feature that automatically plays a random record at one of two time sequences that you choose. The Hit Tracker™ keeps you informed of the money-making hits. Because this computer memory instantly tells you how many times (up to 999) each record has been played. And the Profit Setter™ has a microprocessor that provides you with unlimited price combinations plus control of the Random Complimentary Play time sequences.

Max. The maximum profit performer, with more important features in less space. From Rock-Ola, the people who build quality and reliability into every music machine. Isn't it time you met Max?

Max 477 Specifications

Cabinet Finish
"Durango" walnut wood grain vinyl finish, chromed castings, anodized metal extrusions.

Amplifier
Powerful 200 Watts with automatic overload protection of output stage; circuitry mutes amplifier and indicator light comes on if overload persists.

Pick-up
Magnetic with Diamond Needle.

Turntable
45 rpm, with new design features.

Record Changer Mechanism
Electronic microprocessor controlled
160 selections—80 7" records

Speakers
Two 12" Low Frequency and two 6" Mid-Hi Frequency Speakers matched and balanced to the cabinet for maximum stereo presence.

Dimensions	Cabinet	Crated
Height	45½"	50"
Width	34⅜"	38"
Depth	23"	27"
Weight	245 lbs.	281 lbs.

Max 477 Accessories

Speakers, Microphone
Model
2130 Microphone Kit
2300 Deluxe Wall Speaker

Money and Pricing Kits
Model
2160 Security Cash Box

Wallbox
Model
507 Wallbox
1775 Wallbox Converter
2121 Auxiliary Wallbox Power Supply
2149 Wallbox Brackets

Volume Control Units
Model
2122 Manual Remote
2156-1 Motorized Remote (w/On-Off Switch)
2173 Motorized Remote (w/o On-Off Switch)
2305 "L" Pad Control

Printed Circuit Boards
Model
2301 Microprocessor PC Board Kit

ROCK-OLA®

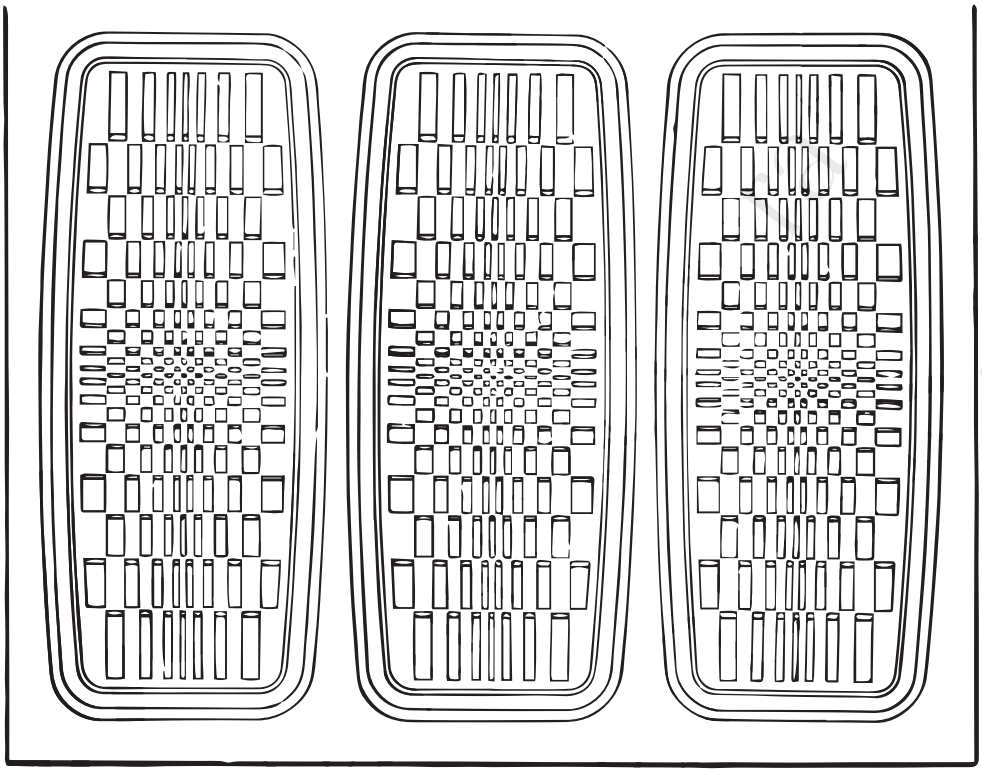
ROCK-OLA Manufacturing Corporation
800 North Kedzie Avenue, Chicago, Illinois 60651

Form No. 477-1

Printed in U.S.A.

ROCK-OLA

MAX



Model 477 Phonograph

160 Selections

SERVICE MANUAL

SERVICE INFORMATION — DOMESTIC

MODEL 477 PHONOGRAPH . . . RELATED ACCESSORIES AND KITS

MODEL NO.	PHONOGRAPHS	SERVICE MANUAL "SM"	INSTALLATION INSTRUCTIONS "I"	WIRING DIAGRAM "WD"	PARTS CATALOG "PC"	DESCRIPTION OF OPERATION
477	160 SELECTION PHONO	#52879	—	#52881	#52880	SEE "SM" #52879
	ACCESSORIES					
507	WALLBOX (160-100)	#50681	—	#50682	SEE "SM" #50681	SEE "SM" #50681
1775	CONVERTER	—	#52339	#52339	—	—
2300	DELUXE WALL SPEAKER	—	LABEL	—	—	—
	KITS					
2121	AUXILIARY WALL BOX POWER SUPPY	—	#52927	SEE "I" #52927	—	SEE "I" #52927
2122	MANUAL VOLUME CONTROL	—	#45374	SEE "I" #45374	SEE "I" #45374	—
2130	MICROPHONE	—	#46268	SEE "I" #46268	—	SEE "I" #46268
2149	BAR BRACKET WALL BOX	—	#48609	—	—	—
2156-2	MOTORIZED VOLUME CONTROL (WITH ON-OFF SWITCH)	—	#49794	SEE "I" #49794	SEE "I" #49794	—
2305	"L" PAD	—	#52968	—	—	—
2173	MOTORIZED VOLUME CONTROL (WITHOUT ON-OFF SWITCH)	—	#50109	SEE "I" #50109	SEE "I" #50109	—
2301	MICRO PROCESSOR P.C. BOARD KIT (LOGIC—HIT TRACKER—PROFIT SETTER)	—	—	—	—	—

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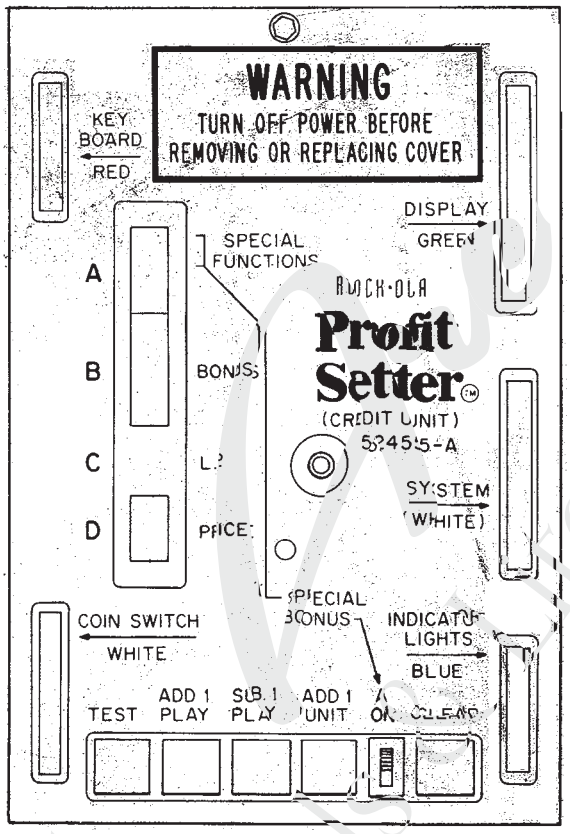


PROFIT SETTER (CREDIT UNIT)

The Credit Unit is a solid state system which converts deposited money into 255 plays. Provides means for entering the desired selections from the keyboard and its subsequent transmission to the Mechanism Control Unit.

The money conversion is very flexible, can be programmed for all-world currencies and allows for variable pricing dependent on the amount of money deposited.

Any combination of nickels, dimes and quarters can be used to accumulate credits and bonuses.

Pricing of plays and bonus amounts may be programmed at 5 bonus levels by Switch Banks A, B and D as explained under "Programming Your Own Price Combinations" on page 7. Components for Switch Bank C are omitted and are part of an Album Kit.

"Free Play" operation can be programmed by setting switches D1, D2 and D3 in Bank D to "OFF".

"Add Coins" light is provided to show that the amount entered is not great enough to reach one play. The total number of plays is displayed on a two digit display with a maximum capacity of 99 plays.

Five service switches are provided on the face of the credit unit. Add 1 Play, Subtract 1 Play. Add 1 Unit are used to check-out programmed pricing.

Test switch is provided to self test the credit system. When pressed a short add and subtract credit count scans through the CREDIT DISPLAY UNIT in the credit window. If 1 credit remains displayed then the credit unit is OK.

If three 8's appear in the RECORD PLAYING window, either a coin switch contact is closed, or the CREDIT BOARD is defective.

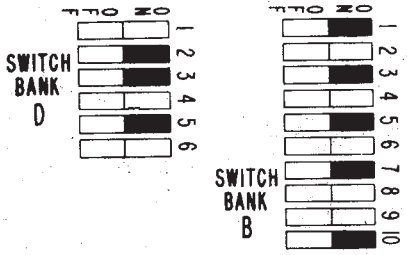
The CLEAR switch resets the credit system to zero. This mode is used for testing purposes only.

In normal operation the LED lamp is ON indicating the presence of +9.6V operating voltage.

SAMPLE PRICING CHARTS

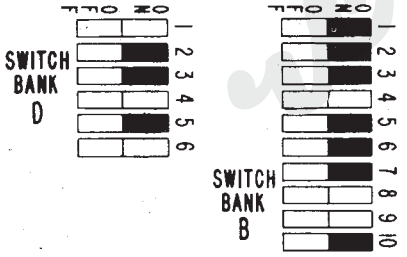
STANDARD SELECTIONS

15¢	1 PLAY
25¢	2 PLAYS
50¢	4 PLAYS
75¢	7 PLAYS
$1.00	10 PLAYS
$1.25	13 PLAYS



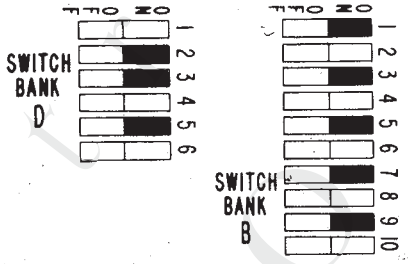
STANDARD SELECTIONS

15¢	1 PLAY
25¢	2 PLAYS
50¢	4 PLAYS
75¢	7 PLAYS
$1.00	11 PLAYS
$1.25	15 PLAYS



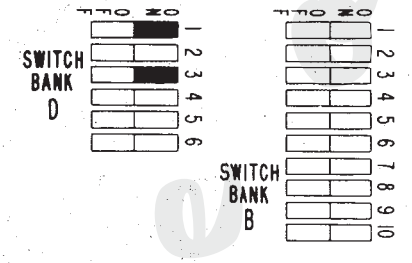
STANDARD SELECTIONS

15¢	1 PLAY
25¢	2 PLAYS
50¢	5 PLAYS
75¢	8 PLAYS
$1.00	11 PLAYS
$1.25	14 PLAYS



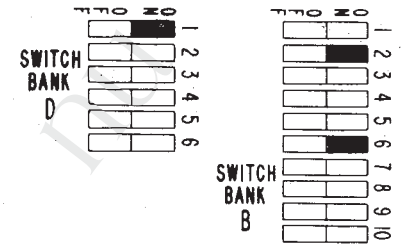
STANDARD SELECTIONS

25¢	1 PLAY
50¢	2 PLAYS
75¢	3 PLAYS
$1.00	4 PLAYS
$1.25	5 PLAYS



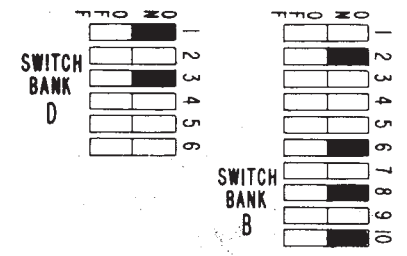
STANDARD SELECTIONS

25¢	1 PLAY
50¢	2 PLAYS
75¢	3 PLAYS
$1.00	5 PLAYS
$1.25	7 PLAYS



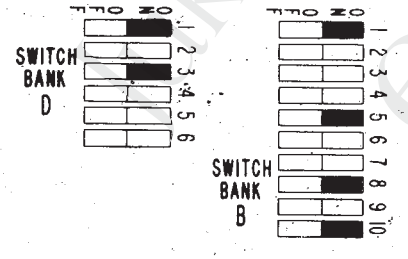
STANDARD SELECTIONS

25¢	1 PLAY
50¢	3 PLAYS
75¢	5 PLAYS
$1.00	7 PLAYS
$1.25	9 PLAYS



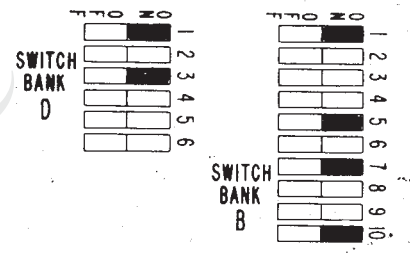
STANDARD SELECTIONS

25¢	1 PLAY
50¢	3 PLAYS
75¢	5 PLAYS
$1.00	8 PLAYS
$1.25	11 PLAYS



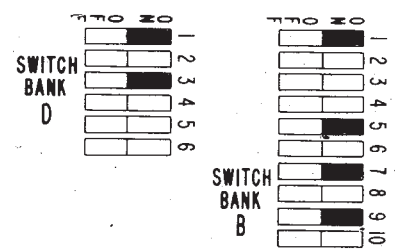
STANDARD SELECTIONS

25¢	1 PLAY
50¢	3 PLAYS
75¢	6 PLAYS
$1.00	9 PLAYS
$1.25	12 PLAYS

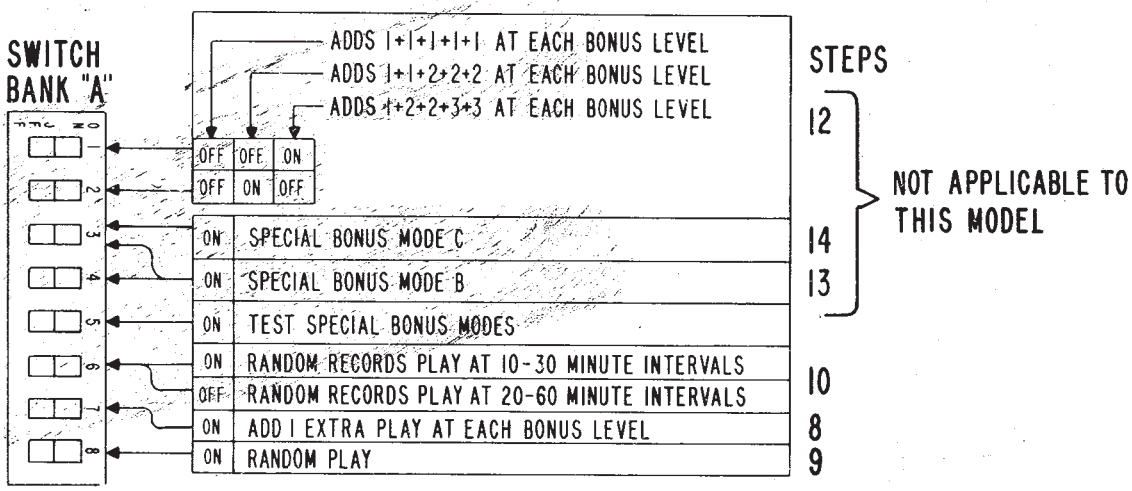


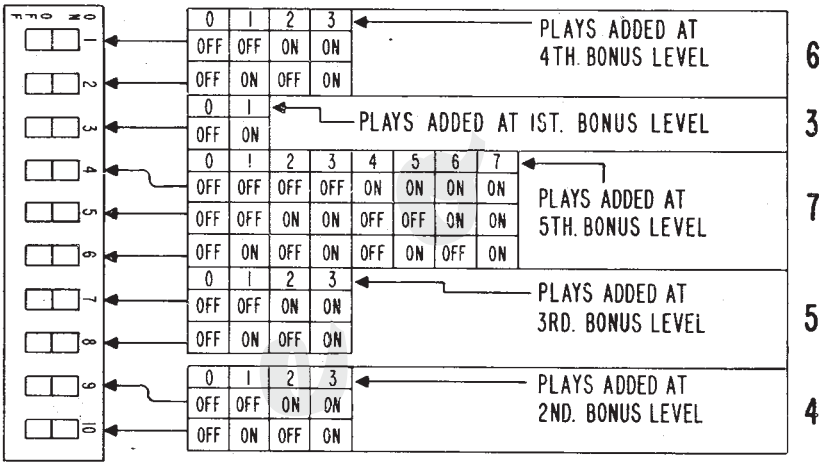
STANDARD SELECTIONS

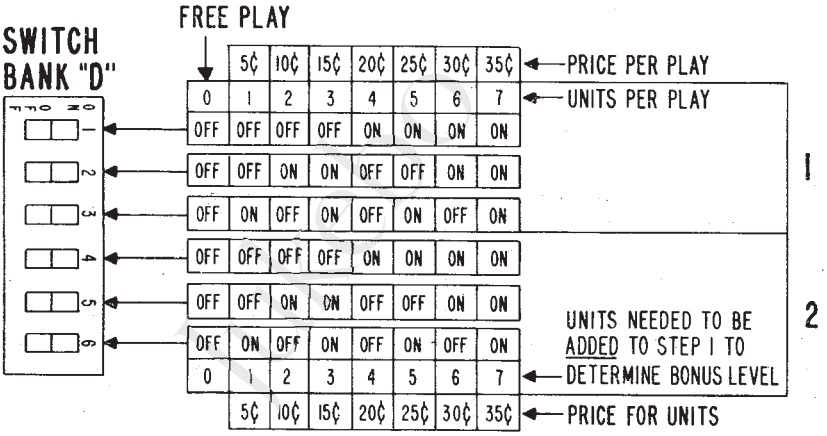
25¢	1 PLAY
50¢	4 PLAYS
75¢	7 PLAYS
$1.00	10 PLAYS
$1.25	13 PLAYS



PRICING AND BONUS OPTION CHART







NOTE

WHENEVER THE BASE PRICE FOR 1 PLAY IS 25¢, THE 1ST BONUS LEVEL IS AUTOMATICALLY REACHED. THEREFORE SWITCHES D4, D5 AND D6, IN STEP 2, MUST BE SET TO OFF.

THEN PROCEED WITH STEPS 3 THROUGH 7 AND ADD BONUS CREDITS AT EACH BONUS LEVEL AS REQUIRED.

PROGRAMMING YOUR OWN PRICE COMBINATIONS

The price of one standard selection is determined by the number of units required to establish one play. A single unit is the smallest denomination coin used while the higher numbers represent multiples of it. For example, the U.S.A. weighted coin values are as follows:

5¢	equals 1 unit
10¢	equals 2 units
25¢	equals 5 units
50¢	equals 10 units
$1.00	equals 20 units

Follow these steps as shown on the PRICING AND BONUS OPTION CHART.

1. Number of units required to establish one play is controlled by switch positions of D1, D2 and D3 in SWITCH BANK D. The desired base price is set as shown on the chart in STEP 1.

   If for example, 15¢ is one play, then D2 and D3 are ON, D1 remains OFF. In operation one credit is stored everytime three units are reached. A total of 255 credits can be stored in the accumulator chip.

BONUS OPTIONS

2. After the base price is established bonus plays can be granted when additional money is deposited. For example, one play 15¢, two plays for 25¢. This option is controlled by switch positions D4, D5 and D6 which add the necessary units to the price to reach a bonus level shown in STEP 2.

   Setting D5 ON, D4 and D5 OFF in STEP 2, adds two additional units to STEP 1, establishing a 5 unit bonus level. Since 1 unit corresponds to 5¢ deposit, 25¢ will be required to reach the 1st BONUS LEVEL.

3. SWITCH BANK B controls the number of bonus credits to be added at the 1st BONUS LEVEL and each succeeding multiple of the 1st, up to 5 BONUS LEVELS maximum. Bonus levels above the 5th automatically register the same number of bonus plays as set for the 5th level.

   When the 1st BONUS LEVEL is reached, the switch position of B3 adds zero or 1 bonus credit only. Adding 1 bonus credit at the 1st BONUS LEVEL determines that:

   15¢ equals 1 play, and
   25¢ equals 2 plays at the 1st BONUS LEVEL

4. Switches B9 and B10 add plays at the 2nd BONUS LEVEL which is two times the money amount of the 1st level. If for example B9 remains OFF and B10 is ON, 1 bonus credit is added at the 2nd level, then:

   50¢ equals 4 plays at the 2nd BONUS LEVEL

5. Switches B7 and B8 add credits at the 3rd BONUS LEVEL. If B7 is ON and B8 remains OFF, 2 bonus credits are added at the 3rd level, then:

   75¢ equals 7 plays at the 3rd BONUS LEVEL

6. Switches B1 and B2 add credits at the 4th BONUS LEVEL. If B1 is ON and B2 remains OFF, 2 bonus credits are added at the 4th bonus level, then:

   $1.00 equals 10 plays at the 4th BONUS LEVEL

7. If B5 and B6 are ON and B4 remains OFF, 3 bonus credits are added at the 5th level, then:

   $1.25 equals 14 plays at the 5th BONUS LEVEL

   Therefore the pricing arrangement for the above example is as follows:

15¢	equals 1 play
25¢	equals 2 plays
50¢	equals 4 plays
75¢	equals 7 plays
$1.00	equals 10 plays
$1.25	equals 14 plays

Note: Selections at any point terminates the bonus acquisition and returns it to starting point. Unused portion of money is stored in memory but DEPOSIT MORE COINS will not be ON when credit total debits to zero. DEPOSIT MORE COINS will turn ON only when the amount deposited is not enough to reach at least one credit.

SPECIAL BONUS OPTIONS

8. Switch A7 adds 1 extra play at every bonus level independent of the other switches.

RANDOM PLAY

9. To stimulate phonograph play, switches A8 and A6 can be set to allow random selections to play at 10 to 30 or 20 to 60 minus intervals after the last selection played. First 20 selections (hit tunes) are excluded. A8 when ON sets up RANDOM PLAY.

10. A6 determines the time interval. ON, interval is 10 to 30 minutes. OFF, time is extended to 20 to 60 minutes.

TEST PROCEDURE FOR PROFIT SETTER (CREDIT UNIT)

1. With PROFIT SETTER connected and power on, the +9.6V LED is on.

   (A) Set switch banks A, B, D and SPECIAL BONUS slide switch A to OFF (OPEN) position. Credit display (PLAYS) must count from 1 to 99 and remain at 99.

   (B) Switch phono main power off and then back on again. Credit display reverts back to 0 and immediately counts from 1 to 99 and remains at 99.

   (C) Set switch D3 on, press (red) CLEAR button, then press (blue) TEST button. Credit display will add and then subtract plays until one play remains. If RECORD PLAYING/YOUR SELECTION display shows 888 there is a malfunction in coin switch or PROFIT SETTER. Press CLEAR button if only 1 PLAY is displayed.

   (D) Test ADD 1 PLAY button by pressing it five times. Credit display shows 5 PLAYS.

   (E) Test SUBTRACT 1 PLAY button by pressing five times, 5 plays are removed one at a time and credit display goes out.

   (F) Set switches D1, D2 and D3 to ON position. Press (gray) ADD 1 UNIT button seven times. Credit display now shows 1 PLAY. Press CLEAR button.

2. U.S. COINAGE -- SWITCH SETTINGS

(A) Set D1, D2 and D3 as follows, and check that you get one play for the amount of money specified. Use all possible combinations of coins. **Press CLEAR button after each switch combination setting and before depositing coins.**

D1	D2	D3	COST/PLAY
Off	Off	Off	(Free play)
Off	Off	On	5¢
Off	On	Off	10¢
Off	On	On	15¢
On	Off	Off	20¢
On	Off	On	25¢
On	On	Off	30¢
On	On	On	35¢

(B) Set D2, D3, B2, B3, B6, B8, B10 on. Then set D4, D5 and D6 as follows:

D4	D5	D6	Amount of Money	No. of Plays
Off	Off	Off	15¢	2
Off	Off	On	20¢	2
Off	On	Off	25¢	2
Off	On	On	30¢	3
On	Off	Off	35¢	3
On	Off	On	40¢	3
On	On	Off	45¢	4
On	On	On	50¢	4

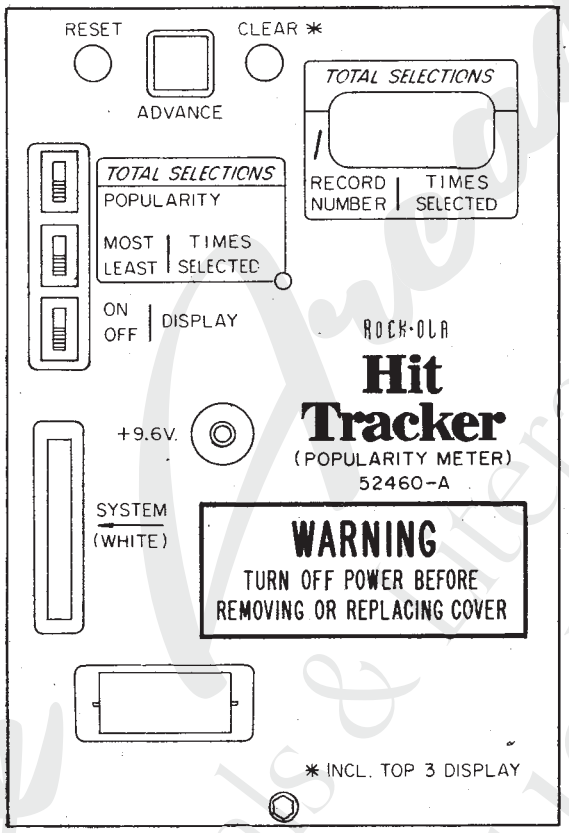
(C) Set all B switches on. Then set D2, D3 and D5 on. Press CLEAR button.

Amount of Money	No. of Plays
15¢	1
25¢	2
40¢	3
50¢	6
75¢	10
$1.00	14
$1.50	30

Press CLEAR button.

(D) With the switches set as in step (C), insert $1.00—credit display must show 14 PLAYS.

Make selection 297 and observe that the proper selection is played and that the number of credits has decreased to 13. Insert an additional 50¢ and observe that the total number of plays shown on the credit display is 19.



ELECTRONIC POPULARITY METER

One of the functions of the microprocessor is to keep a tally on the number of times each record is played. A battery in the system maintains the correct count even if the power cord is disconnected.

Selection count of "most" or "least" records played are displayed internally on a five digit Display located on the pop counter board. When the DISPLAY switch is turned on, the two digits on the left side shows the last two digits of a record number. The number of times the record has been selected (up to 999) is shown on the right three digits.

To read the LEAST played records, set the TIMES SELECTED switch to LEAST position, and the times selected to POPULARITY position. Pushing and releasing the ADVANCE button, the records are read out one at a time from zero selection to the highest count.

The MOST played records are read out when the TIMES SELECTED switch is set to MOST position and the selection count remains in POPULARITY position. Operating the ADVANCE button the record count will read the highest to the lowest.

To show the total count of all the selections, set the POPULARITY switch position to TOTAL SELECTIONS and press the ADVANCE button. When button is released the total count will appear on the five digit display.

Two additional pushbutton switches are provided. The RESET button resets the total count to zero. The CLEAR switch is used for testing purposes only.

TEST PROCEDURE FOR HIT TRACKER (POPULARITY METER)

1. Main power off; HIT TRACKER connected. Move all 3 HIT TRACKER slide switches to their up positions and switch main power on. Press (round red) CLEAR button.

   (A) The HIT TRACKER display must show a 0 in the first digit to the right only with the other four digits off.

2. Move the top slide switch marked:

   TOTAL SELECTIONS / POPULARITY , to down position.

   (A) The HIT TRACKER display shall show (1) 00000.

3. Return the top slide switch to the up position, add at least 12 credits via the (white) ADD 1 PLAY button on the PROFIT SETTER and select #297 (3 times), #284 (2 times), and #185 (once).

   (A) The HIT TRACKER display must only show 6 on the first digit to the right.

4. Move the top slide switch down to the POPULARITY position.

   (A) The HIT TRACKER display must show (1) 97003.

5. Press the (gray) ADVANCE button once.

   (A) The HIT TRACKER display must change to (1) 84002.

6. Press the ADVANCE button again.

   (A) The HIT TRACKER display must change to (1) 85001.

7. Move the middle slide switch marked:

   MOST / LEAST | TIMES / SELECTED , down to LEAST popular position.

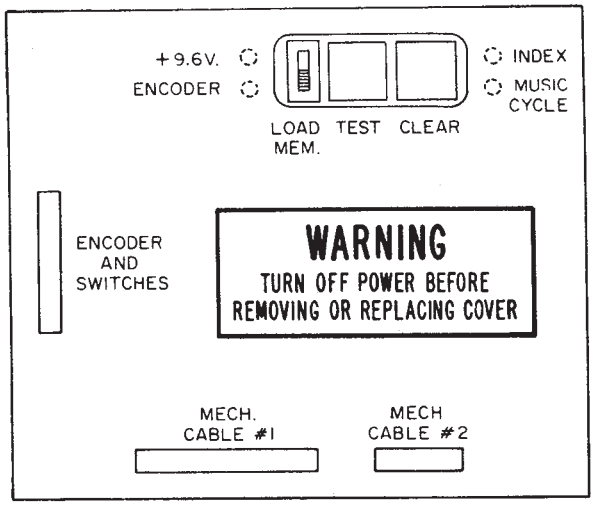
   (A) (1) 85001 must stay on the display and pressing the ADVANCE button causes first (1) 84002 and then (1) 97003 to be displayed.

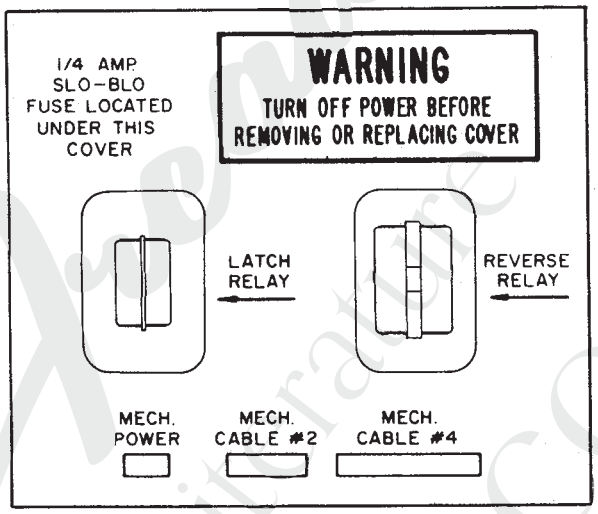
8. Switch main power off and on again. Display must retain it's previous reading.

9. Move the top slide switch up to the TOTAL SELECTIONS position and press (round blue) RESET button.

   (A) HIT TRACKER display returns to 0 in first digit to the right.

10. Press CLEAR button.





LOGIC BOARD

The Logic Board contains the microprocessor which stores the selection information and the input/output circuitry necessary to communicate with the other mechanism devices over a common bus system to control the mechanism.

The logic board has four diagnostic LED LAMPS. One of which indicates the presence of +9.6 voltage. The other three point out the circuits active during the mechanism cycle of placing the record on the turntable.

Three additional switches are included. The LOAD MEMORY switch when turned on will select all 160 selections before the mech turns off. This check mode is primarily a factory quality control function. The system can be cleared by pressing the CLEAR button to permit testing when necessary.

The TEST button is used to determine quickly if the LOGIC BOARD is defective. When pressed, a good unit will select programmed selections 100 — 194 — 197 — 200 — 294 — 297.

MECH POWER SUPPLY BOARD

The MECH POWER SUPPLY BOARD consists of a LATCHING RELAY and REVERSE RELAY assisted by transistors and other devices to control the operation of two D.C. motors, namely MAGAZINE MOTOR and GRIPPER MOTOR.

The latching relay is a magnetic type controlled internally by a LATCH COIL and RESET COIL. Its function is to operate each motor at the proper points of the mechanism cycle and provide dynamic braking circuits to both motors.

The REVERSE RELAY operates at the end of the music cycle which reverses the polarity of the gripper motor circuit, returning the record to the magazine.

TEST PROCEDURE FOR MECHANISM — LOGIC P.C. BOARD

Main power off; logic board connected.

(1) Move LOAD MEM.(ORY) slide switch down to OFF position and press (red) CLEAR button. Switch main power switch at back of phono to ON. Magazine should revolve 360° and stop in home position. 9.6VDC #4 LED (+9.6V) light must be on, all others off.

(A) Press (blue) TEST button; mechanism operates making the following record selections in sequence: #100, #194, #197, #200, #294, #297.

Note that the following LED's go on while above selections are being played.

(B) TIMER LED #5 (ENCODER) goes on and off as magazine rotates.

(C) INDEX LED #6 (INDEX) goes on momentarily when magazine indexes (i.e. stops) at record selection.

(D) MUSIC LED #7 (MUSIC CYCLE) goes on and remains lit while record is playing. When all selections have been made, magazine must stop in home position.

NOTE: When above check is being made, SCAN service switch left of HIT TRACKER should not be used to cancel record.

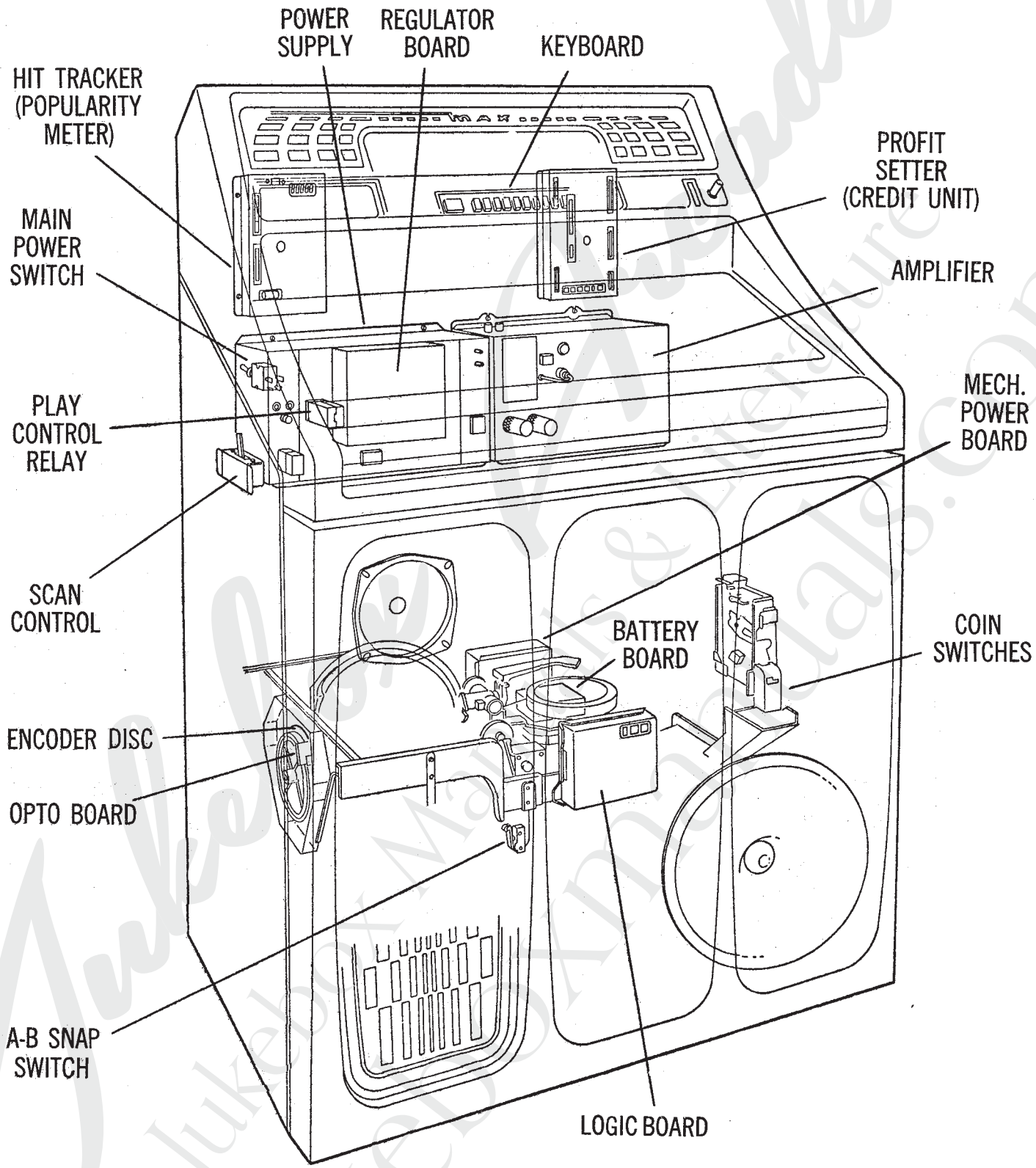
(E) With credits on PROFIT SETTER (credit unit), make the following selections, #100, #184, #187, #197, #200, #282, #297, #145, #255, #222, #111. Observe that the proper record selections have been made.

(F) Move LOAD MEM. slide switch up to ON position and immediately return down to OFF. Mechanism will start and play records in sequence #100, #110, #120, #130, #140, etc. until all 160 selections are played, or CLEAR button is pressed. Magazine will again return to home position and stop.

(2) MECHANISM STANDBY BATTERY TEST

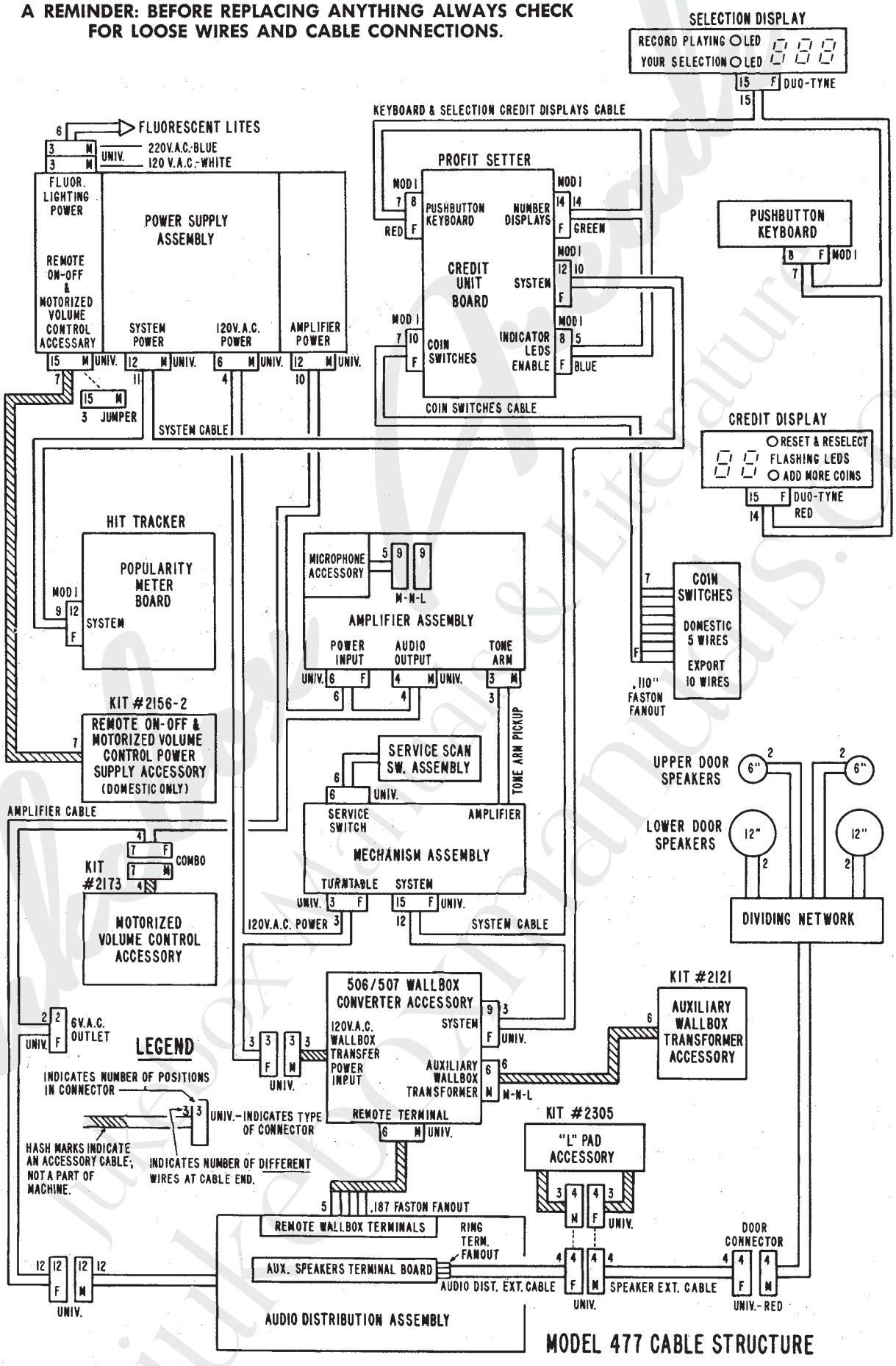
Select #100, #200, #111. Turn main power off and then on again, selections must be retained in the memory and mechanism must play all three selections.

If memory is lost the battery is most probably bad or discharged. Check for proper operation of SCAN service switch.



COMPONENT PLACEMENT

A REMINDER: BEFORE REPLACING ANYTHING ALWAYS CHECK FOR LOOSE WIRES AND CABLE CONNECTIONS.

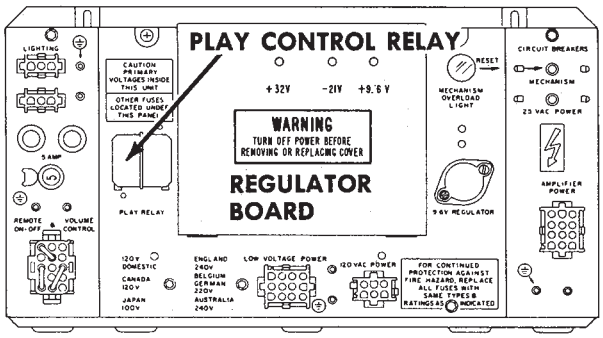


MODEL 477 CABLE STRUCTURE

TROUBLE SHOOTING TEST PROCEDURE

I. STANDBY CONDITION

Before attempting on location maintenance, unnecessary probing can be avoided if certain internal phonograph conditions can be observed.



II. TROUBLESHOOTING

When machine is opened, observe if the three LED's on the face of the POWER SUPPLY are ON indicating the presence of operating voltages. These voltages are protected by SLO-BLO fuses on the inside of the power supply, and two CIRCUIT BREAKERS on the front panel.

Unexplainable malfunctions can occur if the 9.6 Vdc microprocessor operating voltage is HIGHER or LOWER. Check for 9.6 Vdc at the LOW VOLTAGE POWER plug at the power supply. (Pink wire to chassis ground) Adjustment is made on the REGULATOR BOARD TRIM POT R220. Disregard the 9.3 Vdc voltage information if imprinted next to the pot.

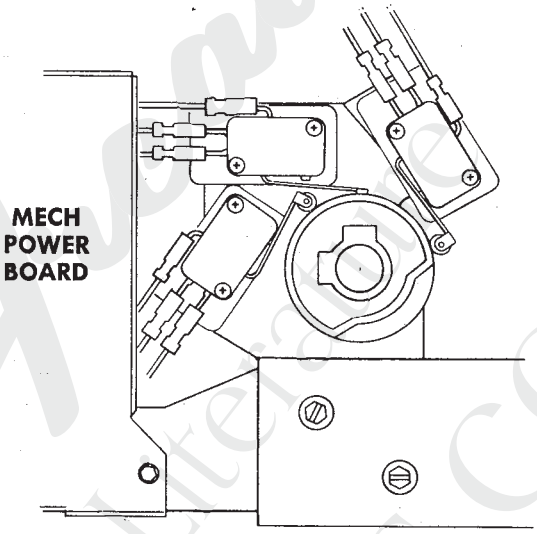
120 Vac power (U.S.A.) is protected by a 5 amp circuit breaker, also on the front panel of the power supply.

Standard operation of the machine (not set for free play) can be quickly tested and problem area pinpointed by the following test procedures.

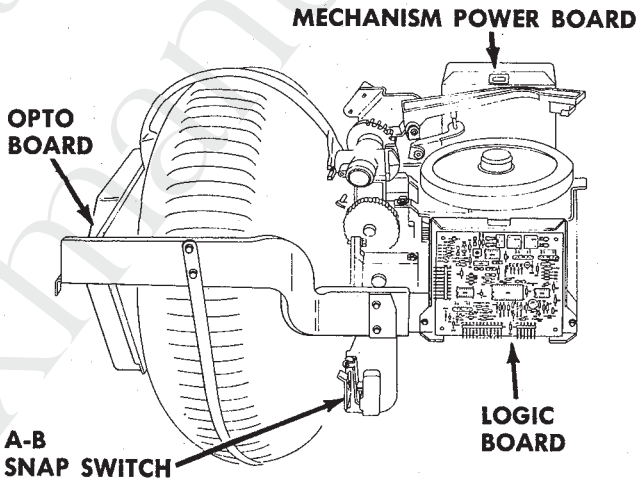
A) On the back side of the cabinet operate the MAIN POWER SWITCH OFF, then ON.

Mechanism should operate allowing the RECORD MAGAZINE to rotate one revolution and stop in HOME POSITION. (Gripper arm over open space on the magazine)

IF THIS TEST OCCURS, CONTINUE TO SECTION III.



Note: Operation of the four MICRO SWITCHES in the mechanism circuits are not mentioned as possible problem areas. Past experience with MICRO SWITCHES in former models indicate malfunctions are very unlikely.



1) IF THE MECHANISM DOES NOT START when the main power switch is operated OFF and ON, move the scan switch to SCAN POSITION.

IF THE MECHANISM STARTS, then the problem area is:

A) Defective LOGIC BOARD

IF THE MECHANISM DOES NOT START IN SCAN POSITION, then the problem area is:

A) CREDIT UNIT BOARD
B) LOGIC BOARD
C) REGULATOR BOARD (power supply)
D) PLAY CONTROL RELAY
E) MAGAZINE MOTOR
F) MECHANISM POWER BOARD

3) IF THE MECHANISM DOES NOT START BUT THE TURNTABLE IS ROTATING, then the problem area:

A) PLAY CONTROL RELAY
B) MAGAZINE MOTOR
C) MECHANISM POWER BOARD

III. LOGIC BOARD TEST

To examine the operation of the LOGIC BOARD, press CLEAR button, then press TEST button.

Mechanism should operate and select test selections #100 — #194 — #197 — #200 — #294 — #297. IMPORTANT that each test selection is cancelled by the RECORD CANCEL SWITCH on the back of the cabinet. Observe if the correct test selections appear in the RECORD PLAYING window.

IF THE TEST ROUTINE OCCURS, CONTINUE TO SECTION IV.

1) IF MECHANISM FAILS TO STOP to play any test selections, the magazine will complete three revolution before stopping in HOME POSITION. This indicates the problem area is:

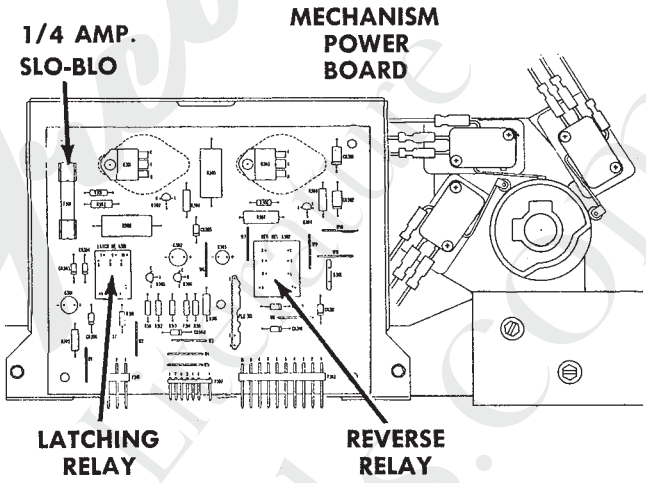
A) A-B SNAP SWITCH
B) OPTO BOARD
C) LOGIC BOARD

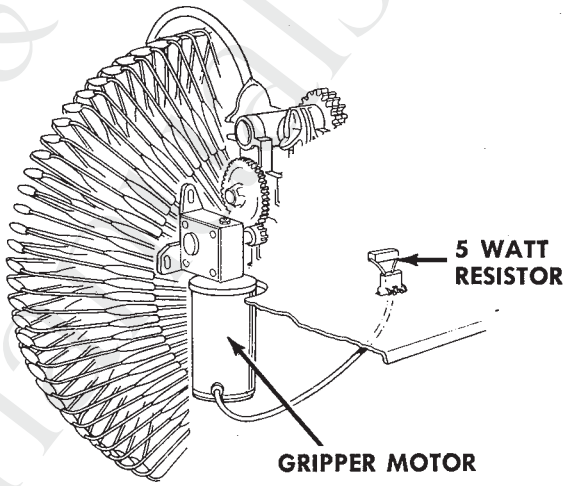
2) IF MECHANISM PLAYS ONE SIDE OF THE TEST RECORD BUT NOT THE OTHER SIDE, then the problem area is:

A) A-B SNAP SWITCH
B) LOGIC BOARD

3) IF MAGAZINE STOPS AT WRONG SELECTIONS by two or more records on the middle and end test selections, then the problem area is:

A) LOGIC BOARD





4) If magazine rotation stops and GRIPPER MOTOR DOES NOT START, then the problem area is:

A) LATCHING RELAY
B) LOGIC BOARD
C) 5 WATT RESISTOR
D) GRIPPER MOTOR

5) IF GRIPPER ARM DOES NOT PICK UP RECORD in the center of the separators, then the problem is:

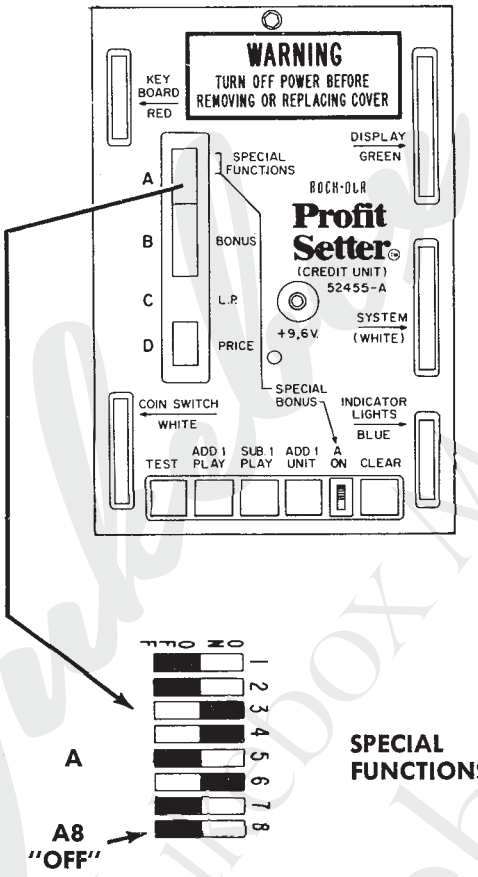
A) INDEXING ADJUSTMENT.
See adjustment SECTION VIII.

6) IF GRIPPER MOTOR STOPS before tone arm stylus rests on the record, then the problem area is:

A) BLOWN 1/4 AMP SLO-BLO FUSE (on the mechanism power board)
B) MECHANISM POWER BOARD

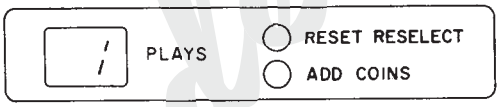
7) IF TONE ARM DOES NOT CANCEL RECORD when record cut-off groove is reached, then the problem area is:

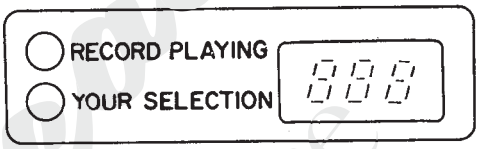
A) TONE ARM SWITCH
B) REVERSE RELAY
C) LATCHING RELAY
D) MECHANISM POWER BOARD
E) BLOWN 1/4 AMP SLO-BLO FUSE (on the mechanism power board)



IV. To examine the operation of the CREDIT UNIT, set RANDOM PLAY SWITCH A8 to OFF. Press CLEAR button, then press TEST button.

Credits will ADD then SUBTRACT until 1 PLAY remains displayed in the credit window.





1) If 888 also appears in the RECORD PLAYING window, then:

A) See if any COIN SWITCHES ARE CLOSED. If not closed, then;
B) CREDIT UNIT BOARD is defective.

2) IF 888 DOES NOT APPEAR, press CLEAR button to erase 1 PLAY.

3) Press ADD 1 CREDIT button 5 times, 5 plays should display in the credit window.

4) Press SUBTRACT 1 PLAY button 5 times, 5 plays are subtracted one at a time.

IF ADD AND SUBTRACT routine does not operate correctly:

A) Replace CREDIT BOARD.

IF ADD and SUBTRACT routine operates OK, then:

5) Press CLEAR button. Press ADD 1 UNIT button one time. ADD COINS Led should LIGHT.

IF ADD COINS LED DOES NOT LIGHT, then the problem is:

A) Defective CREDIT BOARD.

IF ADD COINS LED LIGHTS, then:

6) Continue to press ADD 1 UNIT button until price for 1 play is reached. ADD COINS LED turns off, 1 play is displayed.

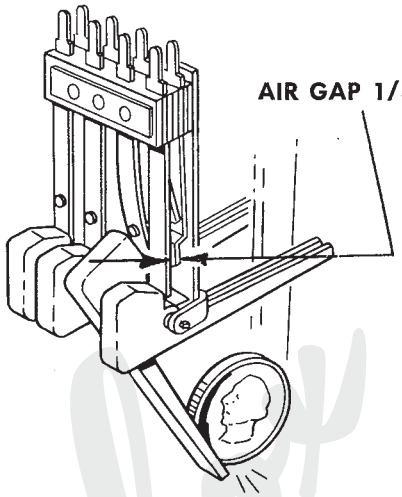
7) Make error selection, as 333. IF RESET-RESELECT DOES NOT LIGHT, then the problem is:

A) Defective CREDIT BOARD.

Procedure for testing PRICE, BONUS and SPECIAL FUNCTIONS switch banks A, B, and D are explained on page 10.

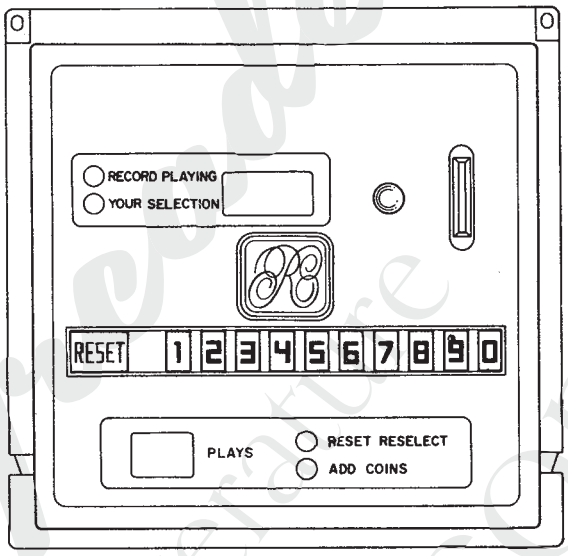
V. COIN SWITCH TEST

Use a combination of coins to test the operation of the COIN SWITCHES. Observe if correct amount of plays are displayed as set by the PRICE and BONUS switch banks D and B.



IF THE SAME COIN does not add the same number of credits each time, then check for:

A) BOUNCING COIN SWITCH
B) DIRTY COIN SWITCHES
C) COIN SWITCH AIR GAP MUST BE 1/32"



VI. KEYBOARD TEST PROCEDURE

To test keyboard circuits for signal continuity, do the following:

1) Move SCAN switch to OFF position.

2) Press CLEAR button on the CREDIT UNIT, then press ADD 1 PLAY button.

3) Press pushbuttons "1" and "2" . . . IF NUMBERS APPEAR IN THE DISPLAY WINDOW, press the RESET button to clear the selection system.

4) Follow the same procedure for numbers "1" and "3", "1" and "4", "1" and "5" etc., until numbers "1" and "0" are pressed and displayed.

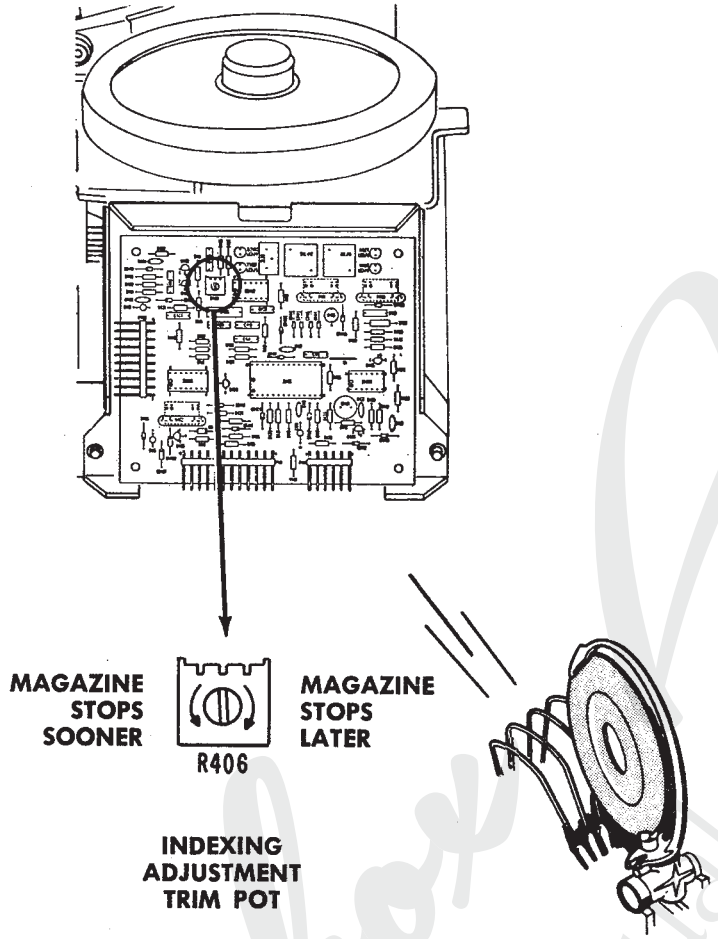
5) IF ALL NUMBERS DISPLAY, the keyboard is operating correctly.

   NUMBERS THAT DO NOT DISPLAY, the problem area can be:

   A) OPEN DIODE on the keyboard
   B) PUSHBUTTON SWITCH
   C) CABLING

VII. HIT TRACKER (POPULARITY METER)

Procedure for testing the HIT TRACKER is explained on page 13. If this unit is removed, the operation of the machine will not be effected.



VIII. INDEXING ADJUSTMENT PROCEDURE

Record must be in correct pick-up position for removal by the gripper arm.

1) Press Logic Board TEST BUTTON. Record magazine starts rotating and indexes at record selection 100 — 194 — 197 — 200 — 294 — 297.

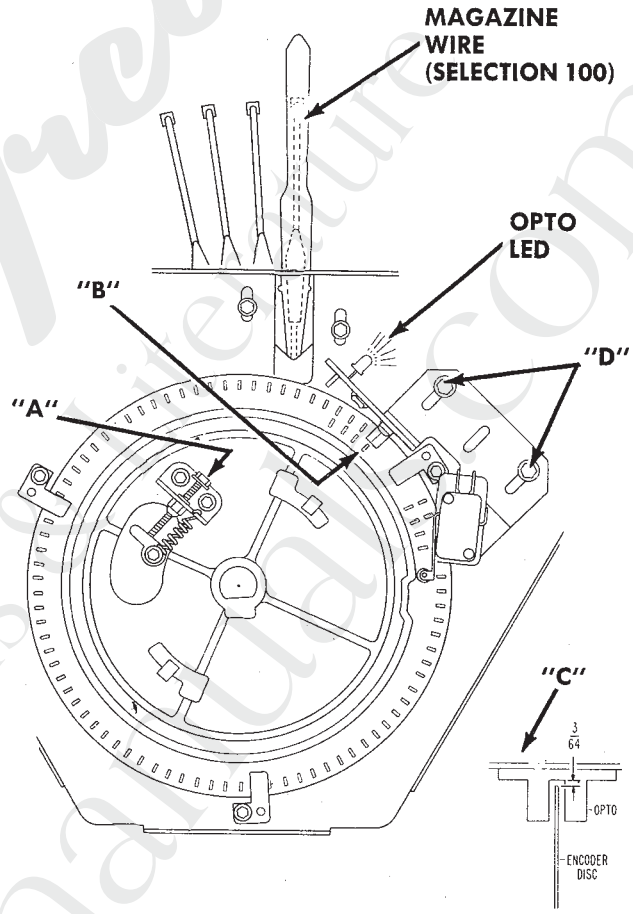
2) Allow record to be placed on the turntable.

3) Cancel record . . . As record starts to enter record slot, note the record alignment between the left and right separator with respect to center.

4) To adjust, turning trim pot clockwise will advance the record alignment toward the right separator . . . counter clockwise to the left separator.

Recheck the adjustment by repeating the procedure with the remaining test selections.

Note: If the Trim Pot cannot be adjusted to produce the proper record alignment, the Encoder Disc must be re-adjusted as shown below.

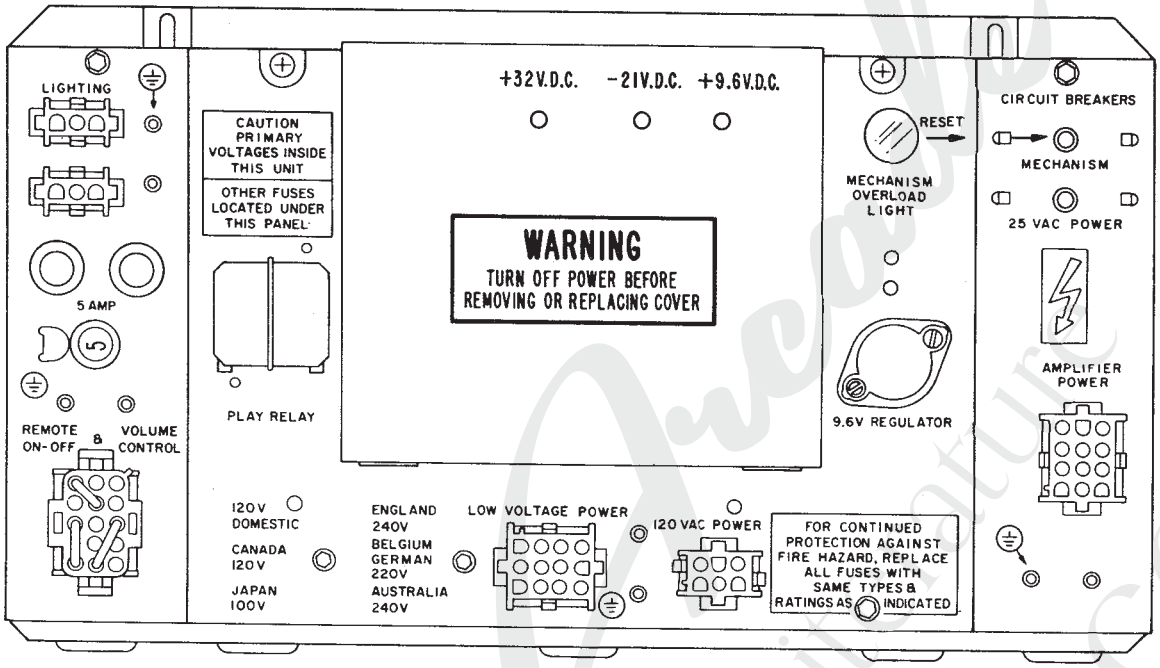


OPTO ASSEMBLY ADJUSTMENT PROCEDURE

1. Rotate the knurled end of the magazine motor until the first magazine wire (selection 100) is directly under the gripper arm. At this point the opto LED lamp should light. If this does not occur, then;

2. Turn adjustment screw "A" until the White Line "B", on the Encoder Disc, aligns with the center line on the Opto Encoder, and the opto LED lamp lights.

3. The Opto Encoder Assembly must be set approximately 3/64" above the Encoder Disc as shown at "C". Loosen screws "D" to raise or lower assembly.



POWER SUPPLY

The Power Supply provides the various AC and DC voltage requirements to operate all the systems in the entire phonograph. For 100 and 120 VAC operation the lighting circuits and the power transformer primary windings are protected by a 5 amp fuse or circuit breaker; for 200 and 240 volt operation, three fuses serve the same purpose. The line ON-OFF switch is located within the power supply and is accessible from the rear of the cabinet.

The transformer has four secondary windings which provide AC voltages as follows:

WINDING #1 — A center tapped 46 VAC winding which supplies the amplifier power. Fusing, rectification and filtration components are located in the amplifier.

WINDING #2 — A 15 VAC winding which is fused, rectified, filtered and applied to a three terminal voltage regulator (LM 317) via pass transistor Q101. The Q101 and Q102 transistors provide for a fast voltage rise time at the input of the voltage regulator; this is required by the various MP chips. The output of the voltage regulator is adjusted by potentiometer R220 and is factory set to 9.6 VDC.

WINDING #3 — A 25 VAC winding which is fused, rectified, filtered and applied to the mechanism relay and motor circuits via two protective means. The first consists of a very fast acting, latching type "electronic fuse" circuit which protects the mechanism motor drive transistors in the event of a short circuit in the motors or associated circuits; the second is a slow acting manual circuit breaker which opens if a mechanism jam occurs. This mechanism voltage is approximately 32 VDC under no load conditions.

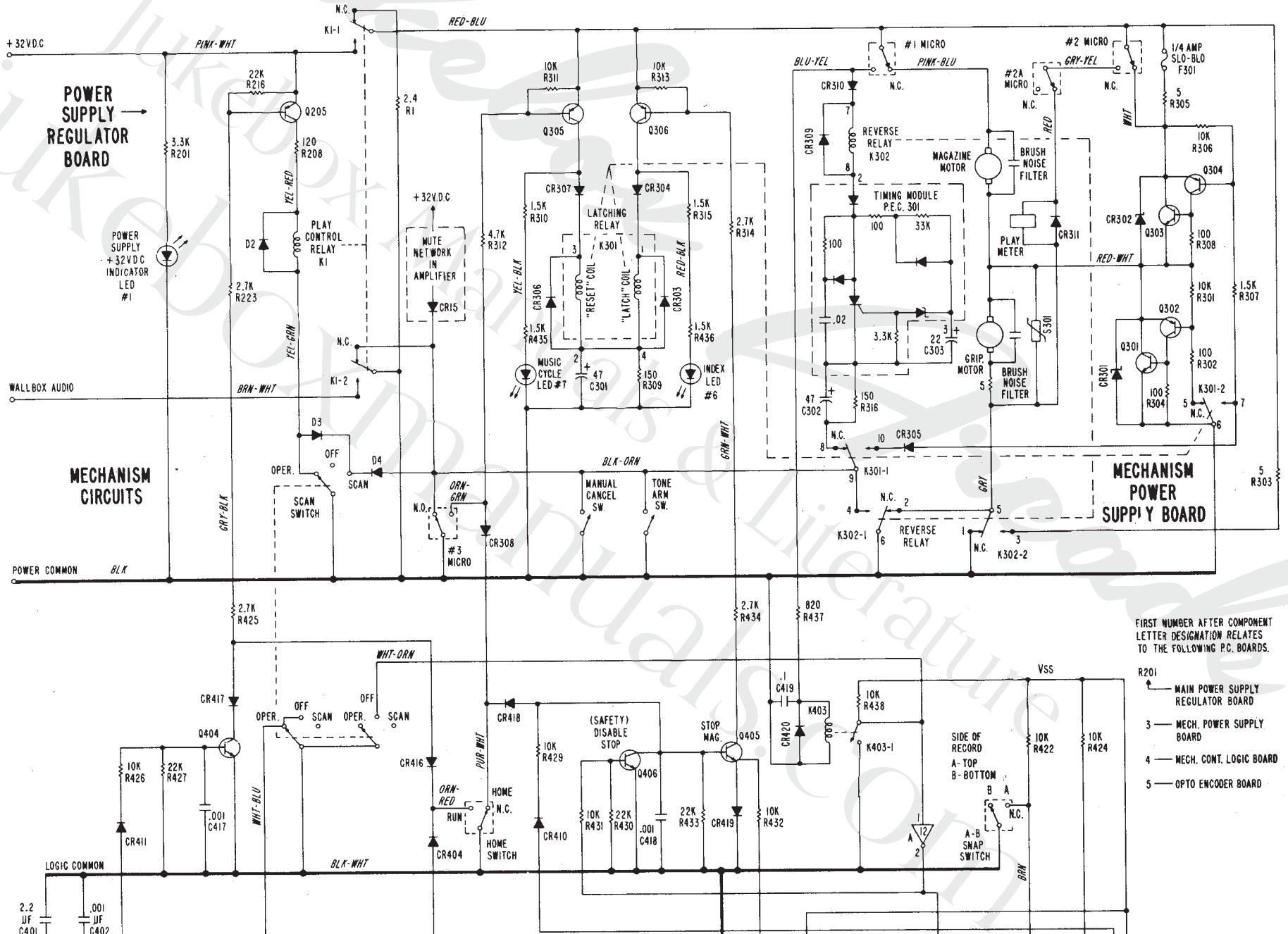
WINDING #4 — A 25 VAC winding, protected by a manual circuit breaker, which provides:

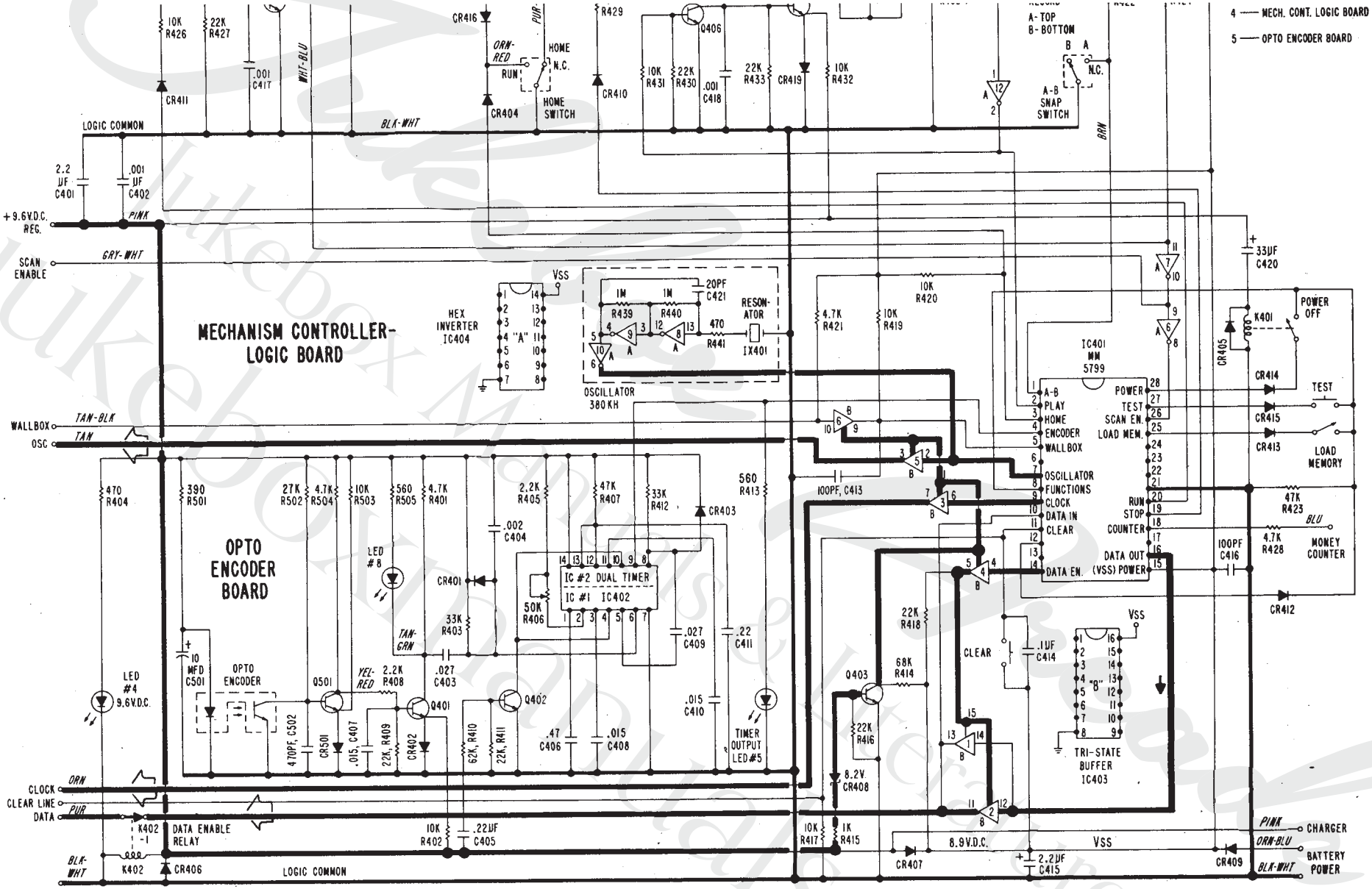
1. AC power to the Flasher Board.
2. AC power to the Motorized Volume Control.
3. AC power to the Dollar Bill Validator (an accessory).
4. AC power to the vacuum displays filament transformer which supplies 2.4 volts.

Additionally, the negative 21 volts is derived from this winding via CR209, C204 and its associated circuitry which constitutes a current foldback arrangement which limits the current to a safe value should a short occur.

All the fuses described are either on the Rectifier Board inside the chassis, or on the front panels. The detachable front panel mounts the T2 transformer (w/fuse) for the displays and the Play Control Relay K1.

The voltage regulator P.C. board mounts on the front panel protected by a transparent snap-on cover. The three D.C. supplies and associated circuitry, each use a LED to indicate the presence of voltage.


POWER SUPPLY REGULATOR BOARD
MECHANISM CIRCUITS
MECHANISM POWER SUPPLY BOARD
+32V.D.C
WALLBOX AUDIO
POWER COMMON
LOGIC COMMON
POWER SUPPLY +32VDC INDICATOR LED #1
PLAY CONTROL RELAY K1
MUTE NETWORK IN AMPLIFIER
LATCHING RELAY K301
"RESET" COIL
"LATCH" COIL
MUSIC CYCLE LED #7
INDEX LED #6
SCAN SWITCH
MANUAL CANCEL SW.
TONE ARM SW.
#3 MICRO
#1 MICRO
#2 MICRO
#2A MICRO
REVERSE RELAY K302
MAGAZINE MOTOR
BRUSH NOISE FILTER
TIMING MODULE P.E.C. 301
PLAY METER
GRIP MOTOR
1/4 AMP SLO-BLO F301
REVERSE RELAY
(SAFETY) DISABLE STOP
STOP MAG.
HOME SWITCH
SIDE OF RECORD
A-TOP
B-BOTTOM
A-B SNAP SWITCH
FIRST NUMBER AFTER COMPONENT LETTER DESIGNATION RELATES TO THE FOLLOWING P.C. BOARDS.
R201 — MAIN POWER SUPPLY REGULATOR BOARD
3 — MECH. POWER SUPPLY BOARD
4 — MECH. CONT. LOGIC BOARD
5 — OPTO ENCODER BOARD


MECHANISM CONTROLLER-
LOGIC BOARD
OPTO
ENCODER
BOARD
IC401
MM
5799
IC #2 DUAL TIMER
IC #1 IC402
HEX
INVERTER
IC404
OSCILLATOR
380KH
RESON-
ATOR
IX401
TRI-STATE
BUFFER
IC403
A-TOP
B-BOTTOM
A-B
SNAP
SWITCH
HOME
SWITCH
DATA ENABLE
RELAY
K402
-1
K402
K401
POWER
OFF
TEST
LOAD
MEMORY
MONEY
COUNTER
LED
#4
9.6V.D.C.
LED
#8
TIMER
OUTPUT
LED#5
OPTO
ENCODER
+9.6V.D.C.
REG.
SCAN
ENABLE
WALLBOX
OSC
CLOCK
CLEAR LINE
DATA
LOGIC COMMON
8.9V.D.C.
8.2V.
CR408
CHARGER
BATTERY
POWER
4 — MECH. CONT. LOGIC BOARD
5 — OPTO ENCODER BOARD

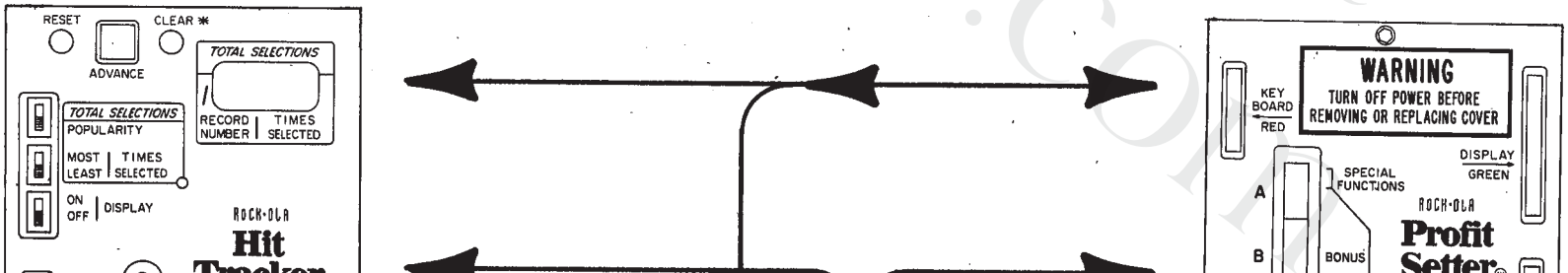
SEQUENCE 1. MACHINE AT STANDBY

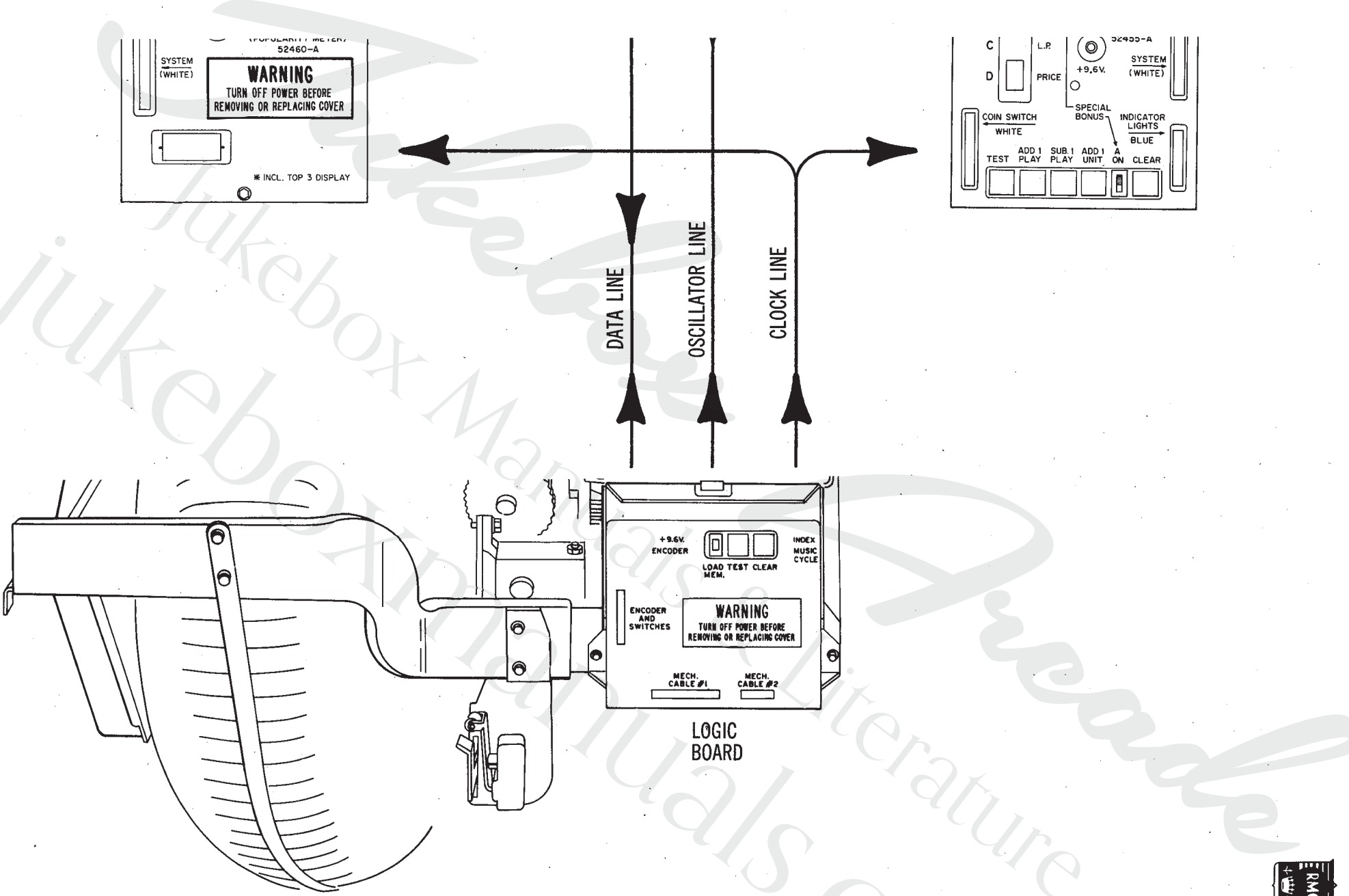
Correct operation of the phonograph is controlled by three common bus lines consisting of the Oscillator, Data and Clock lines. They are supplied from the Mechanism Controller Logic Board and communicate with the Profit Setter (credit unit) and Hit Tracker (popularity meter).

The Oscillator Line operates at a frequency of 380 KHz. This determines the speed at which the information in the MP's (microprocessors) is processed.

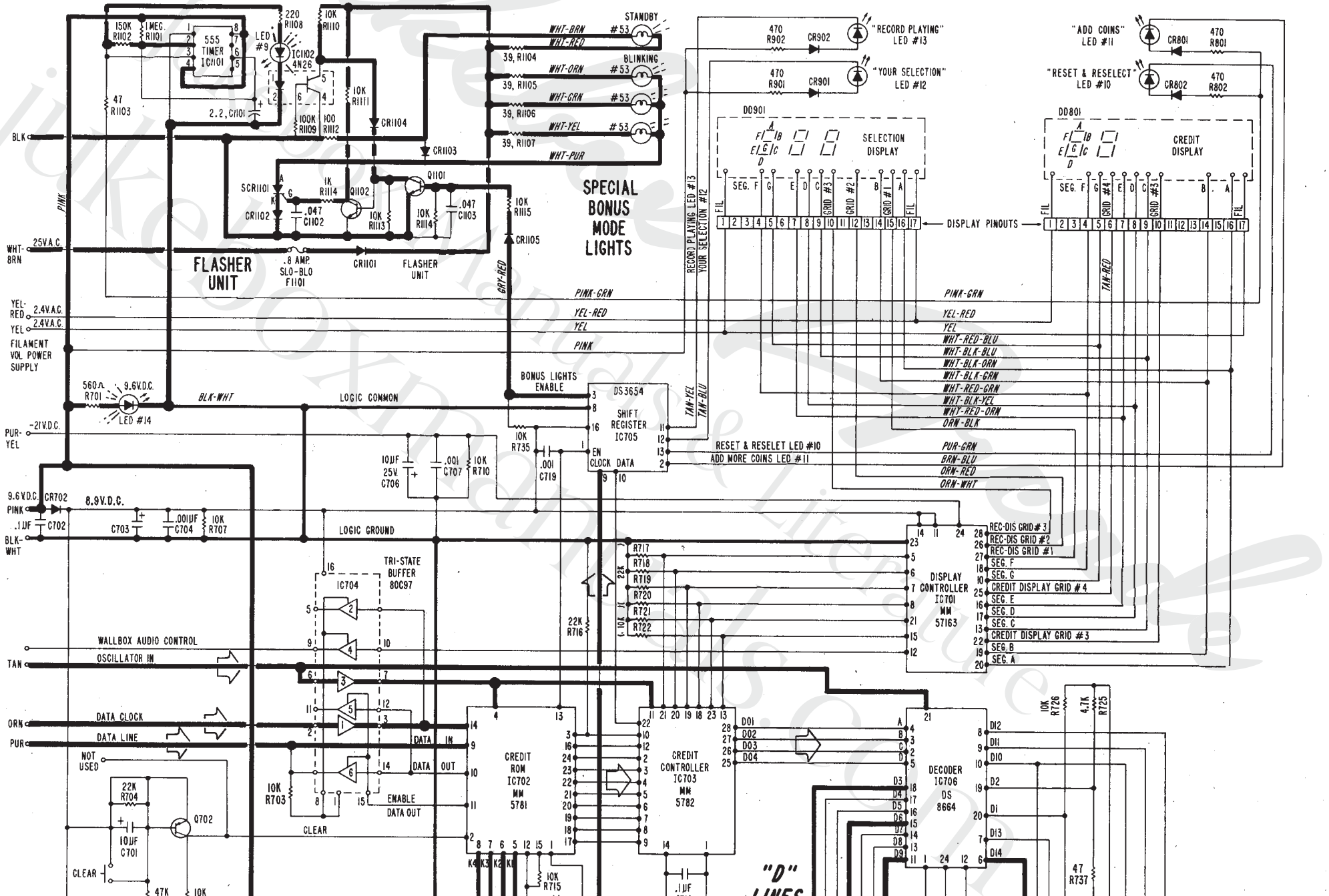
The Data Line transmits information back and forth between other units syncronized by the Clock Line.

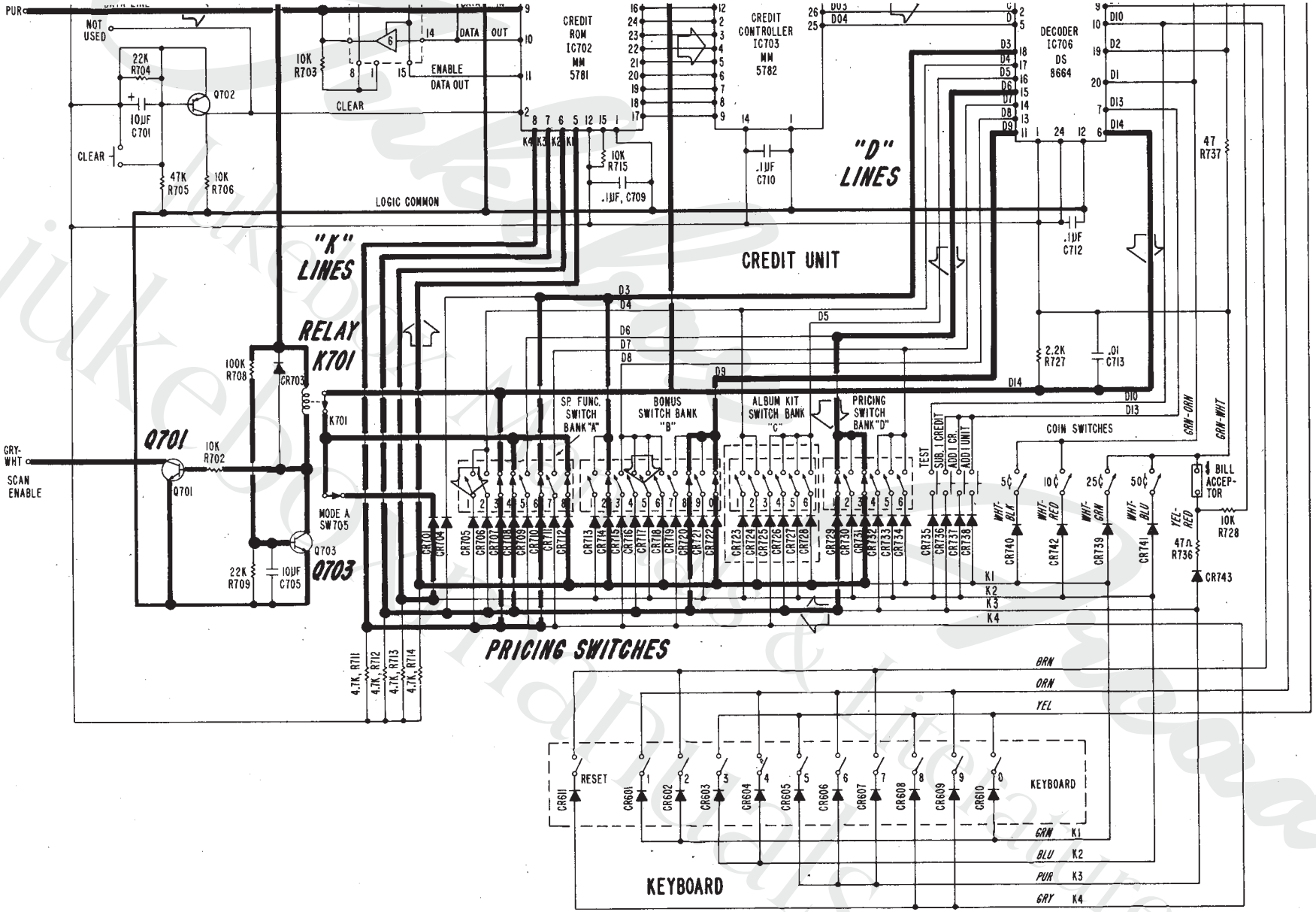
1. At machine standby transistor Q403 is turned ON, enabling the Tri-State Buffer sections 3, 4, 5 and 6 of the IC403, six section package.
2. The oscillator input at Pin 7 of the MP IC401 activates the output lines of Pins 9, 14 and 16.
3. Output of Pin 9 allows transmission of clock signals to other units through the #3 buffer section in the line.
4. At certain time intervals the signal at pin 14 changes from "high" to "low" for a short time. During the low signal period, the buffers in the line enable the "Data Out" line on Pin 16. Information is then transmitted to the Credit Unit that it is ready to receive credit and selection information.
5. When Pin 14 returns to a high state, the "Data Out" line at Pin 16 is disabled. The "Data In" line at Pin 10 is now ready to receive instructions from the Credit Unit.





NOTE: FLASHER UNIT AND SPECIAL BONUS LIGHT CIRCUITS ARE OMITTED ON MODEL 477.
"ADD COINS" AND "RESET-RESELECT" LEDS DO NOT FLASH AS FOR MODEL 478 SHOWN IN SEQUENCE #4 AND #6.
PINK-GRN LINE FROM LEDS CHANGES TO PINK AND CONNECTS TO THE +9.6V.D.C. SOURCE.




PUR
NOT USED
22K R704
Q702
10UF C701
CLEAR
47K R705
10K R706
10K R703
CLEAR
ENABLE DATA OUT
DATA OUT
CREDIT ROM IC702 MM 5781
CREDIT CONTROLLER IC703 MM 5782
DECODER IC706 DS 8664
10K R715
.1UF, C709
.1UF C710
.1UF C712
LOGIC COMMON
"K" LINES
"D" LINES
CREDIT UNIT
RELAY K701
100K R708
CR703
K701
Q701
10K R702
GRY-WHT
SCAN ENABLE
Q701
Q703
Q703
22K R709
10UF C705
MODE A SW705
SP. FUNC. SWITCH BANK "A"
BONUS SWITCH BANK "B"
ALBUM KIT SWITCH BANK "C"
PRICING SWITCH BANK "D"
TEST
SUB. 1 CREDIT
ADD 1 CR.
ADD 1 UNIT
COIN SWITCHES
5¢
10¢
25¢
50¢
BILL ACCEPTOR
10K R728
47Ω R736
CR743
2.2K R727
.01 C713
47 R737
GRN-ORN
GRN-WHT
4.7K, R711
4.7K, R712
4.7K, R713
4.7K, R714
PRICING SWITCHES
BRN
ORN
YEL
RESET
KEYBOARD
GRN K1
BLU K2
PUR K3
GRY K4
KEYBOARD
COIN SWITCHES

SEQUENCE 2. CREDIT UNIT AND FLASHER BOARD AT STANDBY

At power on, the 9.6 Vdc LED #14 in the Credit Unit is ON. Transistor Q703 turns on causing relay K701 and transistor Q701 to operate. Transistor Q701 Scan Enable circuit is used for self test service procedure only. Relay K701 establishes SPECIAL BONUS FUNCTIONS controlled by Switch Bank "A". The 9.6 Vdc Flasher Board Timer IC1101 starts operating as indicated by the pulsating #9 LED.

In this example, Pricing and Bonus switch banks "D" and "B" are set to play records to the following prices:

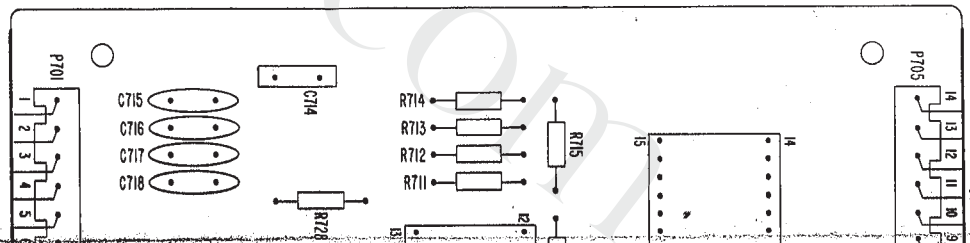
25¢ 1 Play
50¢ 3 Plays
75¢ 5 Plays
$1.00 7 Plays

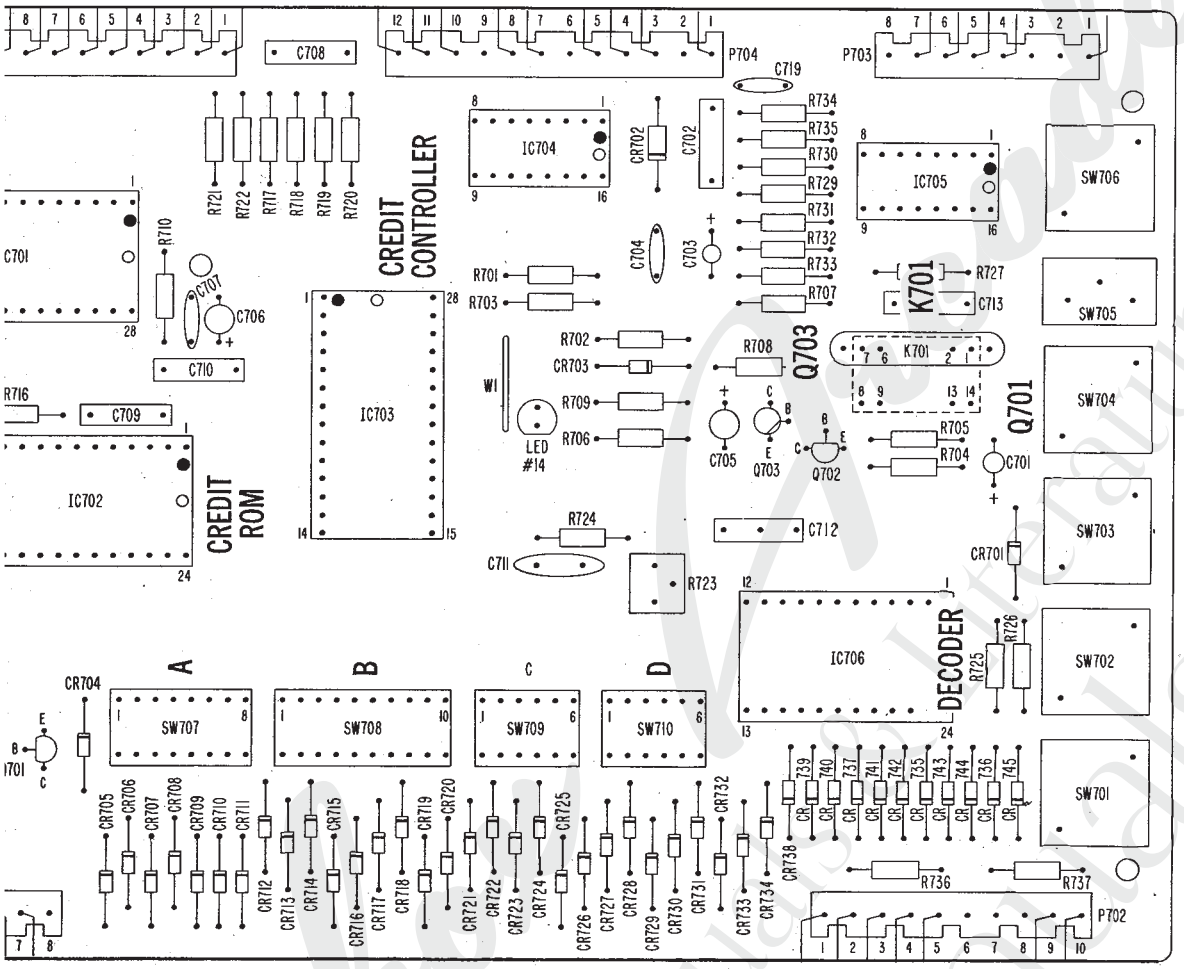
The Special Function Switch Bank "A" features special bonus options as explained elsewhere in this service manual.

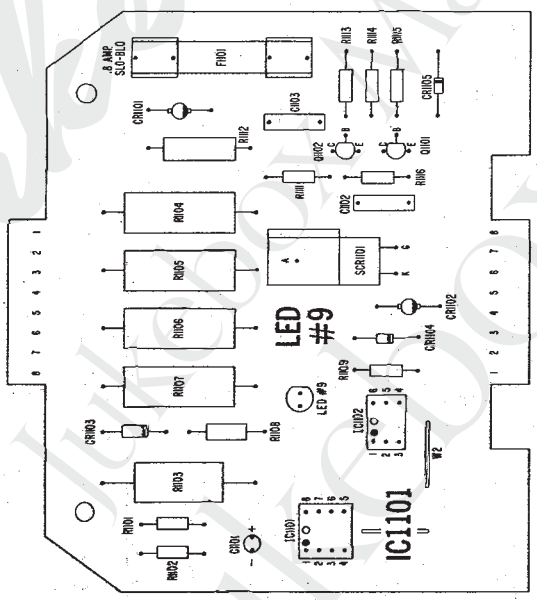
1. The oscillator bus line is applied to the Credit Rom, IC702, Credit Controller, IC703, and Decoder, IC706, which synchronizes the operation of these units.

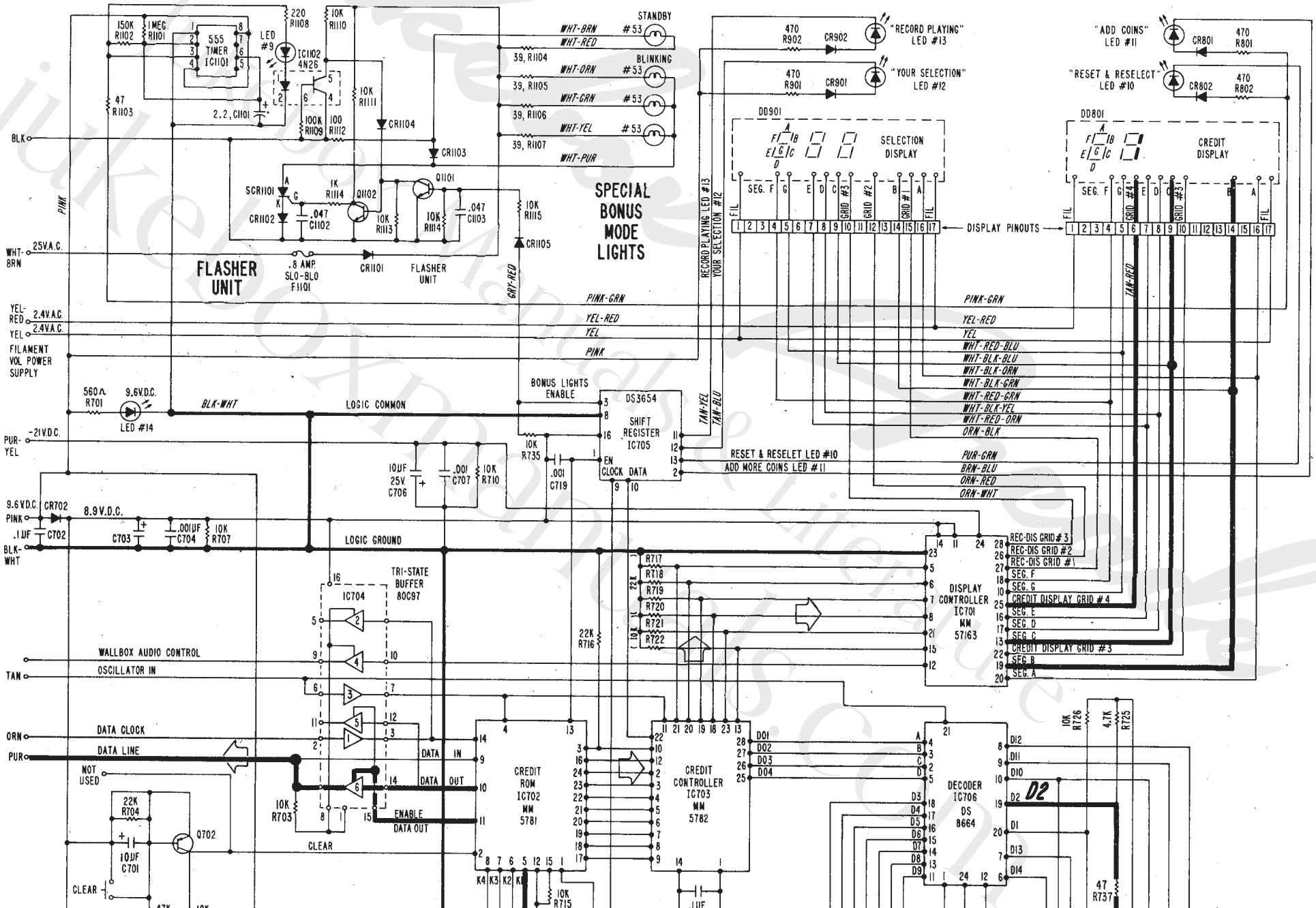
2. The Decoder "D" lines are constantly searched for closed switches in their respective lines.

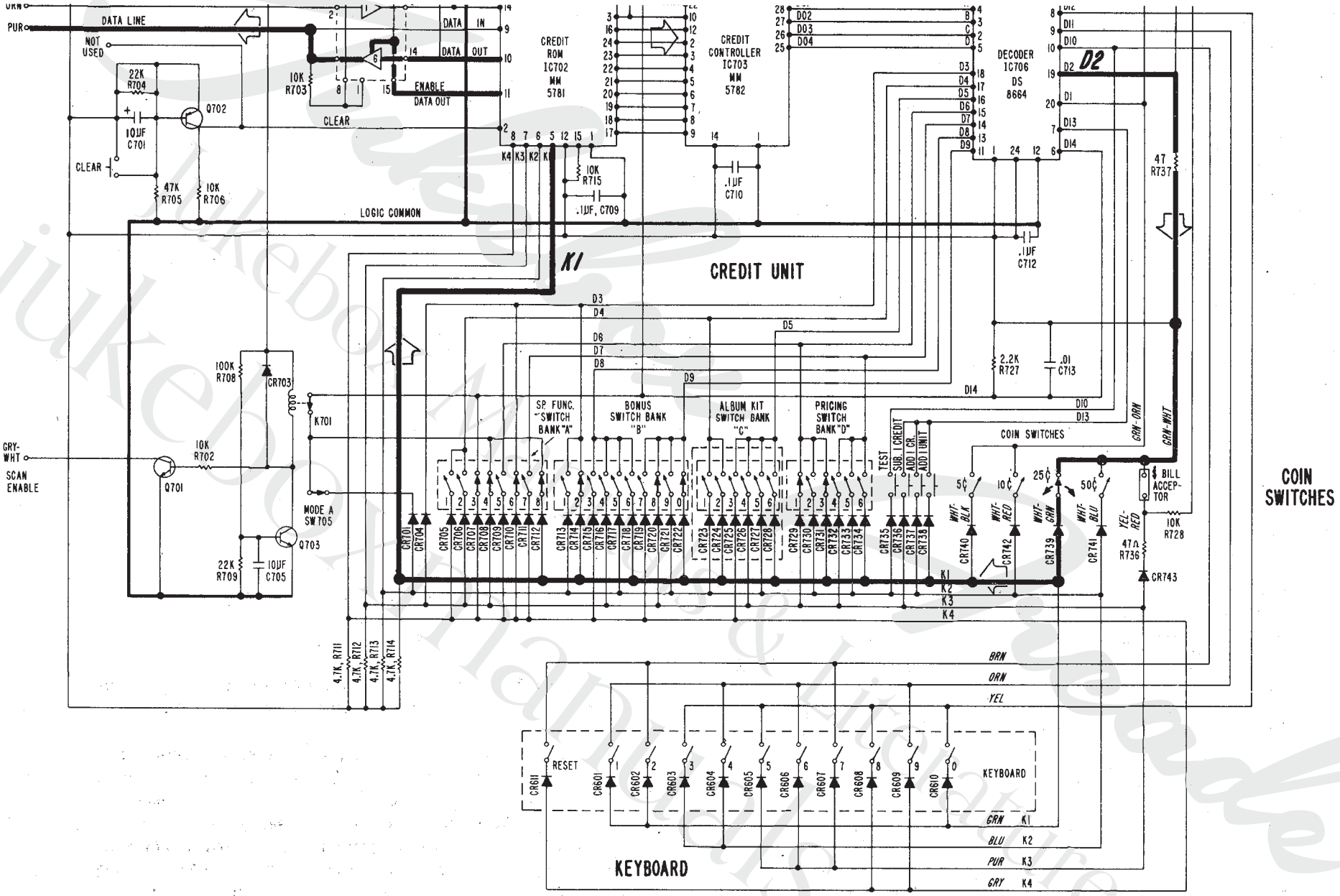
3. The assigned function of a closed switch is conveyed on the "K" lines for processing in the Credit Rom and storing in the Credit Controller. Periodically the "D" lines are scanned to update the pricing information to the Credit Controller.




CREDIT CONTROLLER
CREDIT ROM
DECODER
IC704
IC705
IC703
IC702
IC706
P704
P703
P702
C708
C719
C702
C704
C703
C701
C706
C707
C710
C709
C712
C711
R710
R716
R701
R703
R702
R708
R709
R706
R705
R704
R724
R723
R727
R726
R725
R736
R737
K701
Q703
Q702
Q701
W1
LED #14
SW706
SW705
SW704
SW703
SW702
SW701
SW707
SW708
SW709
SW710
A
B
C
D


LED #9
IC1101


FLASHER UNIT
SPECIAL BONUS MODE LIGHTS
555 TIMER IC1101
4N26
SCR1101
Q1101
Q702
STANDBY #53
BLINKING #53
"RECORD PLAYING" LED #13
"YOUR SELECTION" LED #12
"ADD COINS" LED #11
"RESET & RESELECT" LED #10
SELECTION DISPLAY
CREDIT DISPLAY
DISPLAY PINOUTS
SHIFT REGISTER IC705
DS3654
TRI-STATE BUFFER 80C97
IC704
DISPLAY CONTROLLER IC701 MM 5763
CREDIT ROM IC702 MM 5781
CREDIT CONTROLLER IC703 MM 5782
DECODER IC706 DS 8664
LED #14
LOGIC COMMON
LOGIC GROUND
BONUS LIGHTS ENABLE
RESET & RESELET LED #10
ADD MORE COINS LED #11
RECORD PLAYING LED #13
YOUR SELECTION #12
WALLBOX AUDIO CONTROL
OSCILLATOR IN
DATA CLOCK
DATA LINE
NOT USED
CLEAR
ENABLE DATA OUT
DATA IN
DATA OUT
FILAMENT VOL POWER SUPPLY
25V.A.C.
2.4V.A.C.
-21V.D.C.
9.6V.D.C.
8.9V.D.C.
.8 AMP. SLO-BLO F1101
FLASHER UNIT
WHT-BRN
WHT-RED
WHT-ORN
WHT-GRN
WHT-YEL
WHT-PUR
PINK-GRN
YEL-RED
YEL
PINK
WHT-RED-BLU
WHT-BLK-BLU
WHT-BLK-ORN
WHT-BLK-GRN
WHT-RED-GRN
WHT-BLK-YEL
WHT-RED-ORN
ORN-BLK
PUR-GRN
BRN-BLU
ORN-RED
ORN-WHT
TAN-YEL
TAN-BLU
TAN-RED
GRY-RED
BLK-WHT
BLK
PINK
PUR-YEL
BLK-WHT
ORN
PUR
TAN
REC-DIS GRID #3
REC-DIS GRID #2
REC-DIS GRID #1
SEG. F
SEG. G
CREDIT DISPLAY GRID #4
SEG. E
SEG. D
SEG. C
CREDIT DISPLAY GRID #3
SEG. B
SEG. A
D01
D02
D03
D04
D2
150K R1102
1MEG. R1101
220 R1108
10K R1110
47 R1103
2.2, C1101
10K R1111
100K R1109
100 R1112
CR1104
CR1103
CR1101
CR1102
CR1105
1K R1114
.047 C1102
10K R1113
10K R1114
.047 C1103
10K R1115
39, R1104
39, R1105
39, R1106
39, R1107
470 R902
CR902
470 R901
CR901
CR801
470 R801
CR802
470 R802
560Ω R701
10K R735
.001 C719
10µF 25V C706
.001 C707
10K R710
CR702
.1µF C702
C703
.001µF C704
10K R707
10K R703
22K R704
10µF C701
22K R716
R717
R718
R719
R720
R721
R722
10K R715
10K R726
4.7K R725
47 R737


DATA LINE
NOT USED
22K R704
10UF C701
CLEAR
Q702
47K R705
10K R706
10K R703
DATA IN
DATA OUT
ENABLE DATA OUT
CLEAR
CREDIT ROM IC702 MM 5781
CREDIT CONTROLLER IC703 MM 5782
DECODER IC706 DS 8664
10K R715
.1UF, C709
.1UF C710
.1UF C712
LOGIC COMMON
K1
CREDIT UNIT
2.2K R727
.01 C713
47 R737
100K R708
CR703
K701
GRY-WHT
SCAN ENABLE
10K R702
Q701
MODE A SW705
Q703
22K R709
10UF C705
4.7K, R711
4.7K, R712
4.7K, R713
4.7K, R714
SP. FUNC. "SWITCH BANK "A"
BONUS SWITCH BANK "B"
ALBUM KIT SWITCH BANK "C"
PRICING SWITCH BANK "D"
TEST
SUB 1 CREDIT
ADD 1 CR
ADD 1 UNIT
COIN SWITCHES
5¢
10¢
25¢
50¢
$ BILL ACCEPTOR
10K R728
47Ω R736
CR743
GRN-ORN
GRN-WHT
WHT-BLK
WHT-RED
WHT-GRN
WHT-BLU
YEL-RED
COIN SWITCHES
BRN
ORN
YEL
RESET
KEYBOARD
GRN K1
BLU K2
PUR K3
GRY K4
KEYBOARD

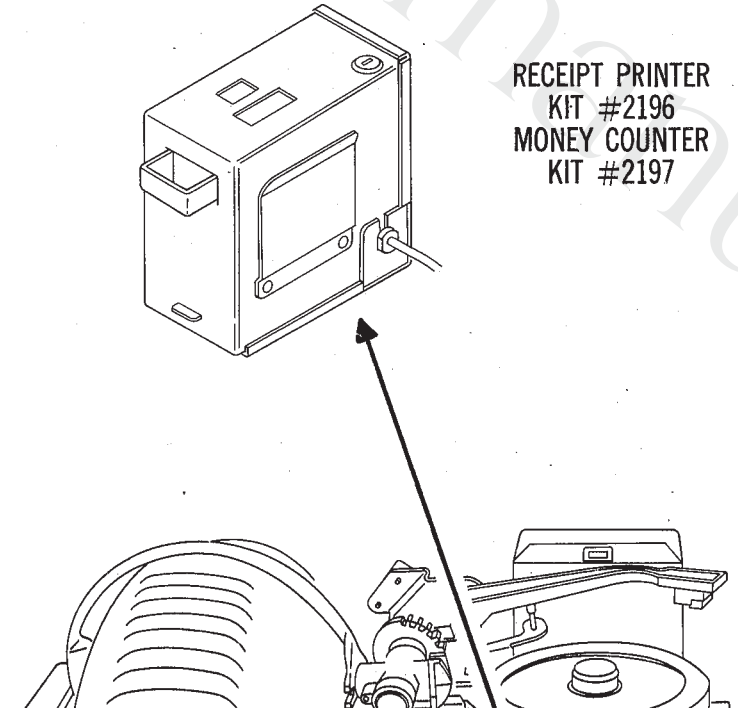
SEQUENCE 3. QUARTER INSERTED — ONE CREDIT STORED

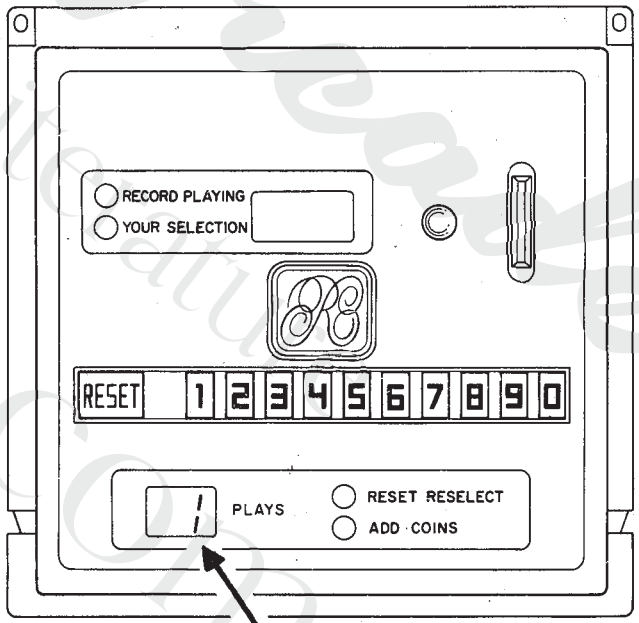
1. Fall of a quarter coin momentarily closes the 25¢ coin switch. This allows the D2 line signal to be applied to the K1 line for processing by the Credit Rom, IC702.

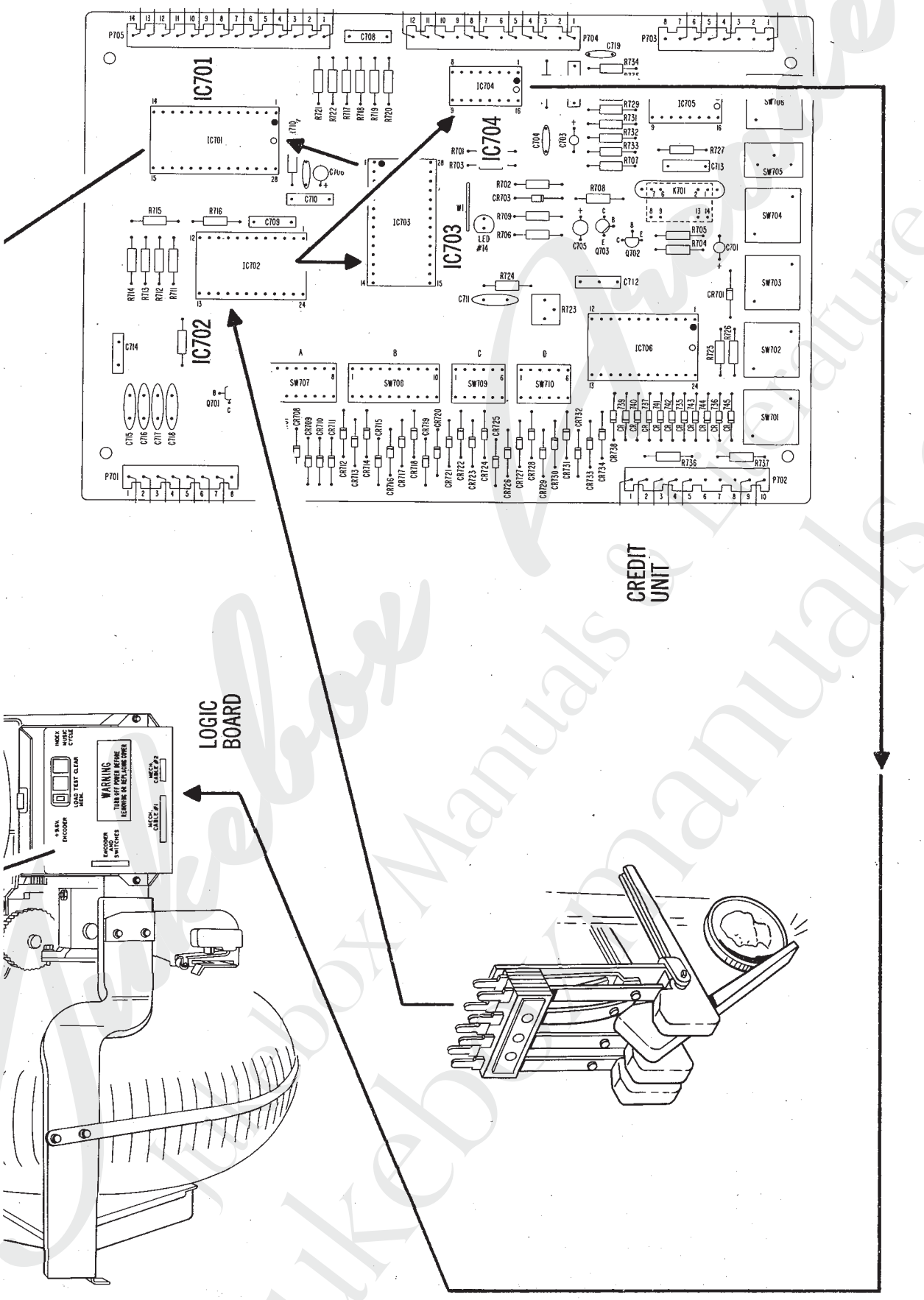
2. The money signal is converted into one credit causing two actions to take place.

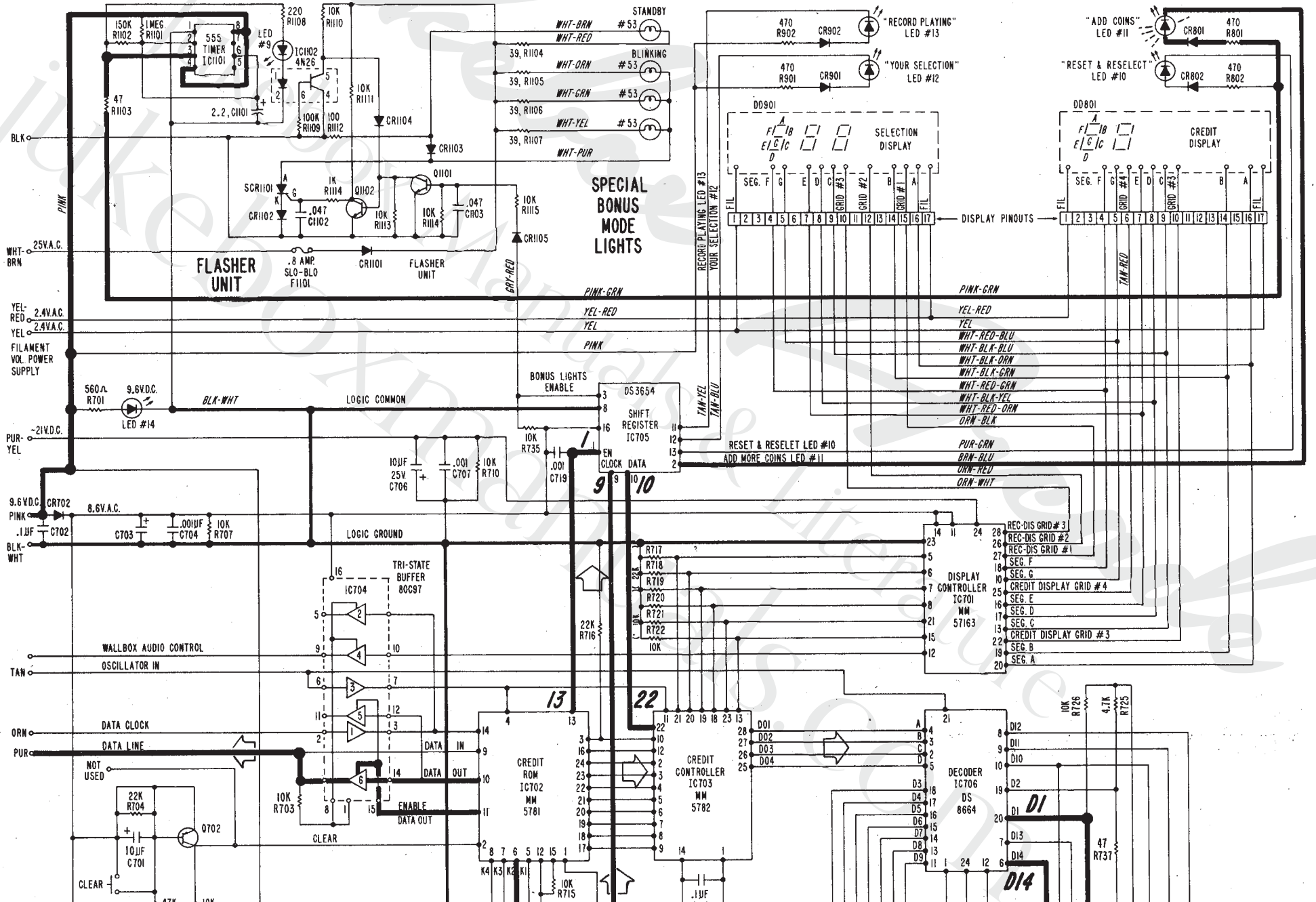
   A) At certain time intervals the "Data Out Enable" signal on Pin 11 of the IC702 changes from "High" to "Low" for a short time. During the low signal period, the #6 Buffer section of the IC704 in the line enables the "Data Out" line from Pin 10. Transmission starts to the Mechanism Controller Logic Board for processing with information that 25¢ has been entered. If Money Counter is used, the counter will be pulsed five times to add 25¢ to the total money count.

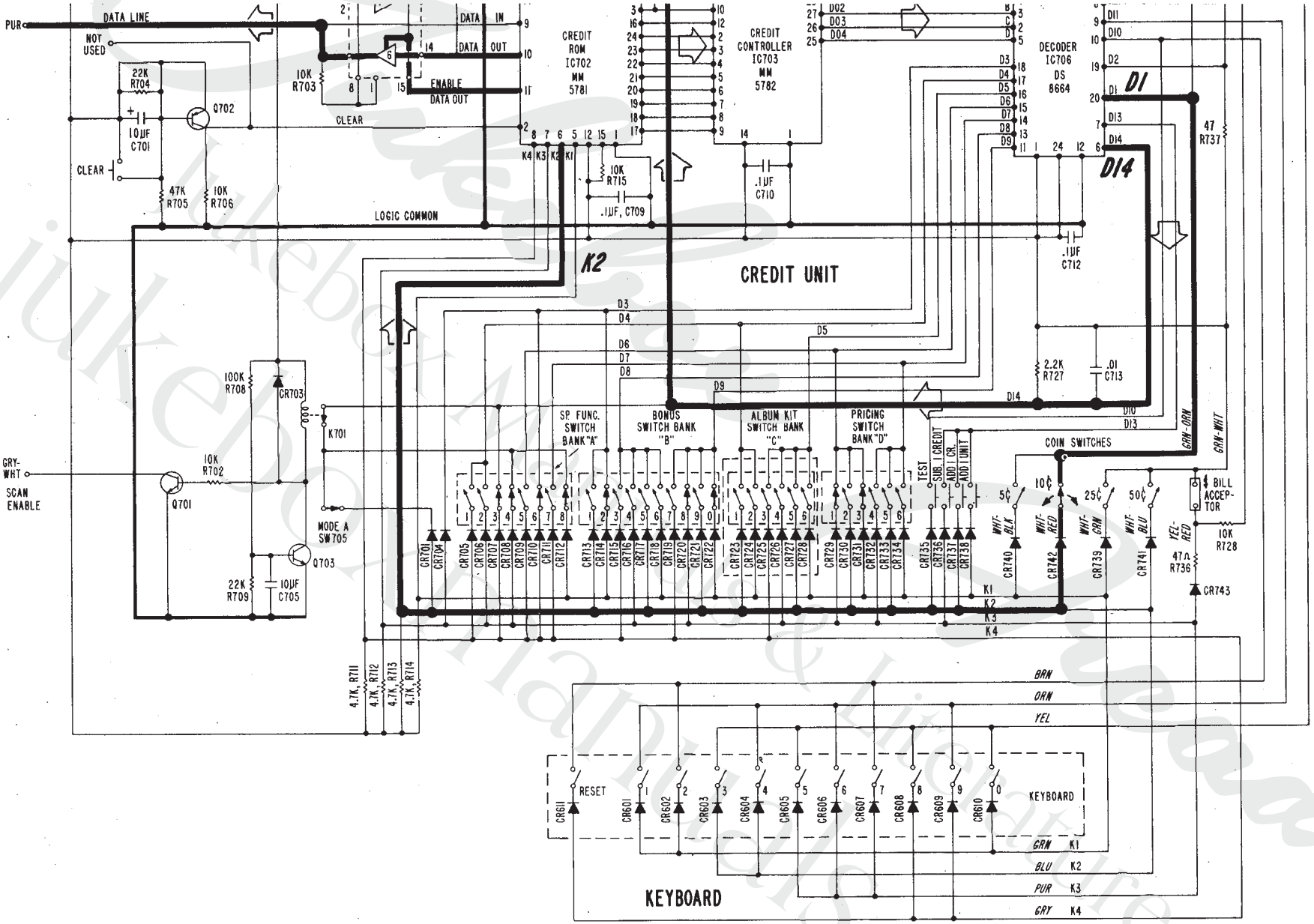
   B) At the same time the credit information at the Credit Rom is sent to the Credit Controller IC703 for storage. Instructions are forwarded to the Display Controller, IC701, to light segments "B" and "C" of the Credit Display to produce number 1, informing the customer one selection can be made.






IC701
IC704
IC703
IC702
CREDIT UNIT
LOGIC BOARD
WARNING


FLASHER UNIT
SPECIAL BONUS MODE LIGHTS
STANDBY #53
BLINKING #53
"RECORD PLAYING" LED #13
"YOUR SELECTION" LED #12
"ADD COINS" LED #11
"RESET & RESELECT" LED #10
SELECTION DISPLAY
CREDIT DISPLAY
DISPLAY PINOUTS
555 TIMER IC1101
SHIFT REGISTER IC705
DISPLAY CONTROLLER IC701 MM 57163
TRI-STATE BUFFER 80C97
CREDIT ROM IC702 MM 5781
CREDIT CONTROLLER IC703 MM 5782
DECODER IC706 DS 8664
LOGIC COMMON
LOGIC GROUND
WALLBOX AUDIO CONTROL
OSCILLATOR IN
DATA CLOCK
DATA LINE
NOT USED
CLEAR
ENABLE DATA OUT
BONUS LIGHTS ENABLE
RESET & RESELET LED #10
ADD MORE COINS LED #11
FILAMENT VOL. POWER SUPPLY
25V.A.C.
2.4V.A.C.
9.6V.D.C.
8.6V.A.C.
~21V.D.C.
.8 AMP. SLO-BLO F1101
FLASHER UNIT
REC-DIS GRID #3
REC-DIS GRID #2
REC-DIS GRID #1
CREDIT DISPLAY GRID #4
CREDIT DISPLAY GRID #3
SEG. A
SEG. B
SEG. C
SEG. D
SEG. E
SEG. F
SEG. G


CREDIT UNIT
KEYBOARD
COIN SWITCHES
DATA LINE
NOT USED
CLEAR
LOGIC COMMON
CREDIT ROM IC702 MM 5781
CREDIT CONTROLLER IC703 MM 5782
DECODER IC706 DS 8664
SP. FUNC. SWITCH BANK "A"
BONUS SWITCH BANK "B"
ALBUM KIT SWITCH BANK "C"
PRICING SWITCH BANK "D"
SCAN ENABLE
MODE A SW705
BILL ACCEPTOR
RESET
KEYBOARD

SEQUENCE 4. INSUFFICIENT MONEY DEPOSITED

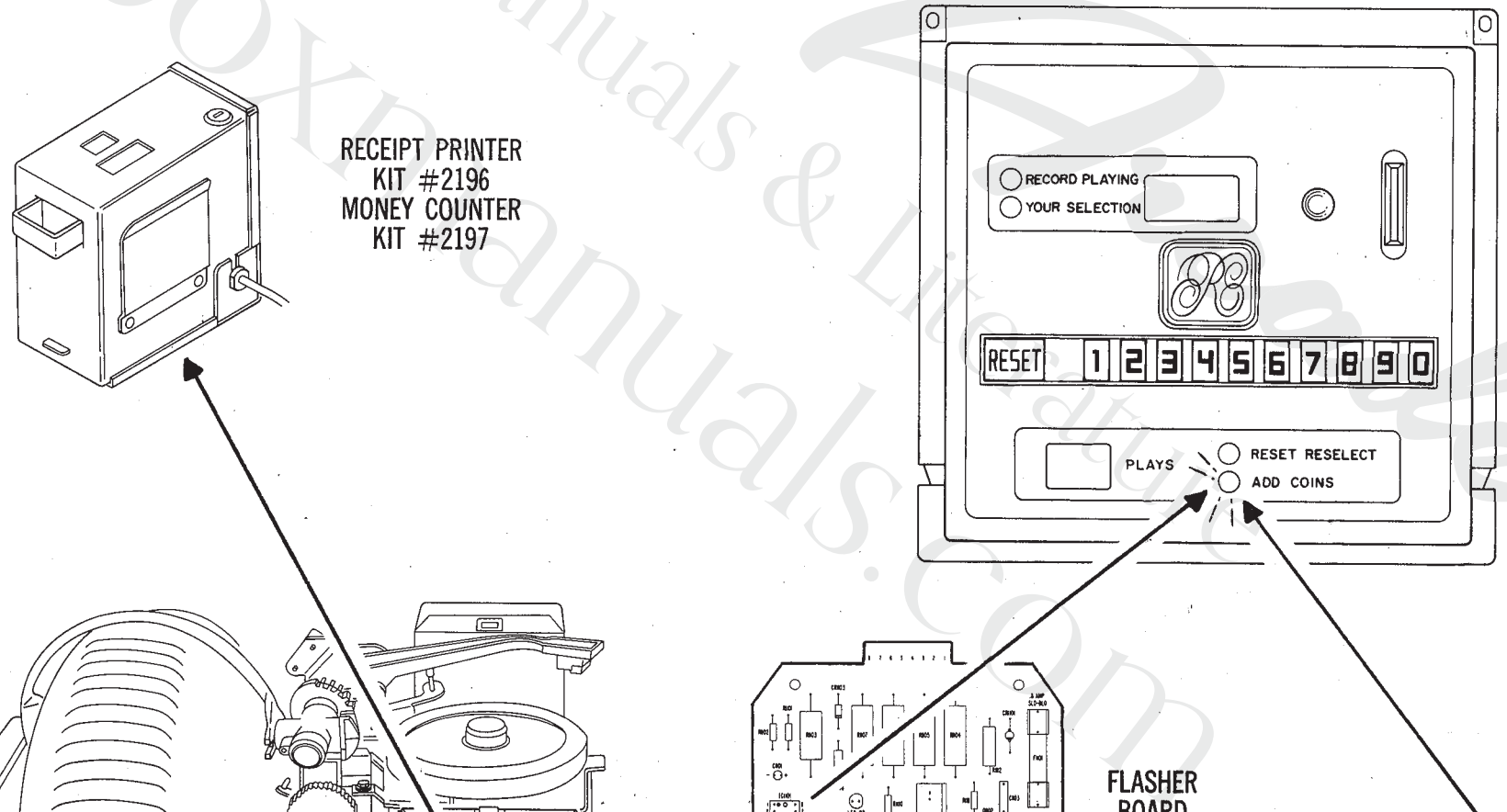
1. Dime deposited . . . Signal from D1 goes to Credit Rom for processing via the K2 line. After processing the signal is converted into money units which is insufficient to register a credit.

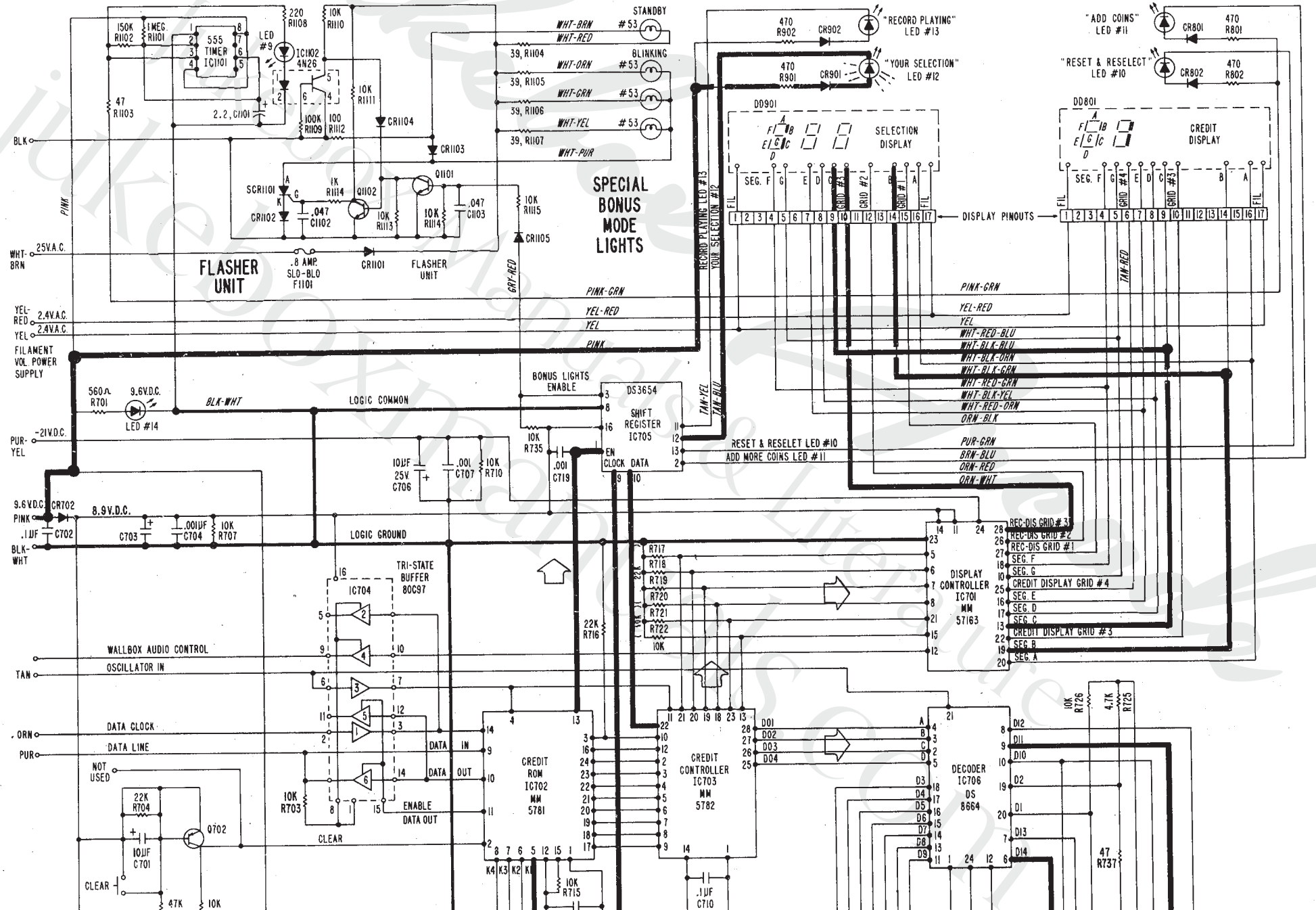
2. Signal at Pin 13 of the Credit Rom is driven low alerting the Shift Register, IC705, at Pin 1 that insufficient money has been deposited.

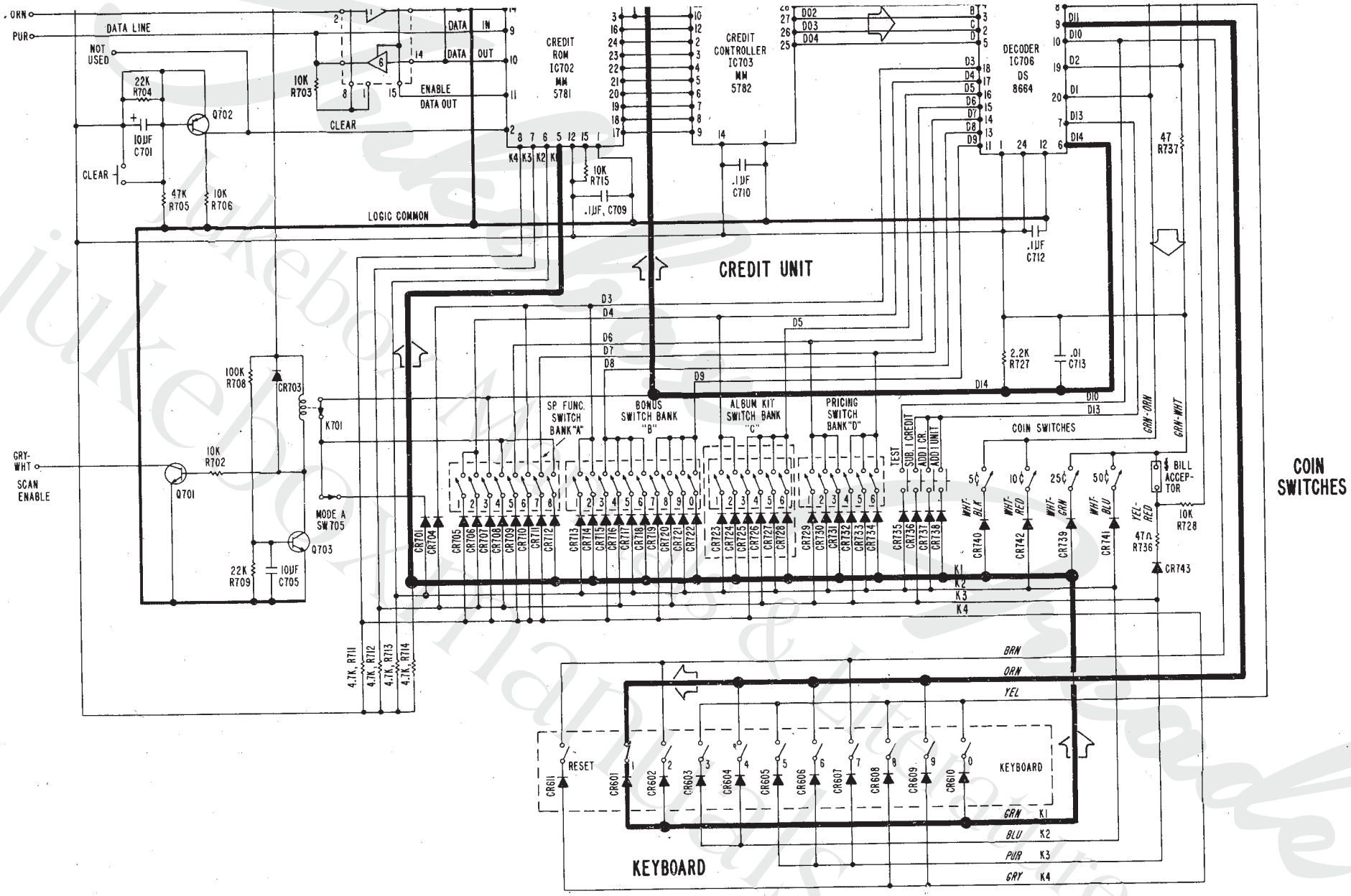
3. Simultaneously, when "Data Out Enable" line at Pin 11 of the Credit Rom becomes low for a short period, the 10¢ deposit information is forwarded to the Logic Board. If Money Counter is used, the counter is pulsed twice, adding 10¢ to the total count.

4. The insufficient money registered in the Credit Rom is forwarded to the Credit Controller, IC703, for storage. This enables Pin 22 and applies the data to Pin 10 of the Shift Register, IC705, for processing.

5. Signal at Pin 2 is driven low allowing Timer, IC1101, to flash "ADD COINS" LED.




FLASHER UNIT
SPECIAL BONUS MODE LIGHTS
STANDBY
BLINKING
"RECORD PLAYING" LED #13
"YOUR SELECTION" LED #12
"ADD COINS" LED #11
"RESET & RESELECT" LED #10
SELECTION DISPLAY
CREDIT DISPLAY
DISPLAY PINOUTS
555 TIMER IC1101
TRI-STATE BUFFER 80C97
SHIFT REGISTER IC705
DISPLAY CONTROLLER IC701
CREDIT ROM IC702
CREDIT CONTROLLER IC703
DECODER IC706
FILAMENT VOL POWER SUPPLY
LOGIC COMMON
LOGIC GROUND
WALLBOX AUDIO CONTROL
OSCILLATOR IN
DATA CLOCK
DATA LINE
BONUS LIGHTS ENABLE
RESET & RESELET LED #10
ADD MORE COINS LED #11


CREDIT UNIT
KEYBOARD
COIN SWITCHES
DATA LINE
NOT USED
CLEAR
LOGIC COMMON
CREDIT ROM IC702 MM 5781
CREDIT CONTROLLER IC703 MM 5782
DECODER IC706 DS 8664
SP FUNC. SWITCH BANK "A"
BONUS SWITCH BANK "B"
ALBUM KIT SWITCH BANK "C"
PRICING SWITCH BANK "D"
SCAN ENABLE
MODE A SW705
$ BILL ACCEPTOR
RESET
KEYBOARD

SEQUENCE 5. NUMBER 1 PRESSED — 1st SELECTION DIGIT STORED — NUMBER "1" IS PRODUCED IN THE RECORD PLAYING DISPLAY

To achieve 160 selections, three digit numbers are required. Two numbers are used for the first digit, all ten numbers for the second digit, and eight numbers for the third digit.

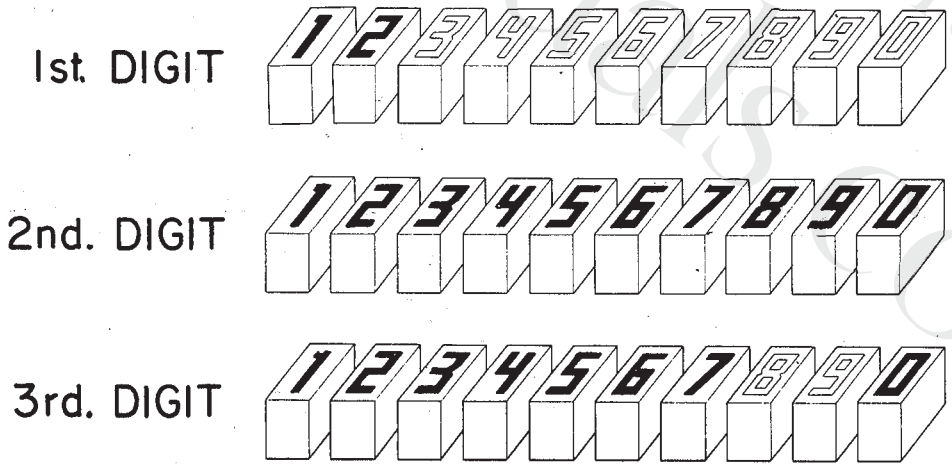
When the first digit of a selection is number "1", the top side of the record is designated. If the first digit is number "2", it refers to the bottom side.

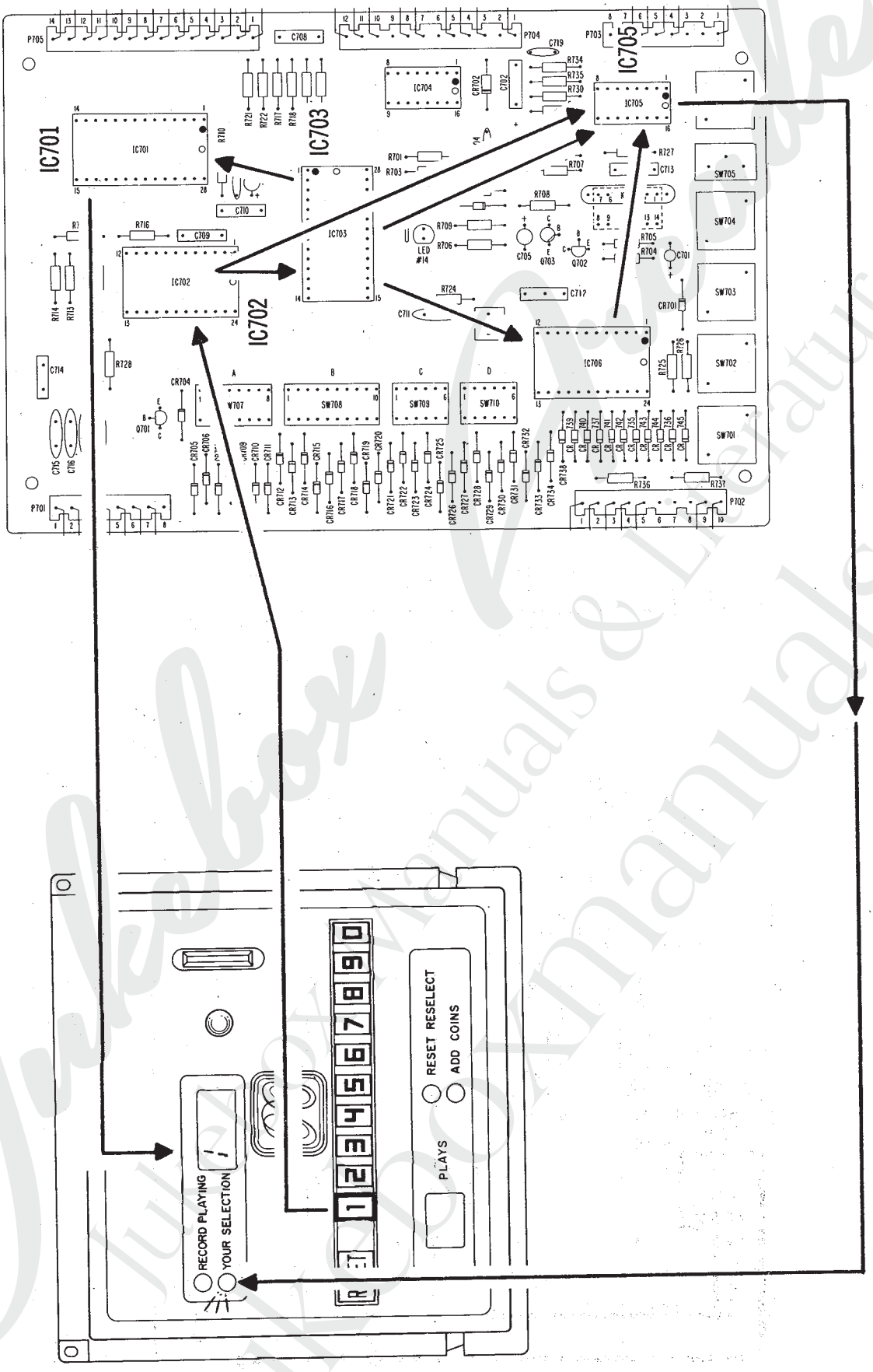
1. Pressing the first number, as number "1", applies a signal on the K1 line for processing in the Credit Rom.

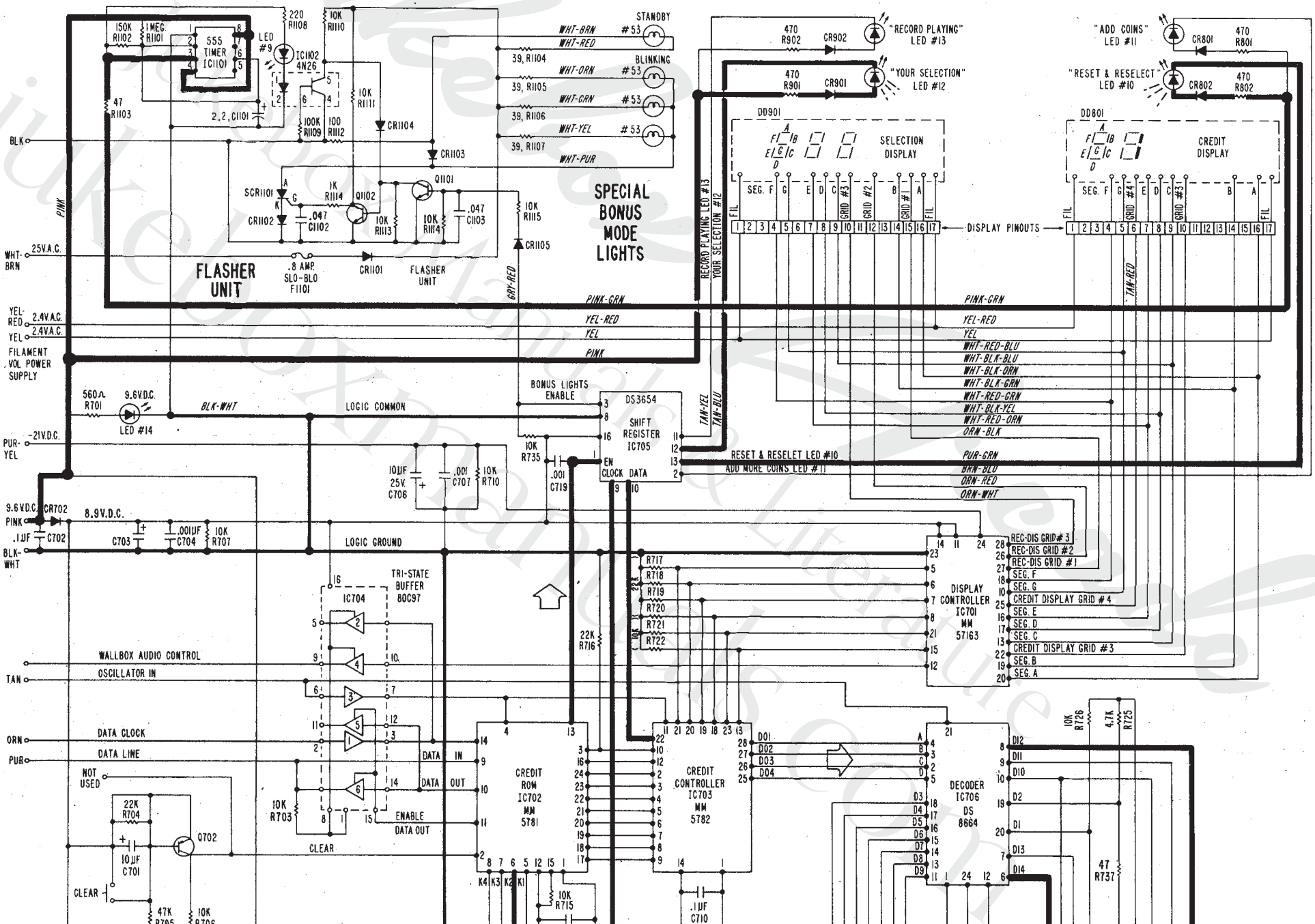
2. Signal at Pin 13 of the Credit Rom goes low and enables the Shift Register, IC705, at Pin 1.

3. The first digit number "1" is then forwarded to the Credit Controller for storage. This data is applied to Pin 22 of the Credit Controller to Pin 10 of the Shift Register for processing. Clock pulses transmitted from Pin 6 of the Decoder synchronize the selection data on Pin 10. After processing, Pin 12 is driven low causing "Your Selection" LED to light.

4. At the same time the Credit Controller signals the Display Controller, IC706, to light segments B and C to produce the first digit number "1" in the Selection Display.






FLASHER UNIT
SPECIAL BONUS MODE LIGHTS
555 TIMER IC1101
IC1102 4N26
LED #9
STANDBY #53
BLINKING #53
#53
#53
SCR1101
Q1101
Q1102
CR1101
CR1102
CR1103
CR1104
CR1105
.8 AMP SLO-BLO F1101
FLASHER UNIT
SELECTION DISPLAY
CREDIT DISPLAY
DD901
DD801
DISPLAY PINOUTS
"RECORD PLAYING" LED #13
"YOUR SELECTION" LED #12
"ADD COINS" LED #11
"RESET & RESELECT" LED #10
RECORD PLAYING LED #13
YOUR SELECTION #12
RESET & RESELET LED #10
ADD MORE COINS LED #11
FILAMENT VOL POWER SUPPLY
25V.A.C.
2.4V.A.C.
2.4V.A.C.
9.6V.D.C.
LED #14
-21V.D.C.
9.6V.D.C.
8.9V.D.C.
LOGIC COMMON
LOGIC GROUND
BONUS LIGHTS ENABLE
SHIFT REGISTER IC705
DS3654
TRI-STATE BUFFER 80C97
IC704
DISPLAY CONTROLLER IC701 MM 57163
CREDIT ROM IC702 MM 5781
CREDIT CONTROLLER IC703 MM 5782
DECODER IC706 DS 8664
WALLBOX AUDIO CONTROL
OSCILLATOR IN
DATA CLOCK
DATA LINE
NOT USED
DATA IN
DATA OUT
ENABLE DATA OUT
CLEAR
REC-DIS GRID #3
REC-DIS GRID #2
REC-DIS GRID #1
SEG. F
SEG. G
CREDIT DISPLAY GRID #4
SEG. E
SEG. D
SEG. C
CREDIT DISPLAY GRID #3
SEG. B
SEG. A
BLK
WHT-BRN
YEL-RED
YEL
PINK
PUR-YEL
BLK-WHT
TAN
ORN
PUR
GRY-RED
TAN-YEL
TAN-BLU
TAN-RED
PINK-GRN
YEL-RED
YEL
WHT-RED-BLU
WHT-BLK-BLU
WHT-BLK-ORN
WHT-BLK-GRN
WHT-RED-GRN
WHT-BLK-YEL
WHT-RED-ORN
ORN-BLK
PUR-GRN
BRN-BLU
ORN-RED
ORN-WHT
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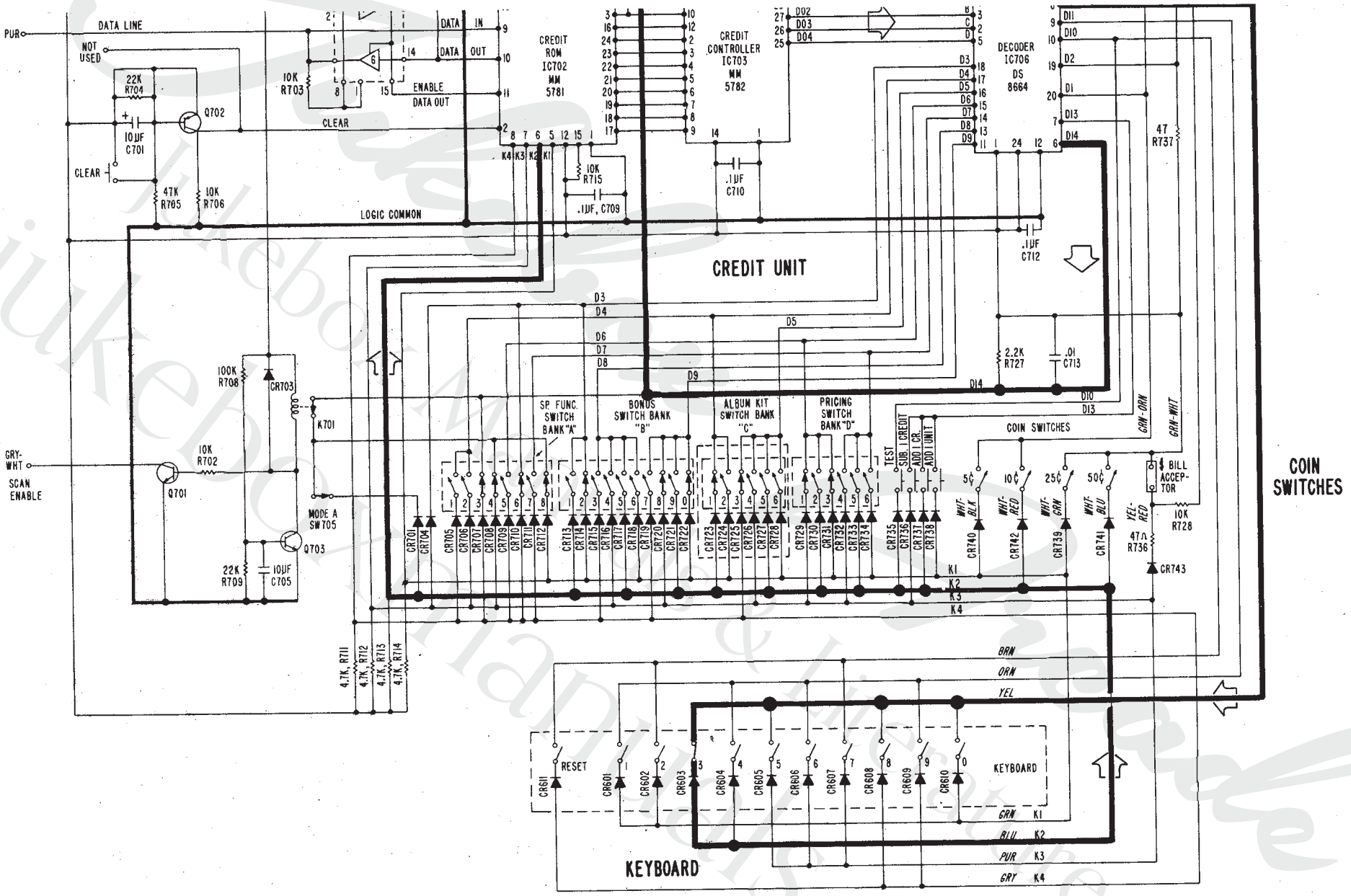
WHT-RED
WHT-ORN
WHT-GRN
WHT-YEL
WHT-PUR


CREDIT UNIT
KEYBOARD
COIN SWITCHES
DATA LINE
NOT USED
CLEAR
LOGIC COMMON
CREDIT ROM IC702 MM 5781
CREDIT CONTROLLER IC703 MM 5782
DECODER IC706 DS 8664
SP. FUNC. SWITCH BANK "A"
BONUS SWITCH BANK "B"
ALBUM KIT SWITCH BANK "C"
PRICING SWITCH BANK "D"
SCAN ENABLE
MODE A SW705
RESET
KEYBOARD

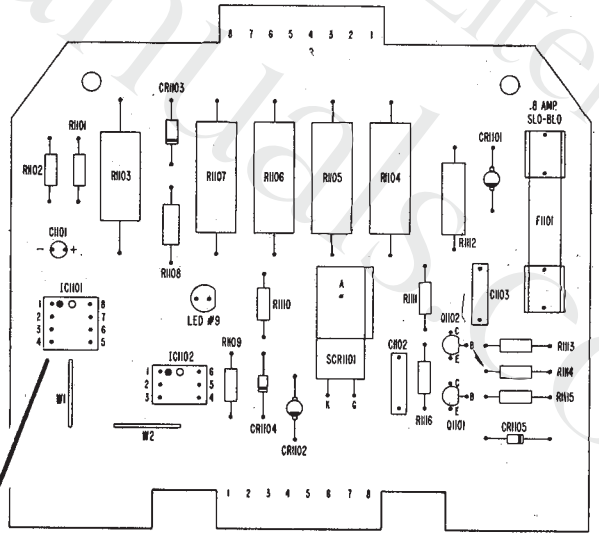
SEQUENCE 6. ERROR NUMBER PROCESSED FOR FIRST DIGIT— "RESET-RESELECT" LED FLASHES

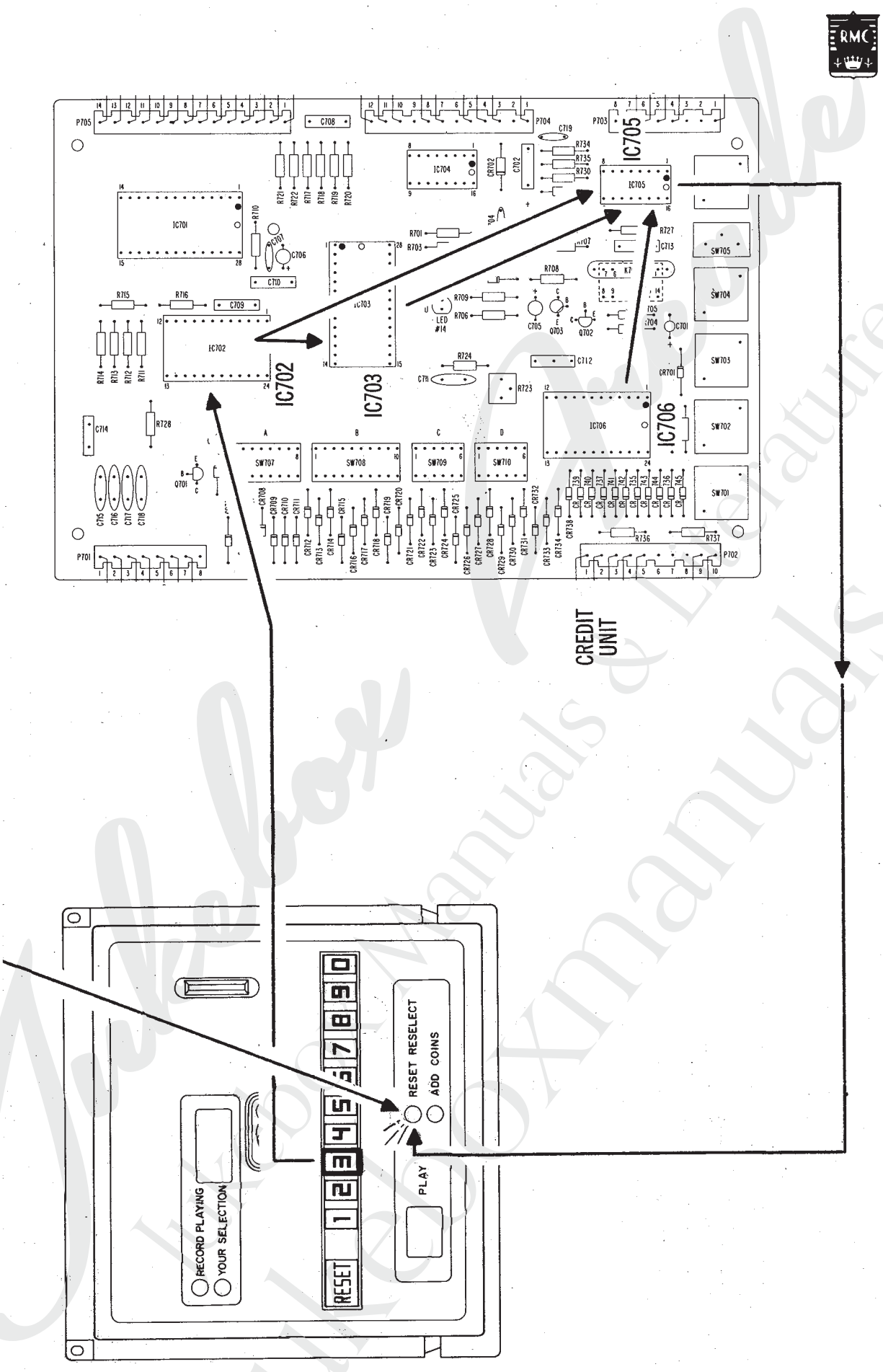
1. Number '3' (error number) pressed for first digit. D12 line is applied to the K2 line for processing by the Credit Rom.

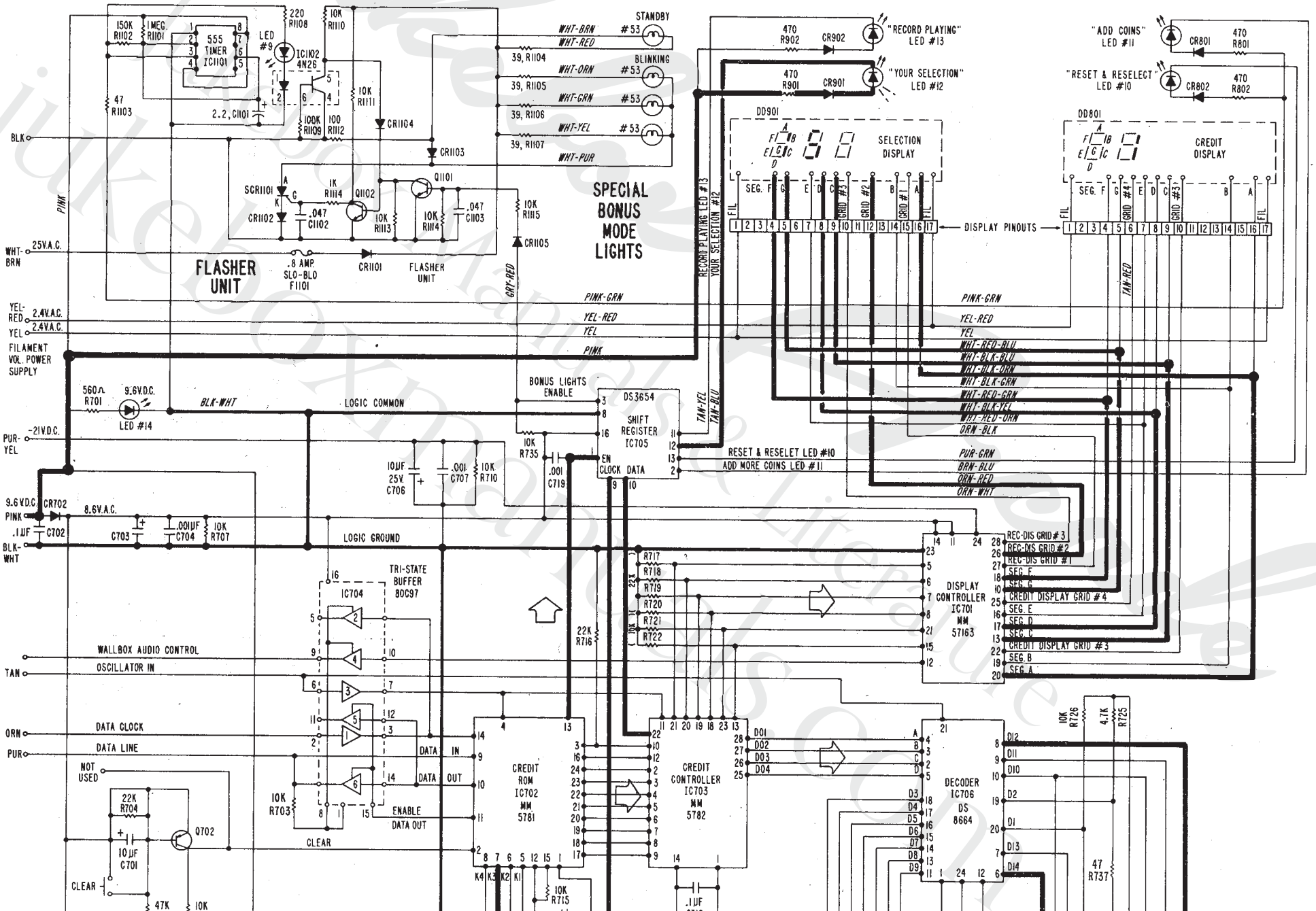
2. Shift Register enable line is activated by the error number before stored in the Credit Controller.

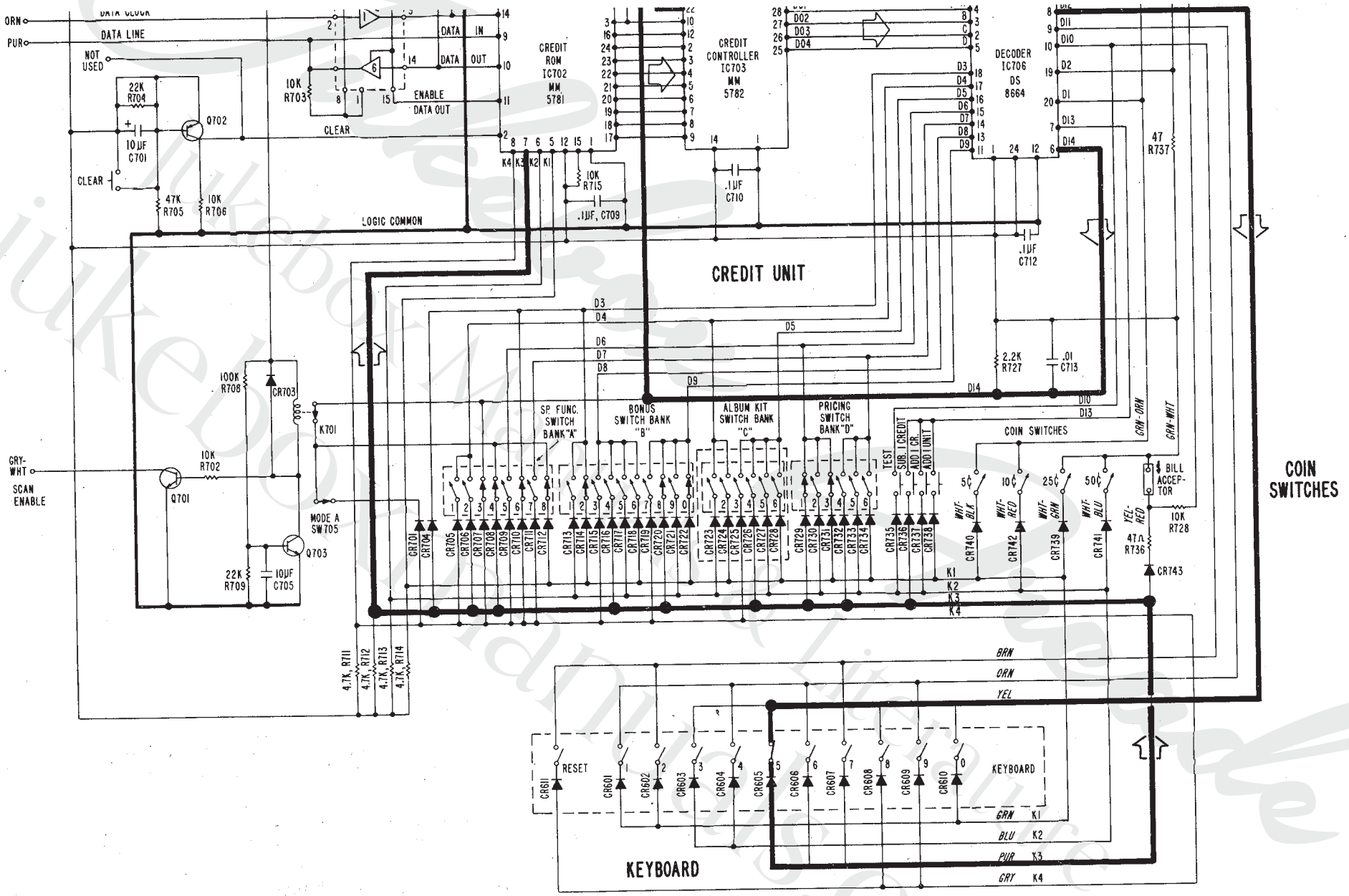
3. Stored error data is then forwarded to Pin 10 of the Shift Register and synchronized by the clock line on Pin 9 received from the Decoder.

4. Signal on Pin 13 of the Shift Register is driven low allowing the Timer, IC1101, to flash the "Reset-Reselect" LED.



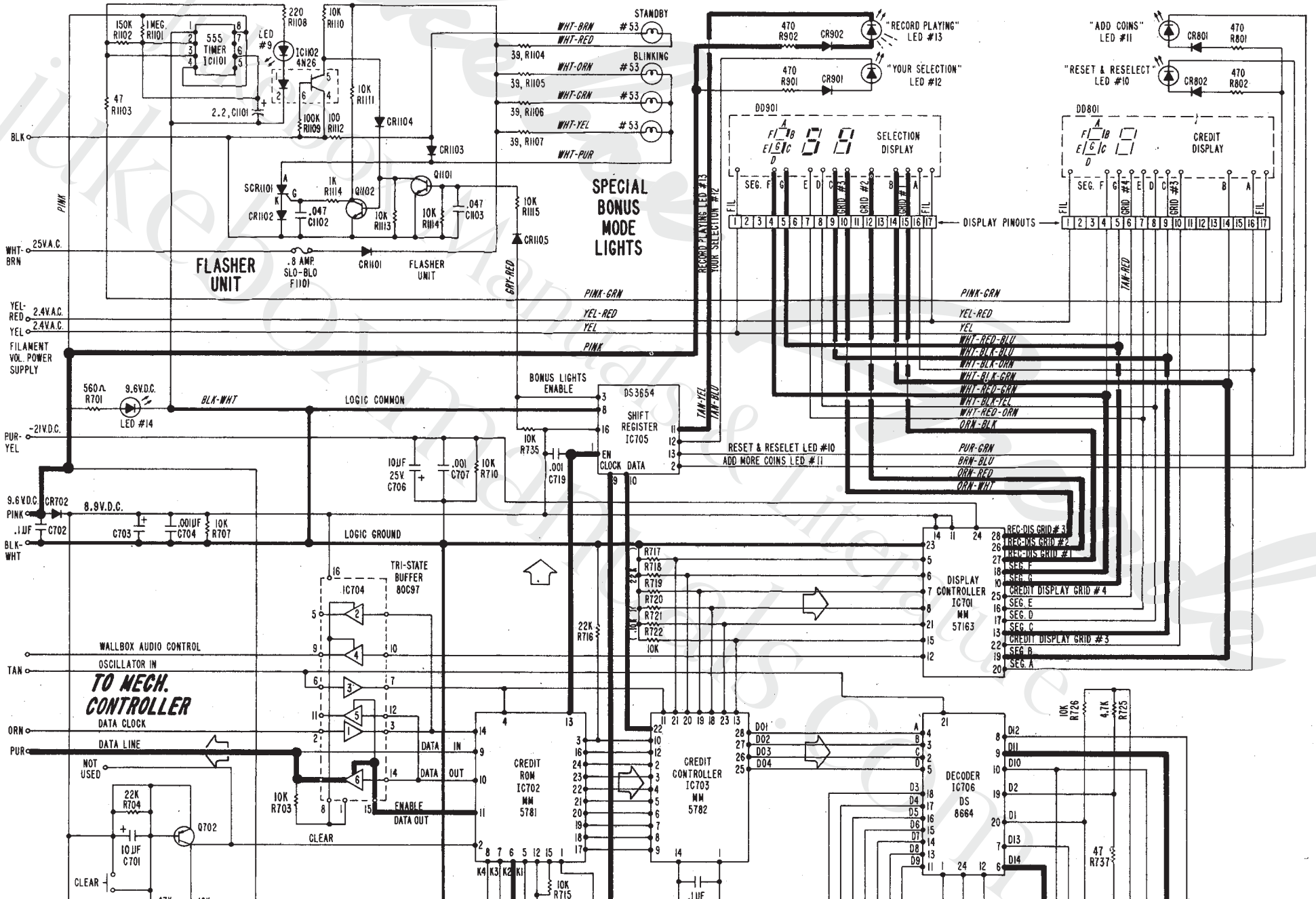

IC705
IC702
IC703
IC706
CREDIT UNIT
RESET RESELECT
ADD COINS
PLAY
RECORD PLAYING
YOUR SELECTION
RESET

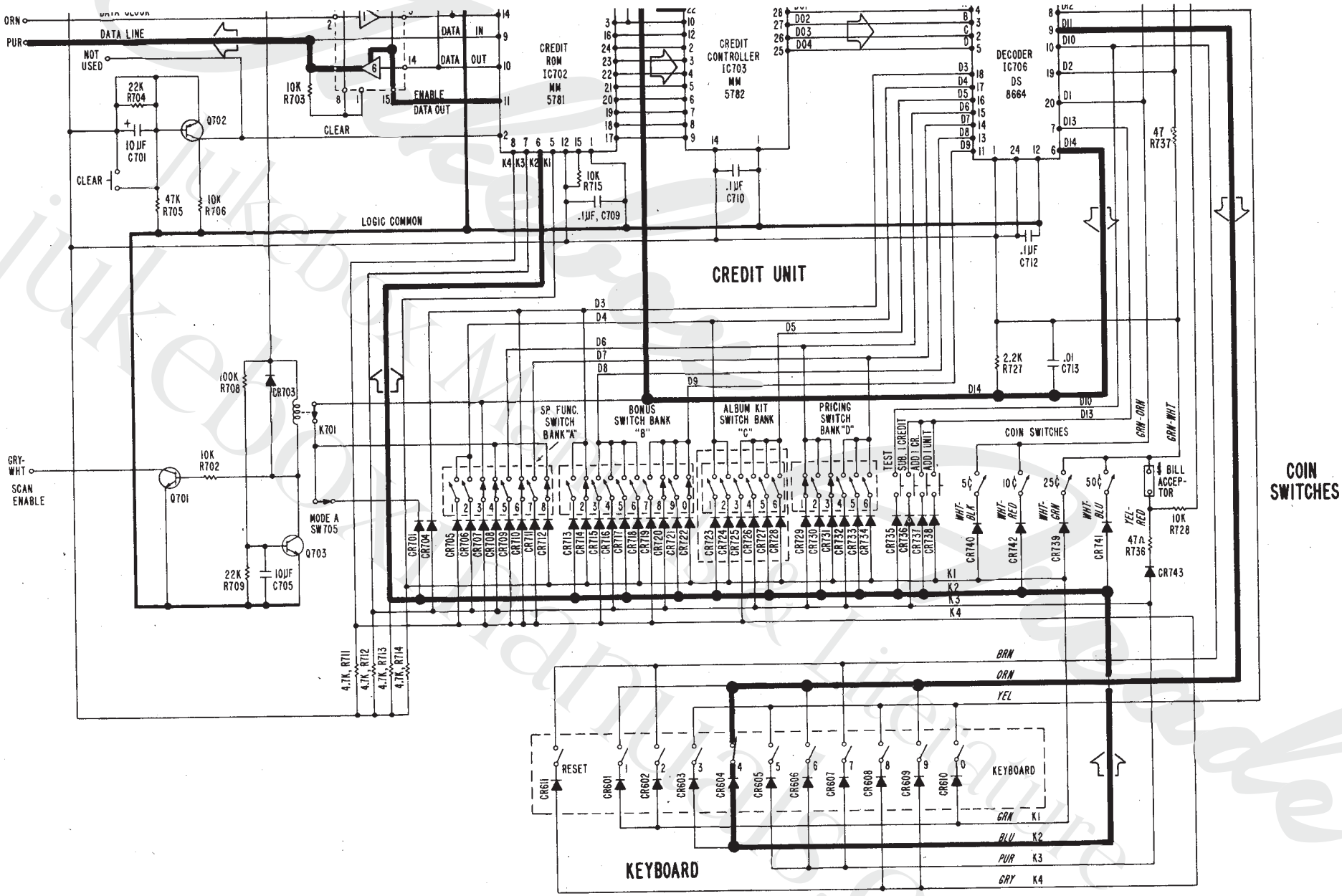

FLASHER UNIT
SPECIAL BONUS MODE LIGHTS
FILAMENT VOL. POWER SUPPLY
LOGIC COMMON
LOGIC GROUND
BONUS LIGHTS ENABLE
SHIFT REGISTER IC705
DS3654
TRI-STATE BUFFER 80C97
IC704
DISPLAY CONTROLLER IC701 MM 57163
CREDIT ROM IC702 MM 5781
CREDIT CONTROLLER IC703 MM 5782
DECODER IC706 DS 8664
SELECTION DISPLAY
CREDIT DISPLAY
DISPLAY PINOUTS
"RECORD PLAYING" LED #13
"YOUR SELECTION" LED #12
"ADD COINS" LED #11
"RESET & RESELECT" LED #10
RESET & RESELET LED #10
ADD MORE COINS LED #11
STANDBY #53
BLINKING #53
WALLBOX AUDIO CONTROL
OSCILLATOR IN
DATA CLOCK
DATA LINE
NOT USED
CLEAR
ENABLE
DATA OUT
DATA IN


ORN
PUR
DATA CLOCK
DATA LINE
NOT USED
22K R704
10 µF C701
Q702
CLEAR
47K R705
10K R706
10K R703
DATA IN
DATA OUT
ENABLE DATA OUT
CLEAR
CREDIT ROM IC702 MM 5781
CREDIT CONTROLLER IC703 MM 5782
DECODER IC706 DS 8664
10K R715
.1µF, C709
.1µF C710
.1µF C712
47 R737
LOGIC COMMON
CREDIT UNIT
2.2K R727
.01 C713
100K R708
CR703
K701
GRY-WHT
SCAN ENABLE
10K R702
Q701
MODE A SW705
Q703
22K R709
10µF C705
SP. FUNC. SWITCH BANK "A"
BONUS SWITCH BANK "B"
ALBUM KIT SWITCH BANK "C"
PRICING SWITCH BANK "D"
TEST
SUB 1 CREDIT
ADD 1 CR.
ADD 1 UNIT
COIN SWITCHES
5¢
10¢
25¢
50¢
$ BILL ACCEPTOR
10K R728
47Ω R736
CR743
GRN-ORN
GRN-WHT
WHT-BLK
WHT-RED
WHT-BRN
WHT-BLU
YEL-RED
4.7K, R711
4.7K, R712
4.7K, R713
4.7K, R714
BRN
ORN
YEL
RESET
KEYBOARD
GRN K1
BLU K2
PUR K3
GRY K4
KEYBOARD

SEQUENCE 7. 2nd DIGIT NUMBER PRESSED — NUMBER ACCEPTED AND DISPLAYED

1. The processing of the second selection digit is identical to the first (See sequence 5) except that any number can be chosen, and two digits on the Selection Display will be lit.


FLASHER UNIT
SPECIAL BONUS MODE LIGHTS
STANDBY #53
BLINKING #53
#53
#53
#53
"RECORD PLAYING" LED #13
"YOUR SELECTION" LED #12
"ADD COINS" LED #11
"RESET & RESELECT" LED #10
SELECTION DISPLAY
CREDIT DISPLAY
DISPLAY PINOUTS
555 TIMER IC1101
LED #9
IC1102 4N26
SCR1101
Q1101
Q1102
CR1101
CR1102
CR1103
CR1104
CR1105
.8 AMP SLO-BLO F1101
FLASHER UNIT
FILAMENT VOL. POWER SUPPLY
25V.A.C.
2.4V.A.C.
2.4V.A.C.
-21V.D.C.
9.6V.D.C.
8.9V.D.C.
LED #14
LOGIC COMMON
LOGIC GROUND
BONUS LIGHTS ENABLE
DS3654 SHIFT REGISTER IC705
RESET & RESELET LED #10
ADD MORE COINS LED #11
DISPLAY CONTROLLER IC701 MM 57163
TRI-STATE BUFFER 80C97
IC704
WALLBOX AUDIO CONTROL
OSCILLATOR IN
TO MECH. CONTROLLER
DATA CLOCK
DATA LINE
NOT USED
CLEAR
ENABLE DATA OUT
DATA IN
DATA OUT
CREDIT ROM IC702 MM 5781
CREDIT CONTROLLER IC703 MM 5782
DECODER IC706 DS 8664
K1
K2
K3
K4
WHT-BRN
WHT-RED
WHT-ORN
WHT-GRN
WHT-YEL
WHT-PUR
PINK
PINK-GRN
YEL-RED
YEL
WHT-RED-BLU
WHT-BLK-BLU
WHT-BLK-ORN
WHT-BLK-GRN
WHT-RED-GRN
WHT-BLK-YEL
WHT-RED-ORN
ORN-BLK
PUR-GRN
BRN-BLU
ORN-RED
ORN-WHT
TAN-YEL
TAN-BLU
TAN-RED
BLK-WHT
BLK
WHT-BRN
YEL-RED
YEL
PUR-YEL
PINK
TAN
ORN
PUR

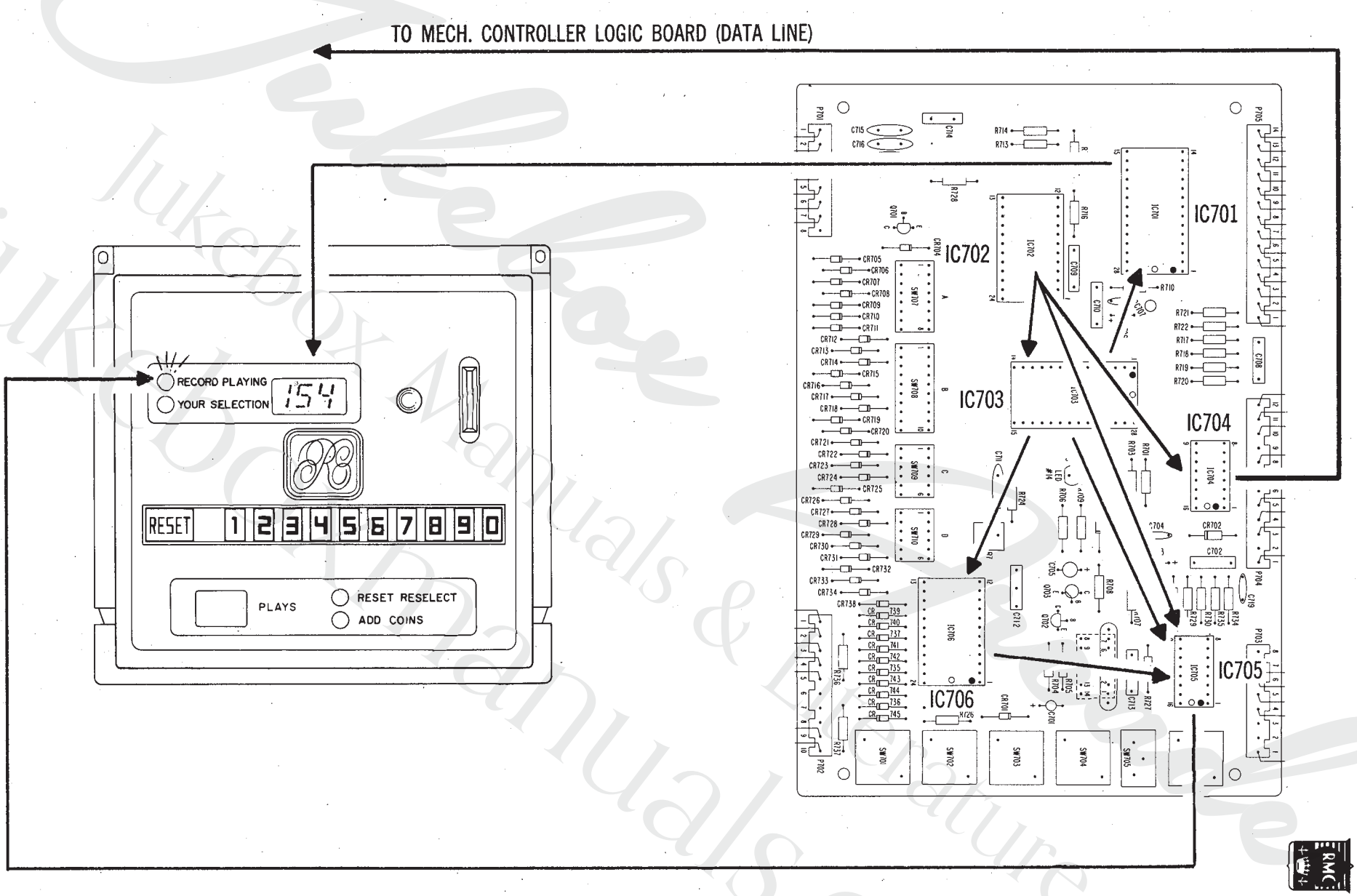

CREDIT UNIT
KEYBOARD
COIN SWITCHES
DATA LINE
NOT USED
CLEAR
LOGIC COMMON
CREDIT ROM IC702 MM 5781
CREDIT CONTROLLER IC703 MM 5782
DECODER IC706 DS 8664
SP. FUNC. SWITCH BANK "A"
BONUS SWITCH BANK "B"
ALBUM KIT SWITCH BANK "C"
PRICING SWITCH BANK "D"
SCAN ENABLE
MODE A SW705
RESET
$ BILL ACCEPTOR

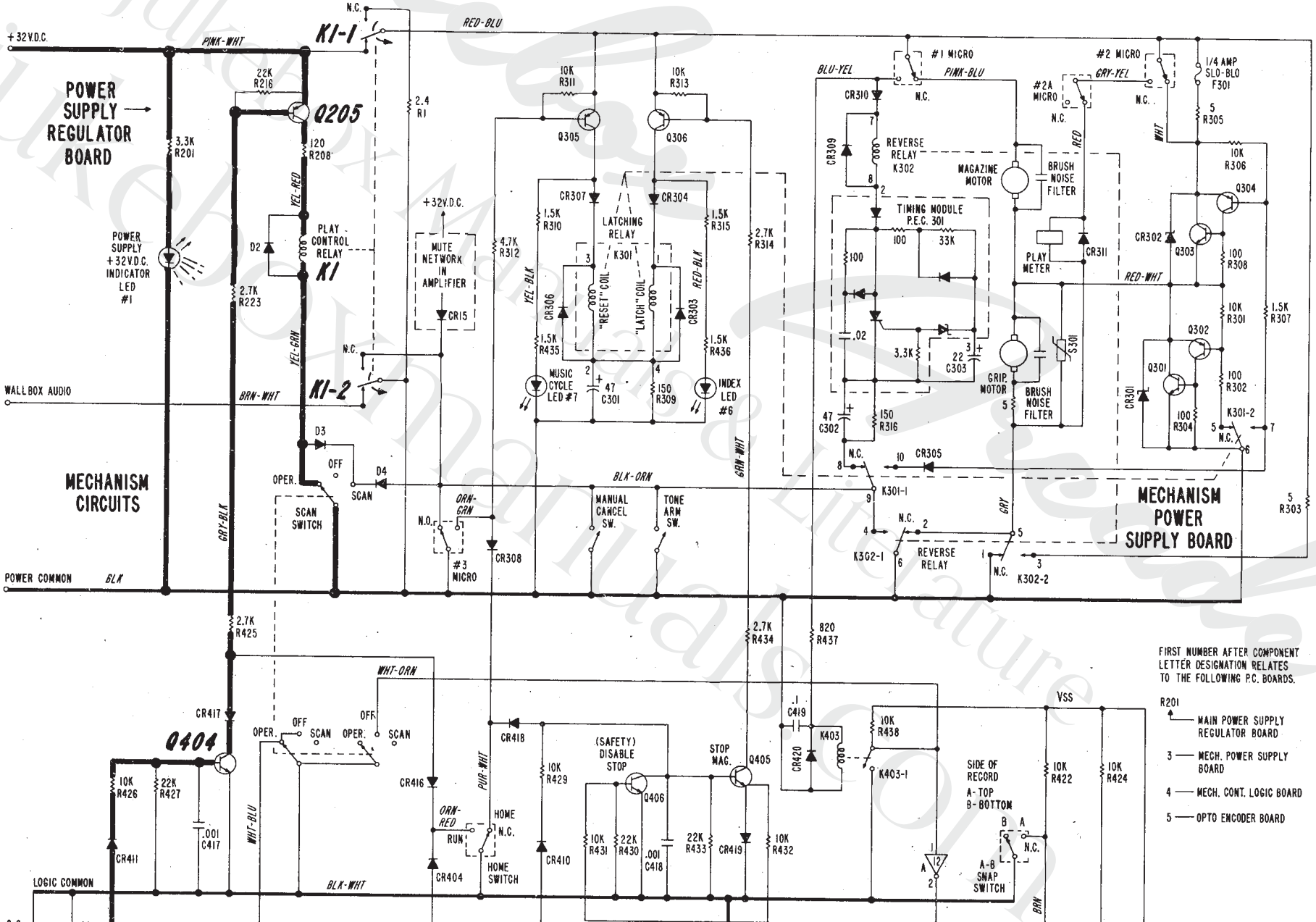
SEQUENCE 8. 3rd DIGIT NUMBER PRESSED—SELECTION STORED IN MECHANISM CONTROLLER LOGIC BOARD

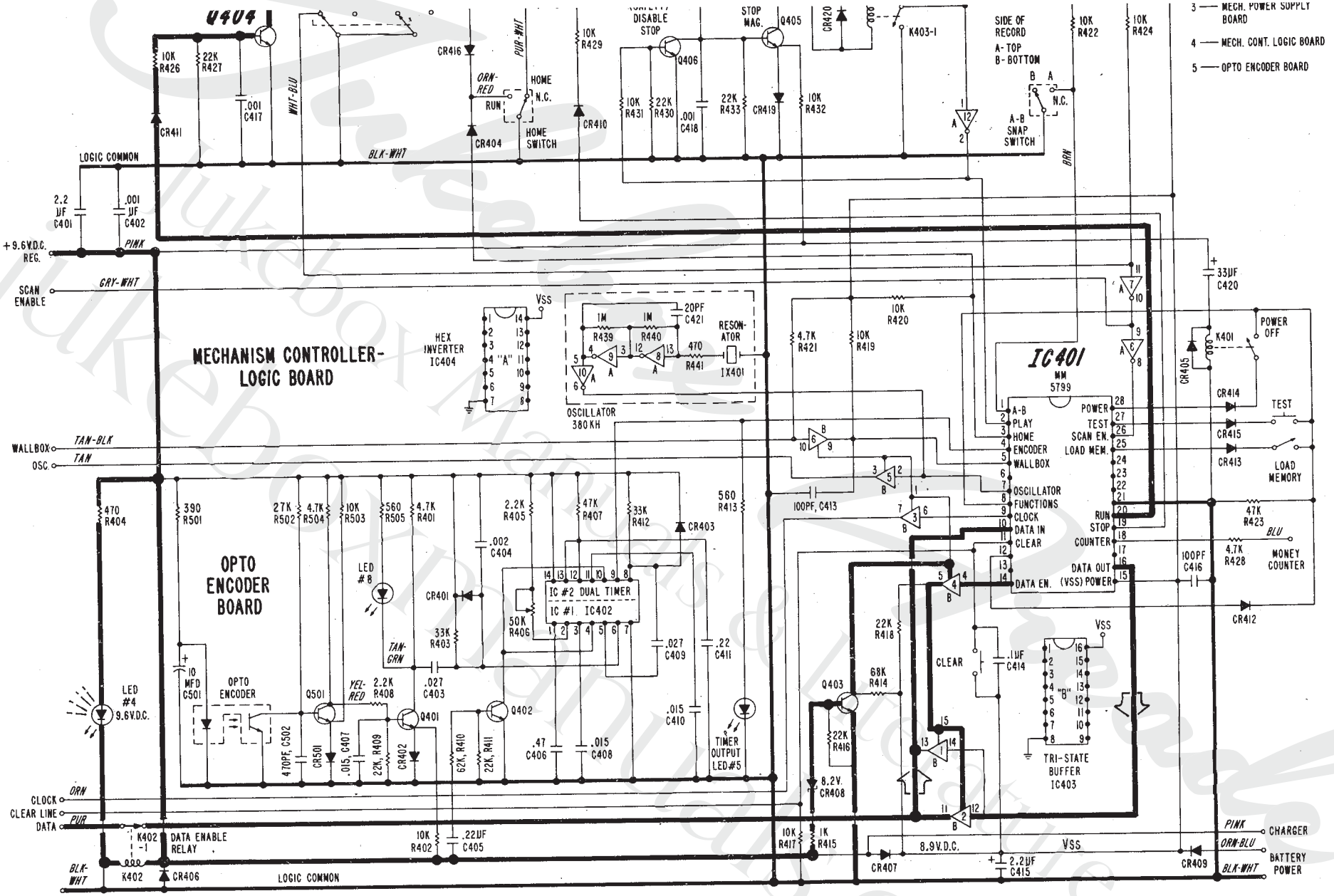
1. The processing of the 3rd digit is identical as that of the first (See Sequence 5) except that numbers 8 and 9 are invalid and will energize the "Reset-Reselect" circuit if chosen. (See Sequence 6)

2. When the 3rd digit has been accepted by the Credit Rom, signal on the "Data Out" enable line on Pin 11 is driven low. The stored selection is conveyed through the Buffer in the line and forwarded on the Data Line to the Mechanism Controller Logic Board for processing.

3. At the same time the Credit Controller subtracts one credit causing the Display Controller to erase the "1" produced in the Credit Window, "Your Selection" LED goes out, and "Record Playing" LED goes on.




POWER SUPPLY REGULATOR BOARD
+32V.D.C.
PINK-WHT
K1-1
N.C.
RED-BLU
22K R216
Q205
3.3K R201
120 R208
2.4 R1
YEL-RED
POWER SUPPLY +32V.D.C. INDICATOR LED #1
D2
PLAY CONTROL RELAY K1
2.7K R223
YEL-GRN
K1-2
WALL BOX AUDIO
BRN-WHT
D3
D4
OFF
OPER.
SCAN
SCAN SWITCH
MECHANISM CIRCUITS
GRY-BLK
POWER COMMON
BLK
+32V.D.C.
MUTE NETWORK IN AMPLIFIER
CR15
10K R311
10K R313
Q305
Q306
CR307
CR304
1.5K R310
1.5K R315
LATCHING RELAY K301
"RESET" COIL
"LATCH" COIL
CR306
CR303
4.7K R312
2.7K R314
YEL-BLK
RED-BLK
1.5K R435
1.5K R436
MUSIC CYCLE LED #7
47 C301
150 R309
INDEX LED #6
ORN-GRN
#3 MICRO
CR308
MANUAL CANCEL SW.
TONE ARM SW.
BLK-ORN
GRN-WHT
#1 MICRO
BLU-YEL
PINK-BLU
CR310
REVERSE RELAY K302
CR309
MAGAZINE MOTOR
BRUSH NOISE FILTER
#2 MICRO
GRY-YEL
#2A MICRO
RED
1/4 AMP SLO-BLO F301
5 R305
WHT
10K R306
Q304
CR302
Q303
100 R308
TIMING MODULE P.E.C. 301
100
33K
100
.02
3.3K
22 C303
PLAY METER
CR311
RED-WHT
10K R301
1.5K R307
Q302
Q301
CR301
100 R302
100 R304
K301-2
GRIP MOTOR
BRUSH NOISE FILTER
S301
47 C302
150 R316
CR305
K301-1
GRY
REVERSE RELAY
K302-1
K302-2
MECHANISM POWER SUPPLY BOARD
5 R303
2.7K R425
2.7K R434
820 R437
WHT-ORN
CR417
Q404
10K R426
22K R427
.001 C417
CR411
WHT-BLU
LOGIC COMMON
BLK-WHT
OFF
OPER.
SCAN
CR416
ORN-RED
RUN
HOME N.C.
HOME SWITCH
CR404
PUR-WHT
CR418
10K R429
CR410
(SAFETY) DISABLE STOP
Q406
10K R431
22K R430
.001 C418
STOP MAG.
Q405
22K R433
CR419
10K R432
.1 C419
CR420
K403
K403-1
10K R438
VSS
SIDE OF RECORD
A- TOP
B- BOTTOM
A-B SNAP SWITCH
10K R422
10K R424
BRN
FIRST NUMBER AFTER COMPONENT LETTER DESIGNATION RELATES TO THE FOLLOWING P.C. BOARDS.
R201 — MAIN POWER SUPPLY REGULATOR BOARD
3 — MECH. POWER SUPPLY BOARD
4 — MECH. CONT. LOGIC BOARD
5 — OPTO ENCODER BOARD


3 — MECH. POWER SUPPLY BOARD
4 — MECH. CONT. LOGIC BOARD
5 — OPTO ENCODER BOARD
MECHANISM CONTROLLER-LOGIC BOARD
OPTO ENCODER BOARD
IC401
MM 5799
HEX INVERTER IC404
OSCILLATOR 380 KH
IC #2 DUAL TIMER
IC #1 IC402
TRI-STATE BUFFER IC403
DISABLE STOP
STOP MAG.
SIDE OF RECORD
A-TOP
B-BOTTOM
A-B SNAP SWITCH
HOME SWITCH
DATA ENABLE RELAY
POWER OFF
TEST
LOAD MEMORY
MONEY COUNTER
TIMER OUTPUT LED #5
LOGIC COMMON
+9.6V.D.C. REG.
SCAN ENABLE
WALLBOX
OSC.
CLOCK
CLEAR LINE
DATA
CHARGER
BATTERY POWER
8.9V.D.C.
8.2V.
CLEAR
VSS

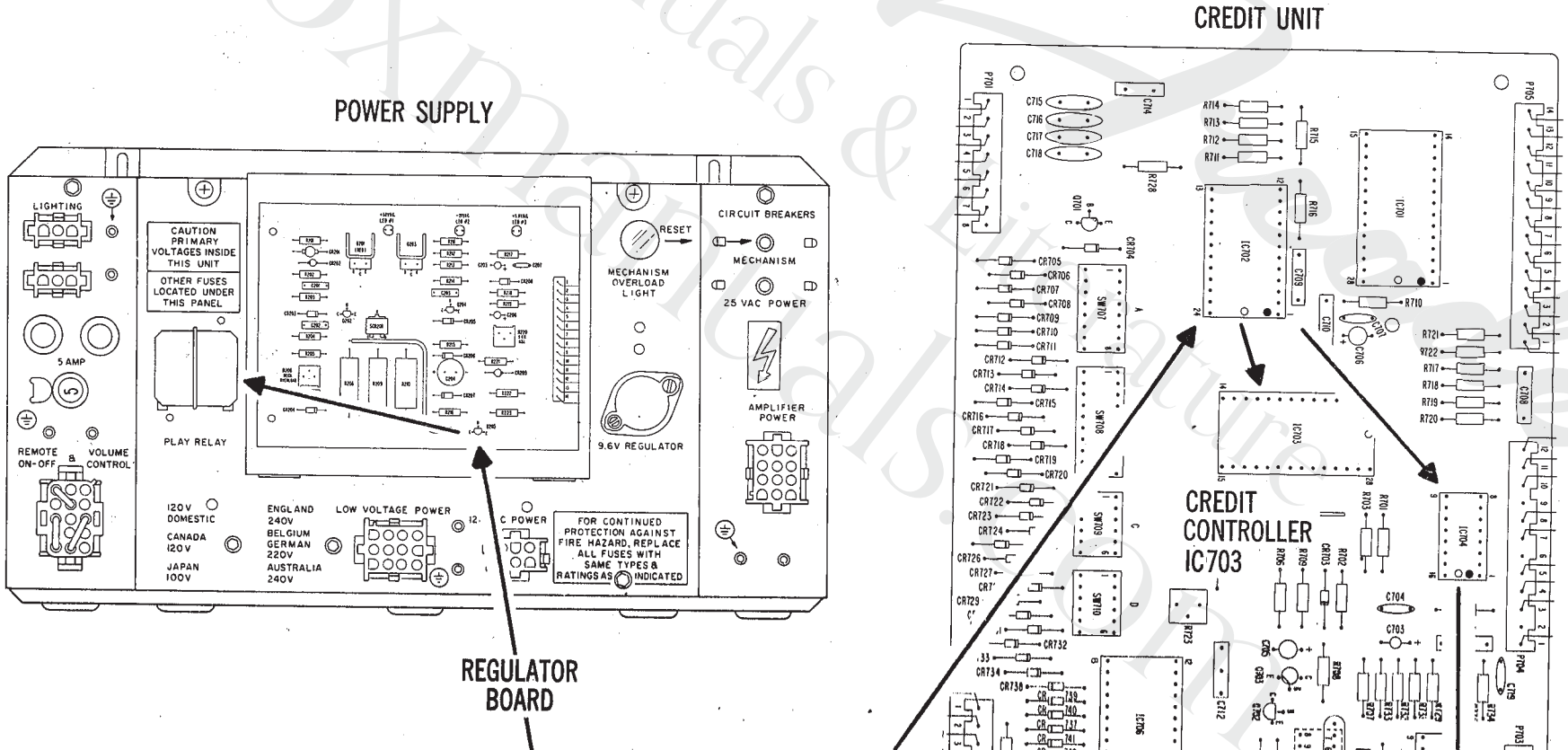
SEQUENCE 9. SELECTION STORED — 1 CREDIT REMOVED — PLAY CONTROL RELAY K1 OPERATES

When selection information is received on the "Data In" line at Pin 10 of the MP IC401, the following happens:

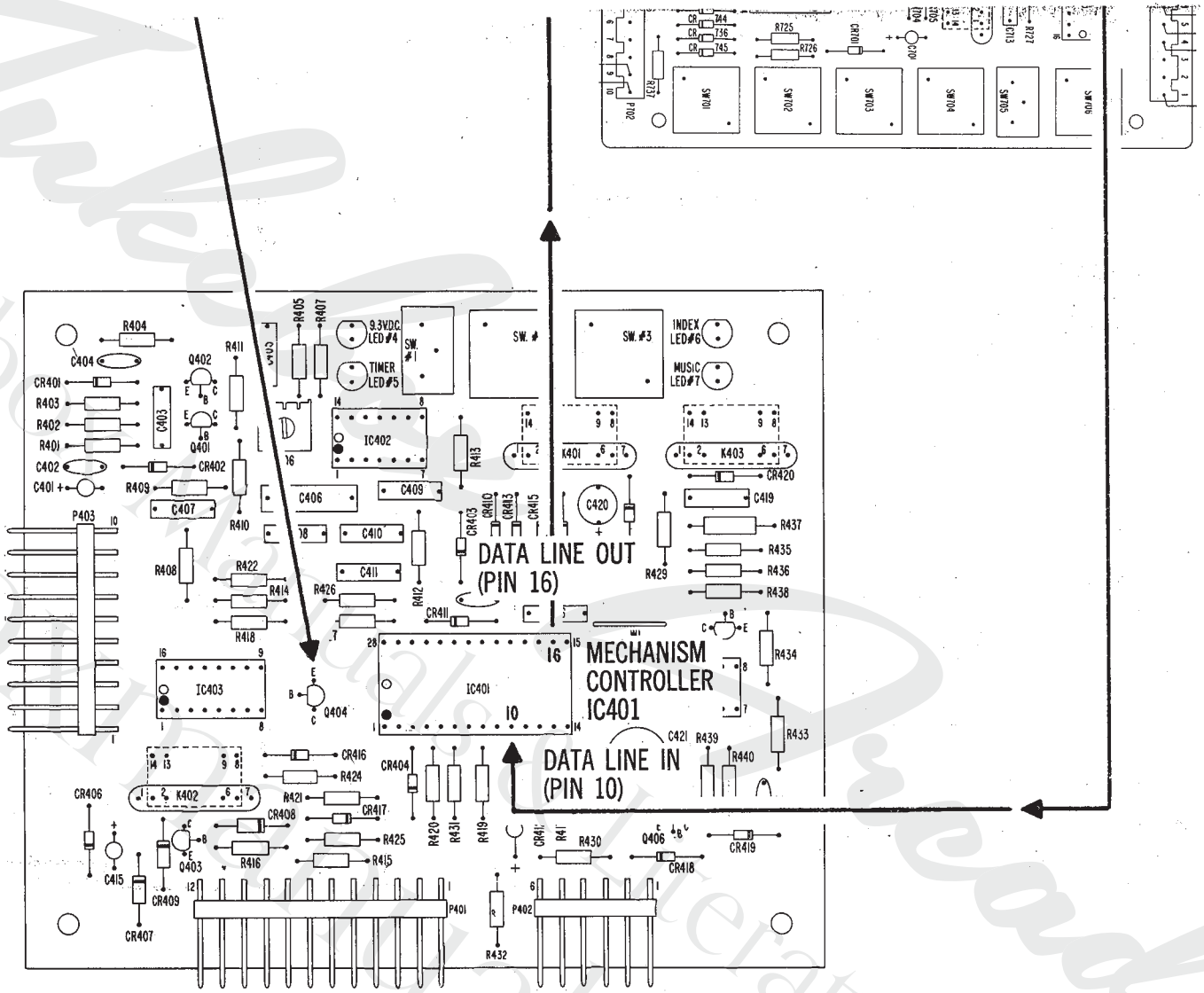
1. At a certain time interval Pin 14 output is driven low enabling the buffer sections in the line to re-activate the "Data Out" line at Pin 16. Transmission on the line informs the credit unit that the selection information has been received.

2. At the same time Pin 20 of the MP goes high causing transistors Q404 and Q205 to turn ON.

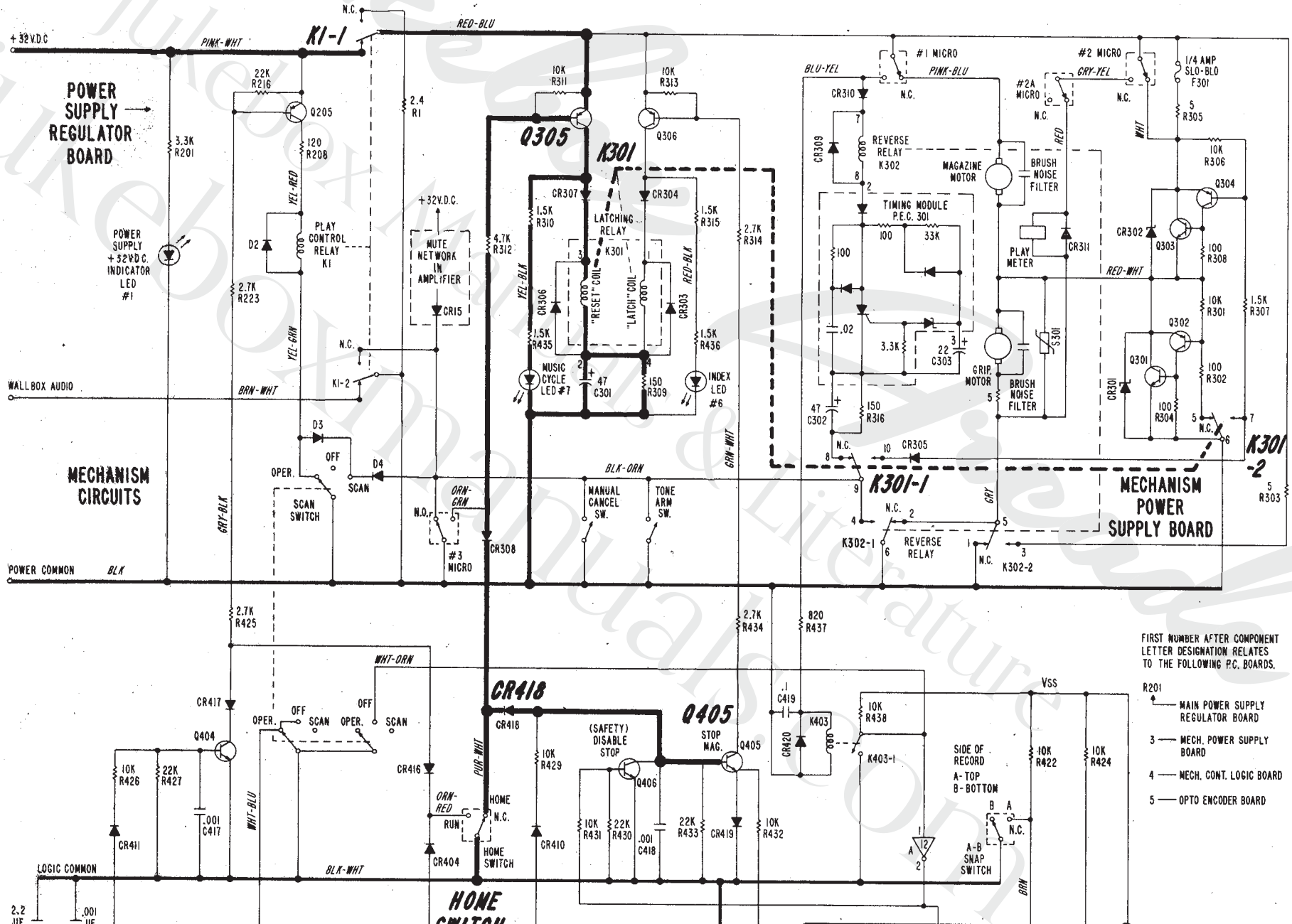
3. Play Control Relay K1 energizes and relay contacts K1-1 and K1-2 transfer.

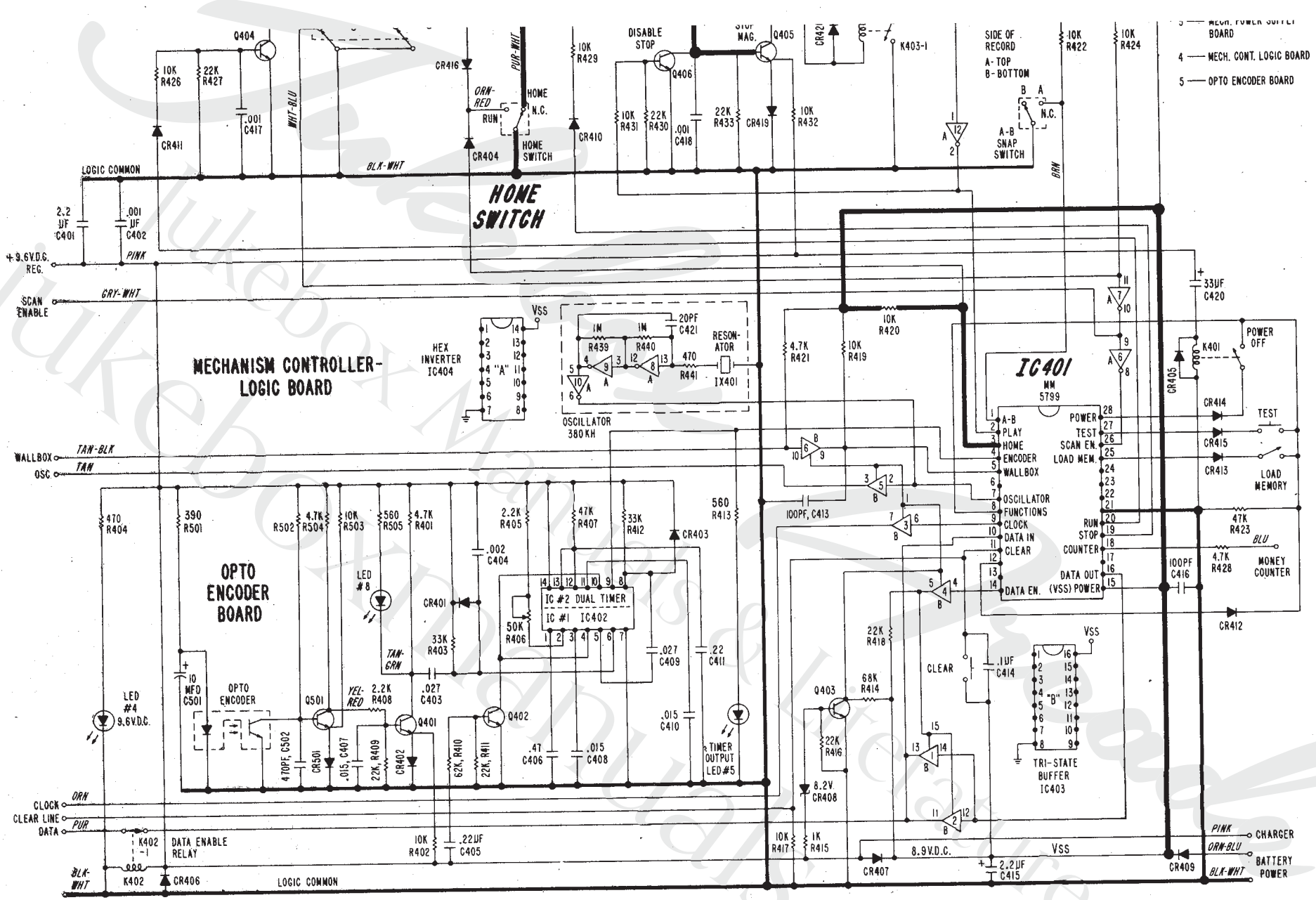


PLAY RELAY
K1
(CONTACTS
K1-1
K1-2)



LOGIC BOARD


POWER SUPPLY REGULATOR BOARD
+32V.D.C.
PINK-WHT
K1-1
N.C.
RED-BLU
22K R216
Q205
120 R208
3.3K R201
2.4 R1
YEL-RED
POWER SUPPLY +32V.D.C. INDICATOR LED #1
D2
PLAY CONTROL RELAY K1
2.7K R223
YEL-GRN
+32V.D.C.
MUTE NETWORK IN AMPLIFIER
CR15
10K R311
10K R313
Q305
Q306
K301
CR307
CR304
1.5K R310
LATCHING RELAY K301
1.5K R315
2.7K R314
4.7K R312
YEL-BLK
CR306
"RESET" COIL
"LATCH" COIL
CR303
RED-BLK
1.5K R435
1.5K R436
MUSIC CYCLE LED #7
47 C301
150 R309
INDEX LED #6
WALLBOX AUDIO
BRN-WHT
K1-2
D3
D4
OFF
OPER.
SCAN
SCAN SWITCH
MECHANISM CIRCUITS
GRY-BLK
ORN-GRN
#3 MICRO
N.O.
CR308
MANUAL CANCEL SW.
TONE ARM SW.
BLK-ORN
GRN-WHT
POWER COMMON
BLK
#1 MICRO
BLU-YEL
PINK-BLU
CR310
CR309
REVERSE RELAY K302
#2A MICRO
#2 MICRO
GRY-YEL
1/4 AMP SLO-BLO F301
5 R305
WHT
10K R306
MAGAZINE MOTOR
BRUSH NOISE FILTER
RED
TIMING MODULE P.E.C. 301
100
33K
.02
3.3K
22 C303
PLAY METER
CR311
S301
GRIP MOTOR
BRUSH NOISE FILTER
47 C302
150 R316
CR305
K301-1
K302-1
REVERSE RELAY
K302-2
GRY
CR302
Q303
Q304
100 R308
RED-WHT
10K R301
1.5K R307
Q302
Q301
CR301
100 R302
100 R304
K301-2
5 R303
MECHANISM POWER SUPPLY BOARD
2.7K R425
2.7K R434
820 R437
WHT-ORN
CR417
CR418
Q404
Q405
OFF
OPER.
SCAN
CR416
PUR-WHT
ORN-RED
RUN
HOME N.C.
HOME SWITCH
(SAFETY) DISABLE STOP
STOP MAG.
.1 C419
K403
CR420
10K R438
K403-1
VSS
SIDE OF RECORD
A- TOP
B- BOTTOM
A-B SNAP SWITCH
10K R422
10K R424
10K R426
22K R427
.001 C417
CR411
WHT-BLU
10K R429
10K R431
22K R430
.001 C418
Q406
22K R433
CR419
10K R432
CR410
CR404
LOGIC COMMON
BLK-WHT
BRN
HOME SWITCH
2.2 UF
.001 UF
FIRST NUMBER AFTER COMPONENT LETTER DESIGNATION RELATES TO THE FOLLOWING P.C. BOARDS.
R201 — MAIN POWER SUPPLY REGULATOR BOARD
3 — MECH. POWER SUPPLY BOARD
4 — MECH. CONT. LOGIC BOARD
5 — OPTO ENCODER BOARD


MECHANISM CONTROLLER-
LOGIC BOARD
OPTO
ENCODER
BOARD
HOME
SWITCH
IC401
MM
5799
HEX
INVERTER
IC404
OSCILLATOR
380 KH
IC #2 DUAL TIMER
IC #1 IC402
TRI-STATE
BUFFER
IC403
DISABLE
STOP
MAG.
SIDE OF
RECORD
A- TOP
B- BOTTOM
A-B
SNAP
SWITCH
DATA ENABLE
RELAY
TIMER
OUTPUT
LED#5
LED
#4
9.6V.D.C.
LED
#8
OPTO
ENCODER
POWER
OFF
TEST
LOAD
MEMORY
MONEY
COUNTER
CLEAR
LOGIC COMMON
WALLBOX
OSC
CLOCK
CLEAR LINE
DATA
SCAN
ENABLE
+9.6V.D.C.
REG.
CHARGER
BATTERY
POWER
8.9V.D.C.
8.2V
CR408
3 — MECH. POWER SUPPLY BOARD
4 — MECH. CONT. LOGIC BOARD
5 — OPTO ENCODER BOARD

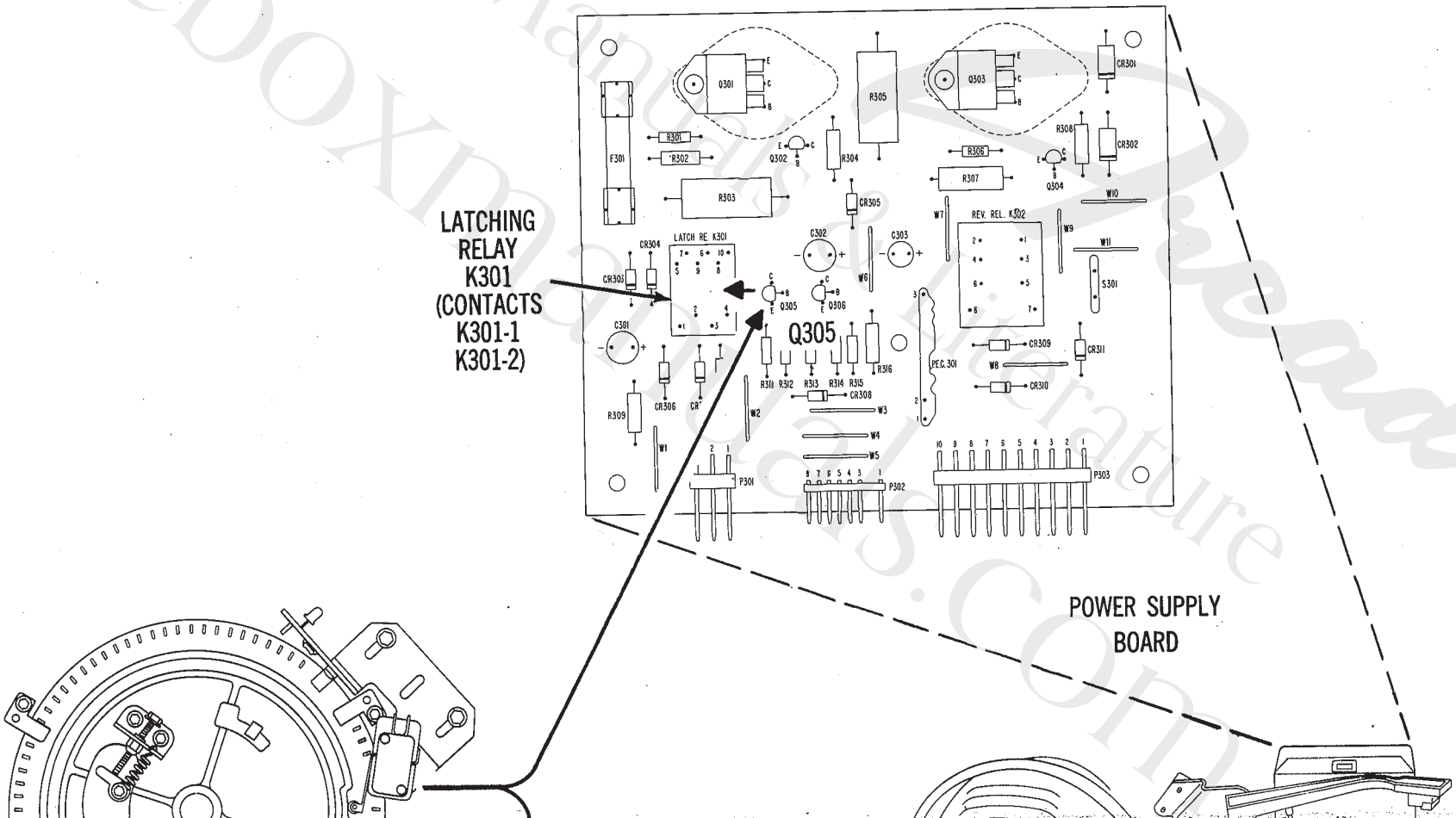
SEQUENCE 10. MECHANISM CIRCUITS RESET TO STANDBY

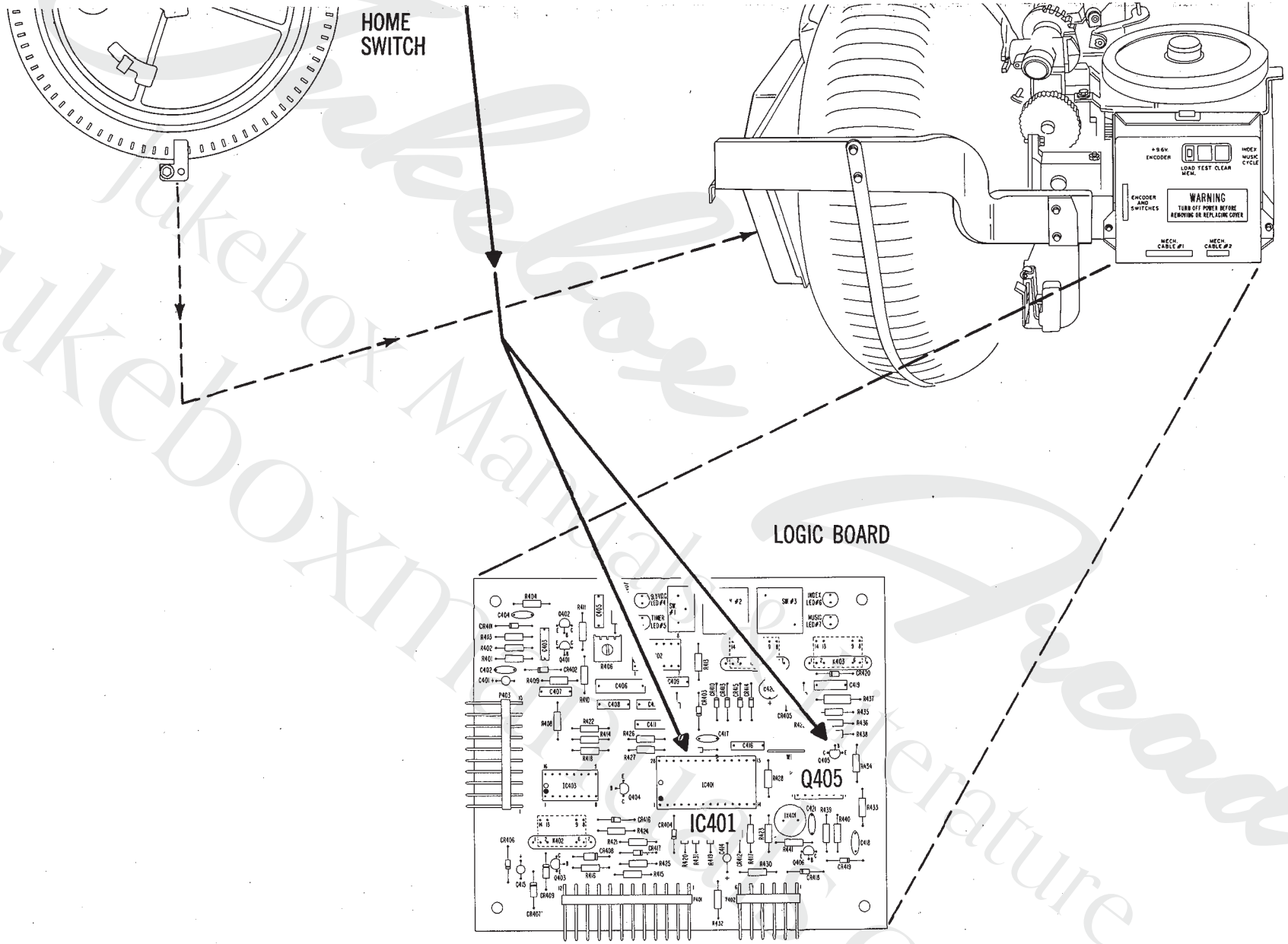
1. Standby or home position of the record magazine is when the Home Switch Lever rests in the cam dip allowing the Home Switch to be N.C.

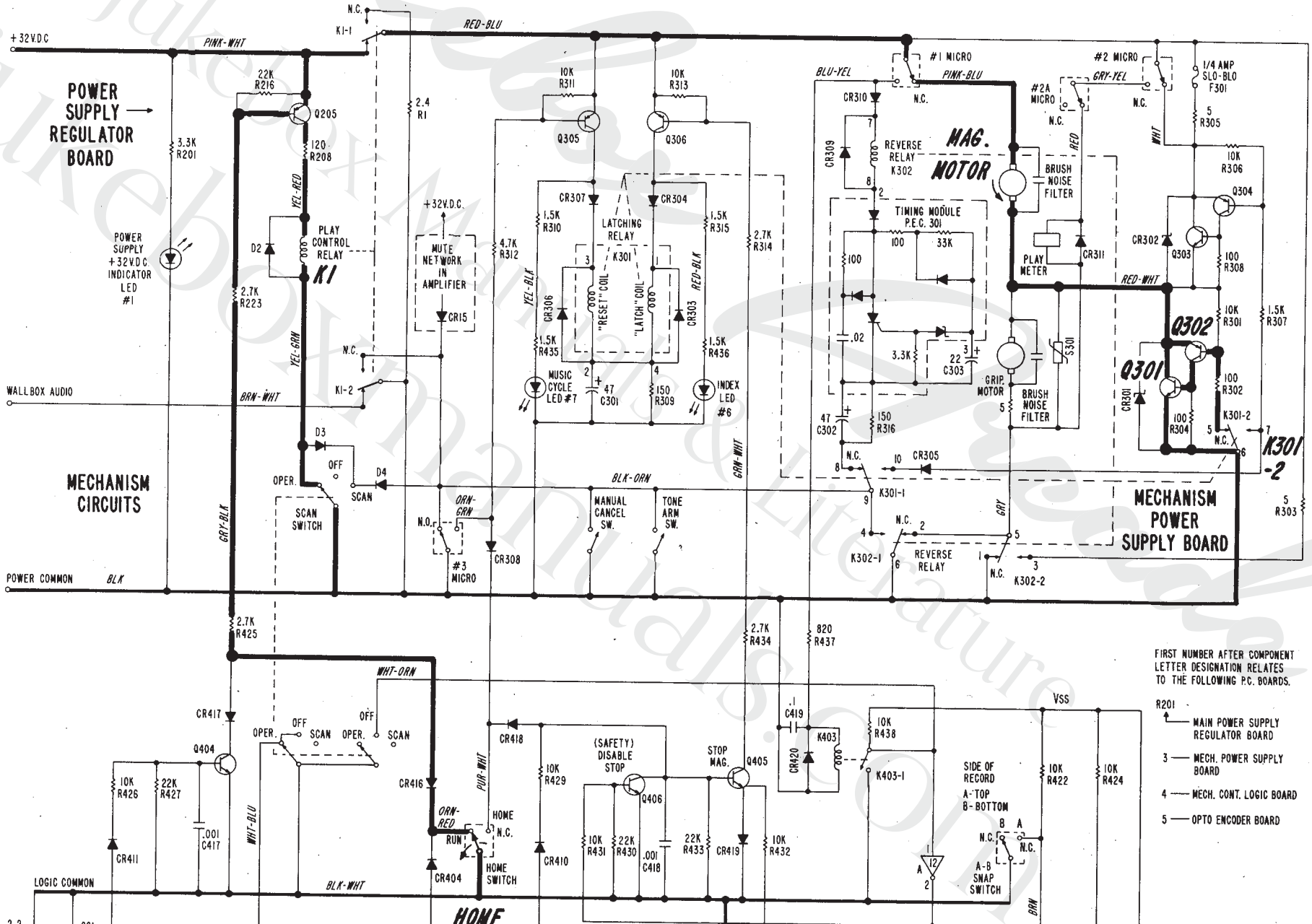
2. As a result, transfer of the Play Relay Contact K1-1 turns on Q305 causing the K301 Latching Relay "Reset" coil to energize. This circuit assures that the latching relay contacts K301-1 and K301-2 are N.C. at this point of the mechanism cycle. (A condition required by the mechanism to avoid Gripper Motor operation)

3. Simultaneously, a low signal at CR418 occurs, thereby holding Q405 OFF. This prevents any signals from operating the latching relay "Latch" coil which in turn prevents gripper motor operation at this time.

4. The N.O. side of the Home Switch allows the signal on Pin 3 of the Mech Controller, IC401, to remain high. This holds the encoder counter in the IC401 at zero.



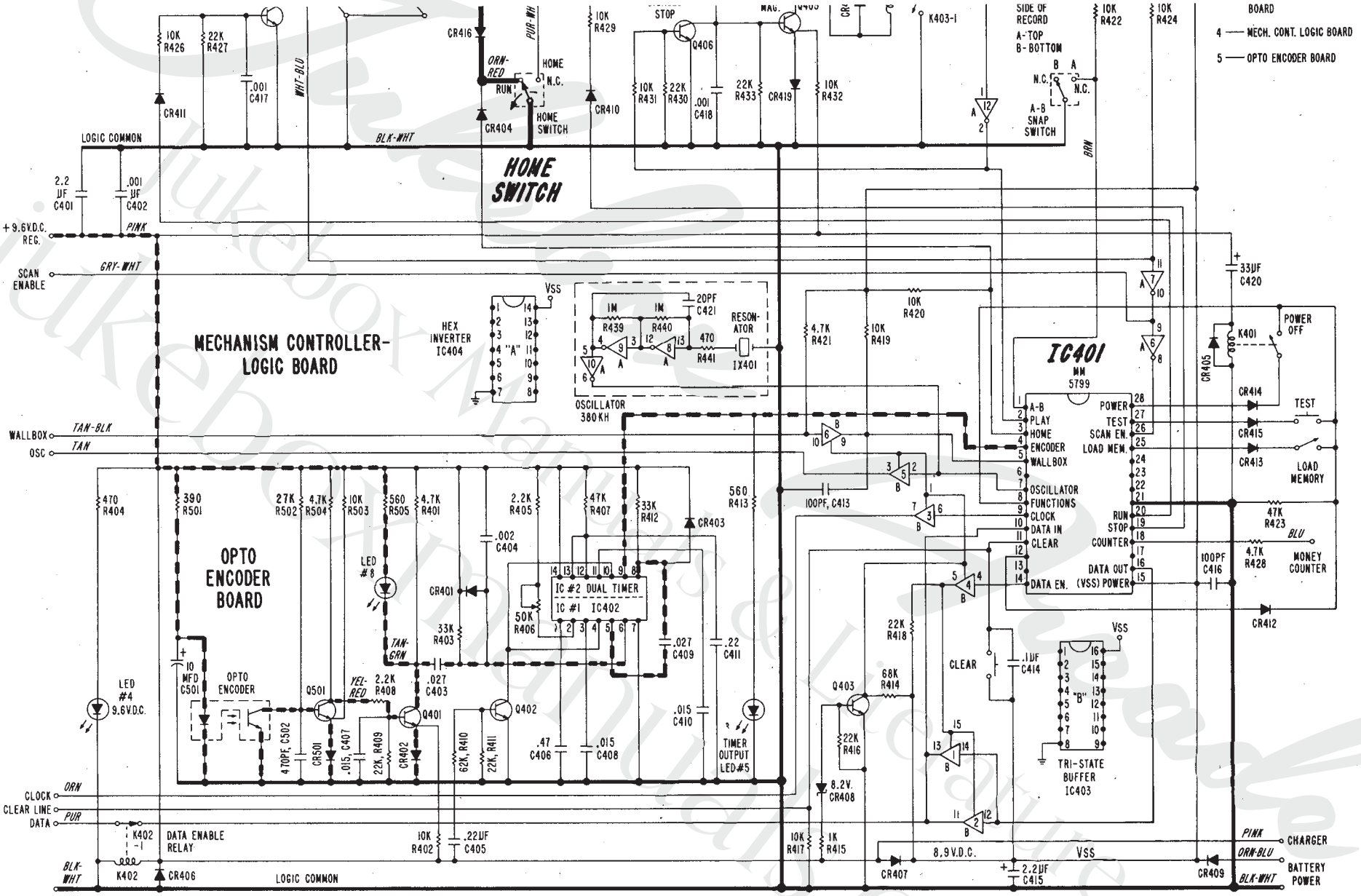




FIRST NUMBER AFTER COMPONENT LETTER DESIGNATION RELATES TO THE FOLLOWING P.C. BOARDS.

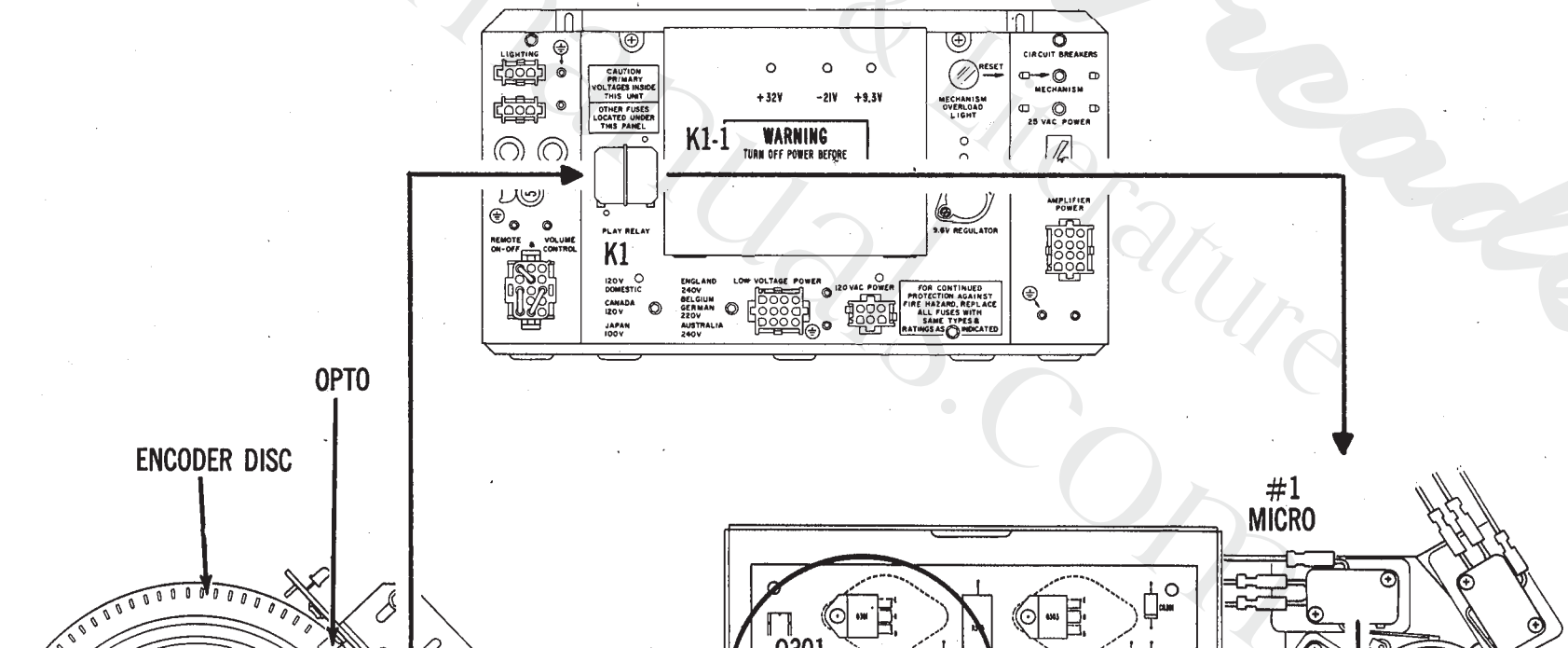
R201

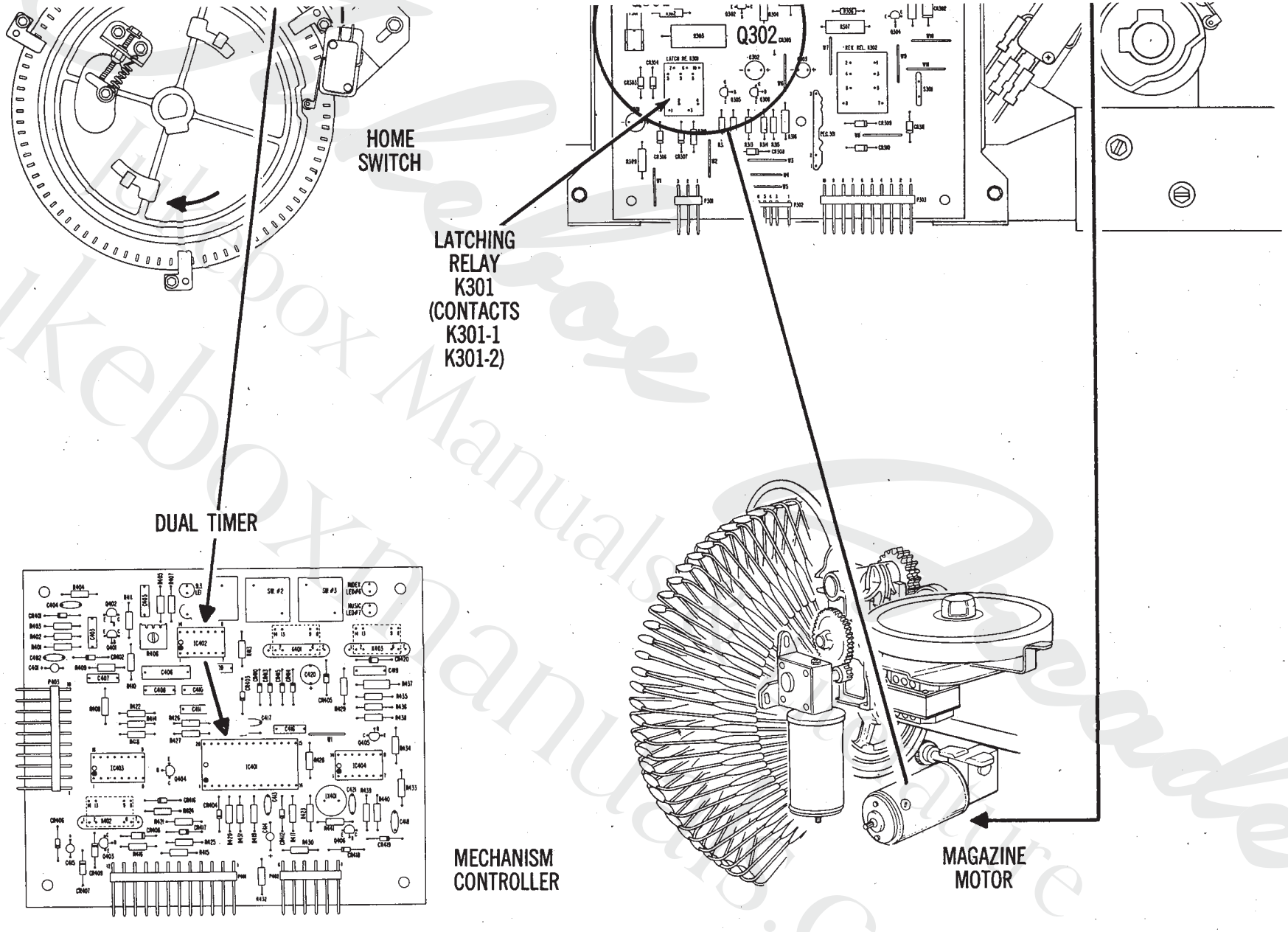
- 3 — MECH. POWER SUPPLY BOARD
- 4 — MECH. CONT. LOGIC BOARD
- 5 — OPTO ENCODER BOARD

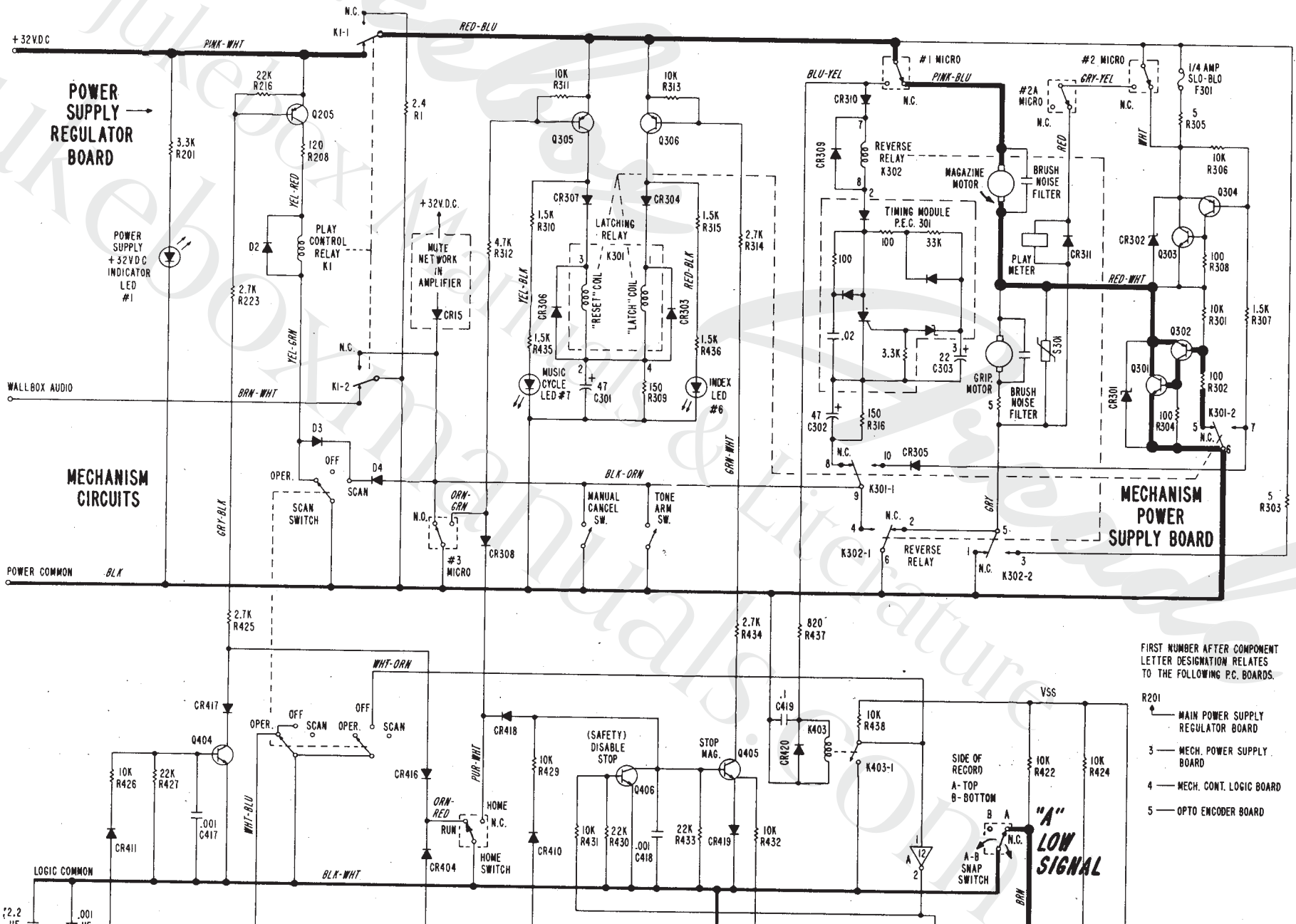

MECHANISM CONTROLLER-
LOGIC BOARD
OPTO
ENCODER
BOARD
HOME
SWITCH
IC401
MM
5799
HEX
INVERTER
IC404
OSCILLATOR
380KH
IC #2 DUAL TIMER
IC #1 IC402
TRI-STATE
BUFFER
IC403
LOGIC COMMON
+9.6V.D.C.
REG.
SCAN
ENABLE
WALLBOX
OSC
CLOCK
CLEAR LINE
DATA
DATA ENABLE
RELAY
K402
CR406
LED
#4
9.6V.D.C.
LED
#8
TIMER
OUTPUT
LED#5
SIDE OF
RECORD
A-TOP
B-BOTTOM
A-B
SNAP
SWITCH
POWER
OFF
K401
TEST
LOAD
MEMORY
MONEY
COUNTER
CLEAR
8.9V.D.C.
CHARGER
BATTERY
POWER
BOARD
4 — MECH. CONT. LOGIC BOARD
5 — OPTO ENCODER BOARD

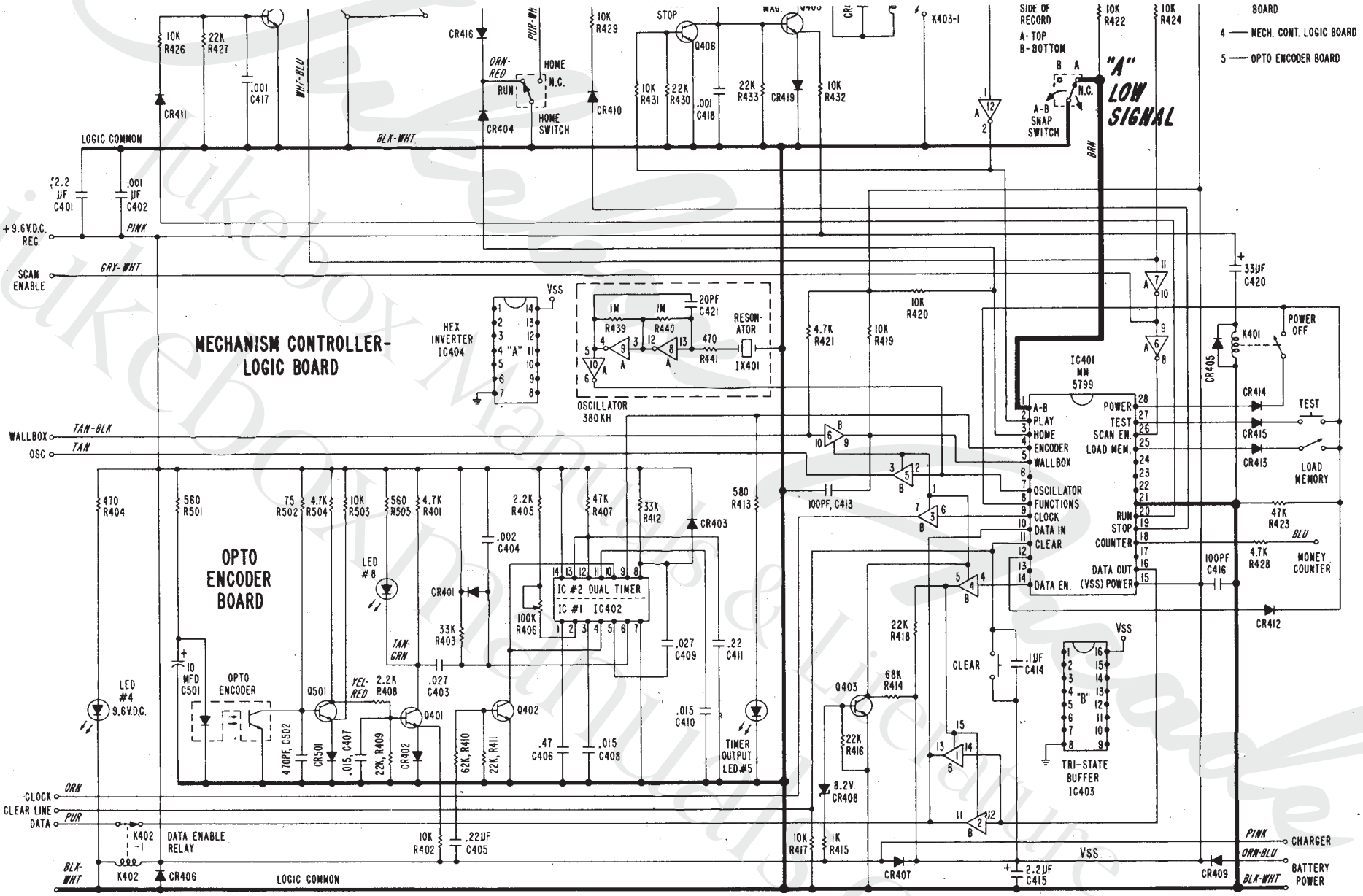
SEQUENCE 11. MAGAZINE MOTOR OPERATES — ENCODER DISC ROTATES — OPTO TRANSMITS PULSES

1. The N.C. position of the latching relay contact K301-2 applies a low signal to the base of Q302 causing Q302 and Q301 to conduct thus causing the Magazine Motor to energize.
2. Magazine Motor runs and rotates the Record Magazine together with the Home Switch Cam and Encoder Disc.
3. Short rotation of the Home Switch Cam transfers the Home Switch to provide a holding circuit to the Play Control Relay K1.
4. Encoder Disc is slotted and corresponds to the 80 record positions. As the slots pass the "opto" the pulse count is transmitted through the Dual Timer to Pin 4 of the MP, IC401. The purpose of the Dual Timer is (A), to allow a fine adjustment of record indexing via the trim pot R406, and (B), to provide properly shaped pulses to the MP encoder input.





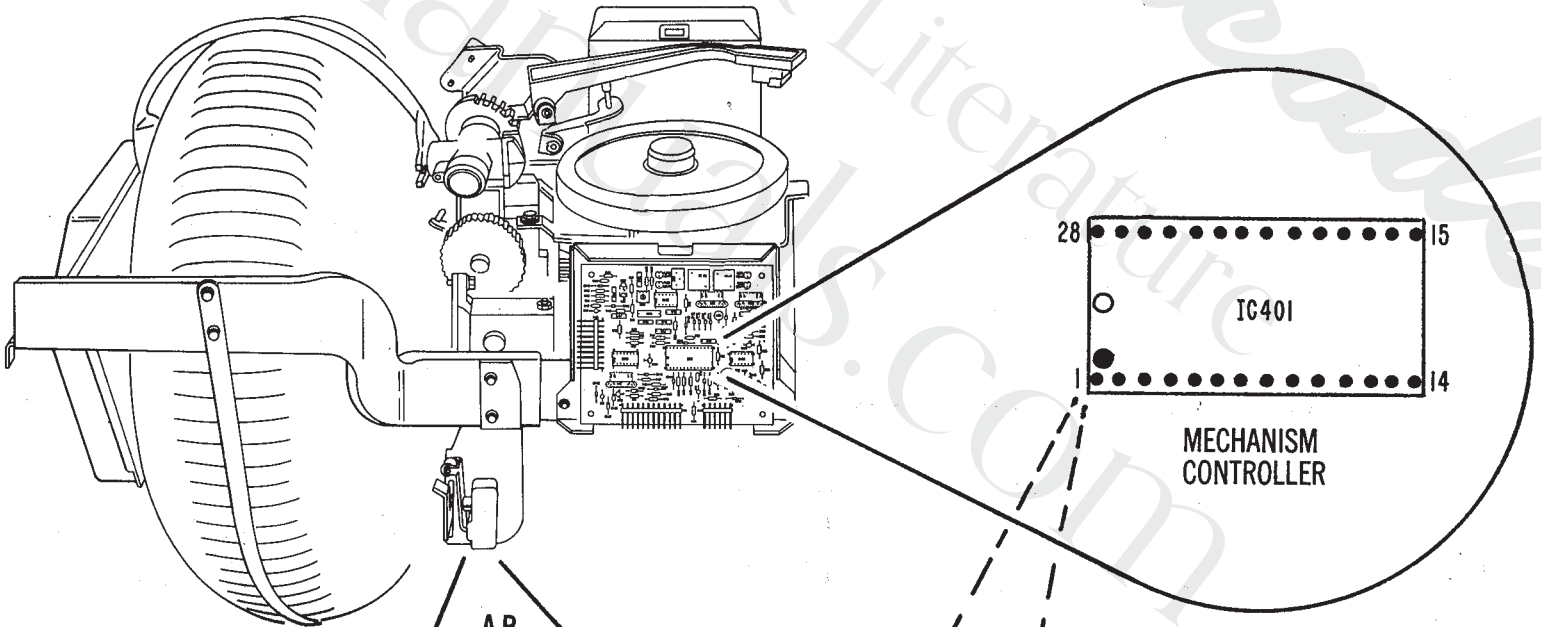

POWER SUPPLY REGULATOR BOARD
+32VDC
PINK-WHT
N.C.
K1-1
RED-BLU
22K R216
Q205
120 R208
2.4 R1
3.3K R201
YEL-RED
D2
PLAY CONTROL RELAY K1
POWER SUPPLY +32VDC INDICATOR LED #1
2.7K R223
YEL-GRN
+32V.D.C.
MUTE NETWORK IN AMPLIFIER
CR15
10K R311
10K R313
Q305
Q306
4.7K R312
CR307
CR304
1.5K R310
1.5K R315
2.7K R314
LATCHING RELAY
K301
"RESET" COIL
"LATCH" COIL
YEL-BLK
RED-BLK
CR306
CR303
1.5K R435
1.5K R436
MUSIC CYCLE LED #7
47 C301
150 R309
INDEX LED #6
WALLBOX AUDIO
BRN-WHT
K1-2
D3
D4
OFF
OPER.
SCAN
SCAN SWITCH
MECHANISM CIRCUITS
GRY-BLK
ORN-GRN
N.O.
#3 MICRO
CR308
BLK-ORN
MANUAL CANCEL SW.
TONE ARM SW.
GRN-WHT
POWER COMMON
BLK
#1 MICRO
BLU-YEL
PINK-BLU
CR310
N.C.
REVERSE RELAY K302
CR309
MAGAZINE MOTOR
BRUSH NOISE FILTER
#2A MICRO
#2 MICRO
GRY-YEL
1/4 AMP SLO-BLO F301
5 R305
RED
WHT
10K R306
Q304
CR302
Q303
100 R308
RED-WHT
TIMING MODULE P.E.C. 301
100
33K
100
.02
3.3K
22 C303
PLAY METER
CR311
S301
GRIP MOTOR
BRUSH NOISE FILTER
47 C302
150 R316
10K R301
1.5K R307
Q302
Q301
CR301
100 R302
100 R304
K301-2
5 R303
K301-1
CR305
K302-1
REVERSE RELAY
K302-2
MECHANISM POWER SUPPLY BOARD
2.7K R425
2.7K R434
820 R437
WHT-ORN
CR417
Q404
OPER.
OFF
SCAN
CR416
CR418
PUR-WHT
ORN-RED
RUN
HOME
N.C.
HOME SWITCH
10K R429
(SAFETY) DISABLE STOP
Q406
STOP MAG.
Q405
.1 C419
CR420
K403
10K R438
K403-1
SIDE OF RECORD
A-TOP
B-BOTTOM
A-B SNAP SWITCH
VSS
10K R422
10K R424
"A" LOW SIGNAL
10K R426
22K R427
.001 C417
CR411
WHT-BLU
.001 C418
10K R431
22K R430
22K R433
CR419
10K R432
CR410
CR404
LOGIC COMMON
BLK-WHT
BRN
FIRST NUMBER AFTER COMPONENT LETTER DESIGNATION RELATES TO THE FOLLOWING P.C. BOARDS.
R201 — MAIN POWER SUPPLY REGULATOR BOARD
3 — MECH. POWER SUPPLY BOARD
4 — MECH. CONT. LOGIC BOARD
5 — OPTO ENCODER BOARD

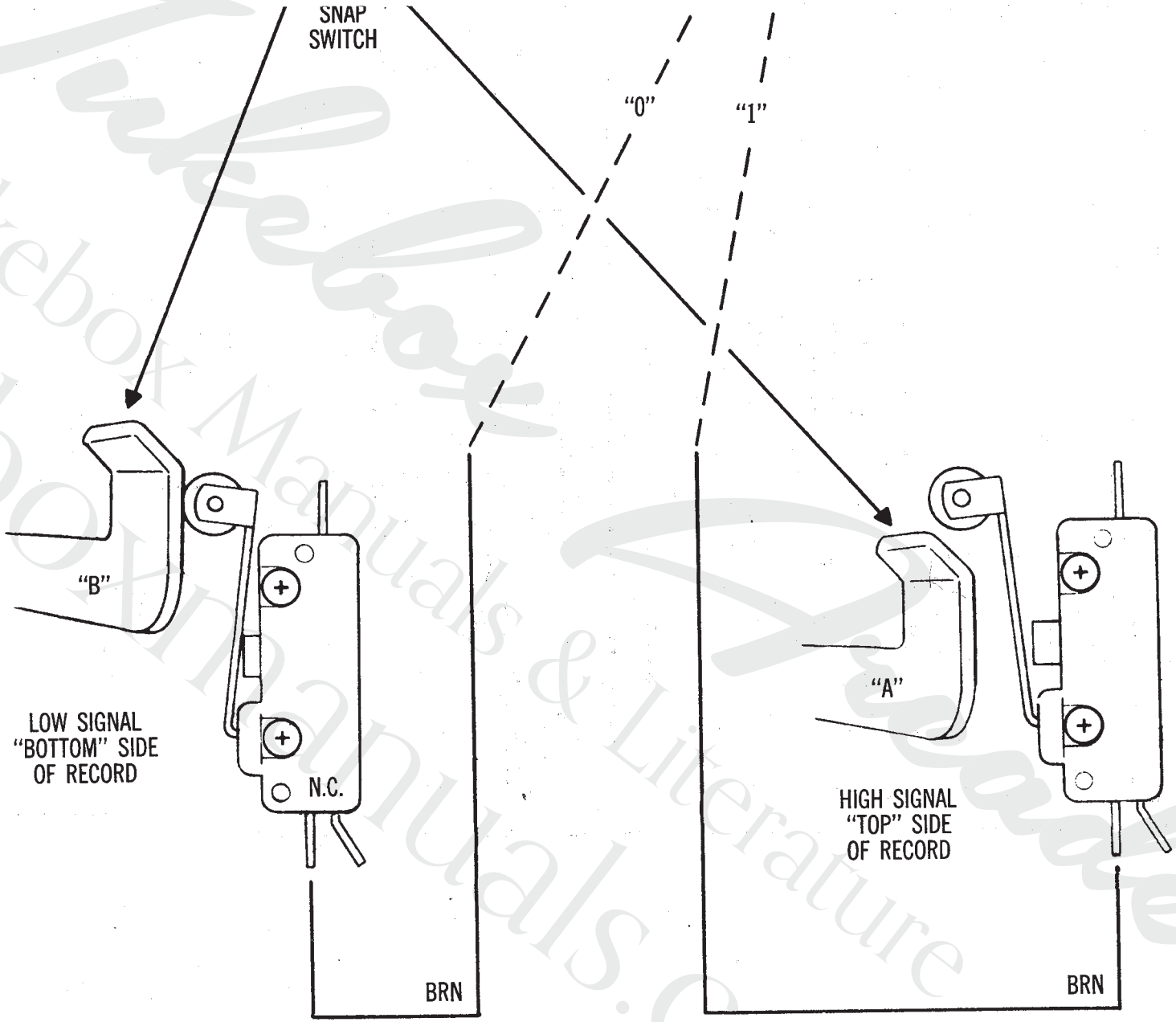

MECHANISM CONTROLLER-
LOGIC BOARD
OPTO
ENCODER
BOARD
HEX
INVERTER
IC404
OSCILLATOR
380KH
IC #2 DUAL TIMER
IC #1 IC402
IC401
MM
5799
TRI-STATE
BUFFER
IC403
"A"
LOW
SIGNAL
"B"
SIDE OF
RECORD
A- TOP
B- BOTTOM
A-B
SNAP
SWITCH
HOME
SWITCH
N.C.
RUN
STOP
CLEAR
LOGIC COMMON
+9.6V.D.C.
REG.
SCAN
ENABLE
WALLBOX
OSC
CLOCK
CLEAR LINE
DATA
DATA ENABLE
RELAY
K402
K403-1
K401
POWER
OFF
TEST
LOAD
MEMORY
MONEY
COUNTER
CHARGER
BATTERY
POWER
VSS
LED
#4
9.6V.D.C.
LED
#8
TIMER
OUTPUT
LED #5
OPTO
ENCODER
8.2V.
CR408
RESON-
ATOR
IX401
A-B
PLAY
HOME
ENCODER
WALLBOX
OSCILLATOR
FUNCTIONS
CLOCK
DATA IN
CLEAR
DATA EN.
POWER
TEST
SCAN EN.
LOAD MEM.
RUN
STOP
COUNTER
DATA OUT
(VSS) POWER
BOARD
4 — MECH. CONT. LOGIC BOARD
5 — OPTO ENCODER BOARD

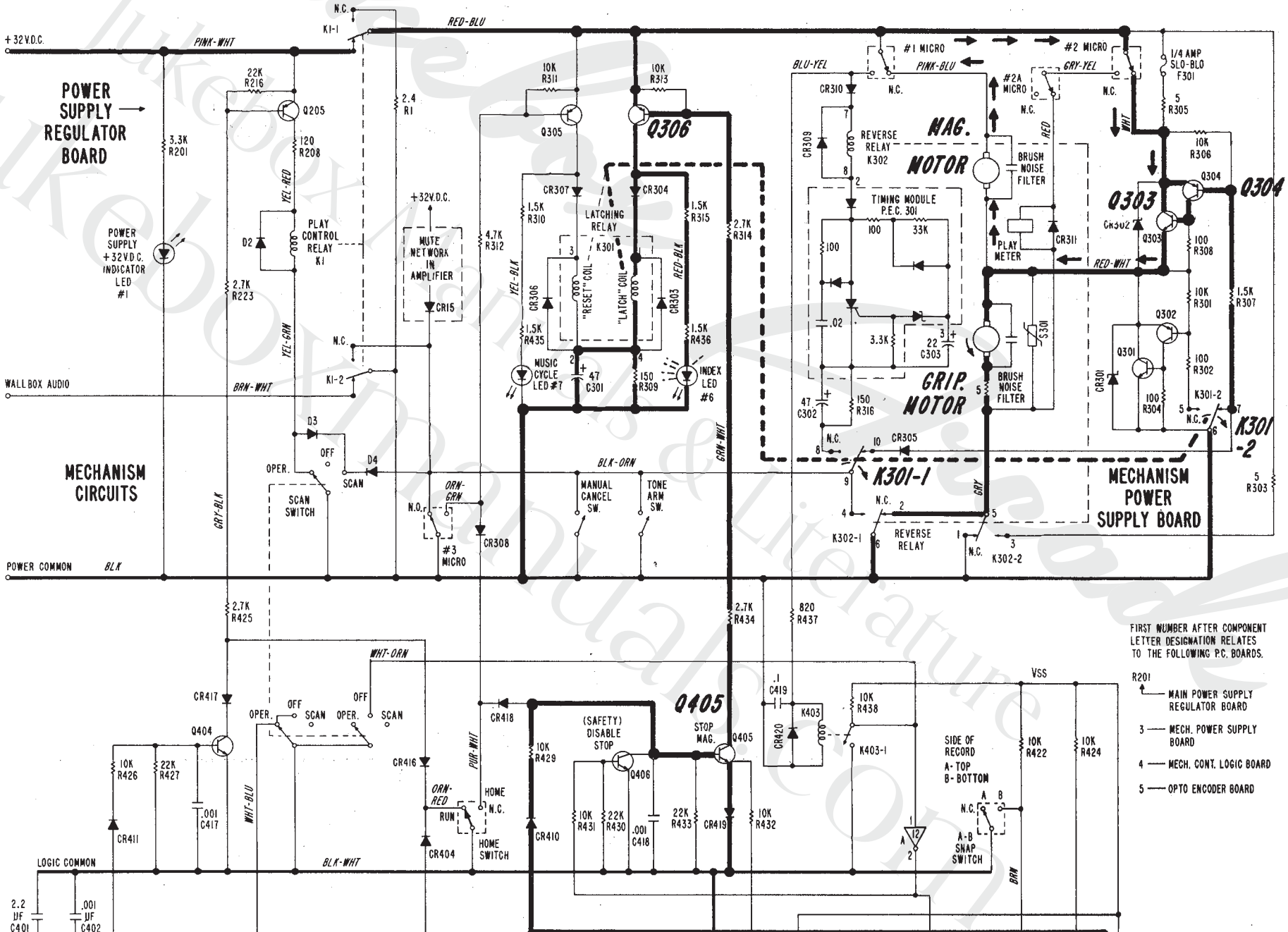
SEQUENCE 12. A-B SNAP SWITCH OPERATES

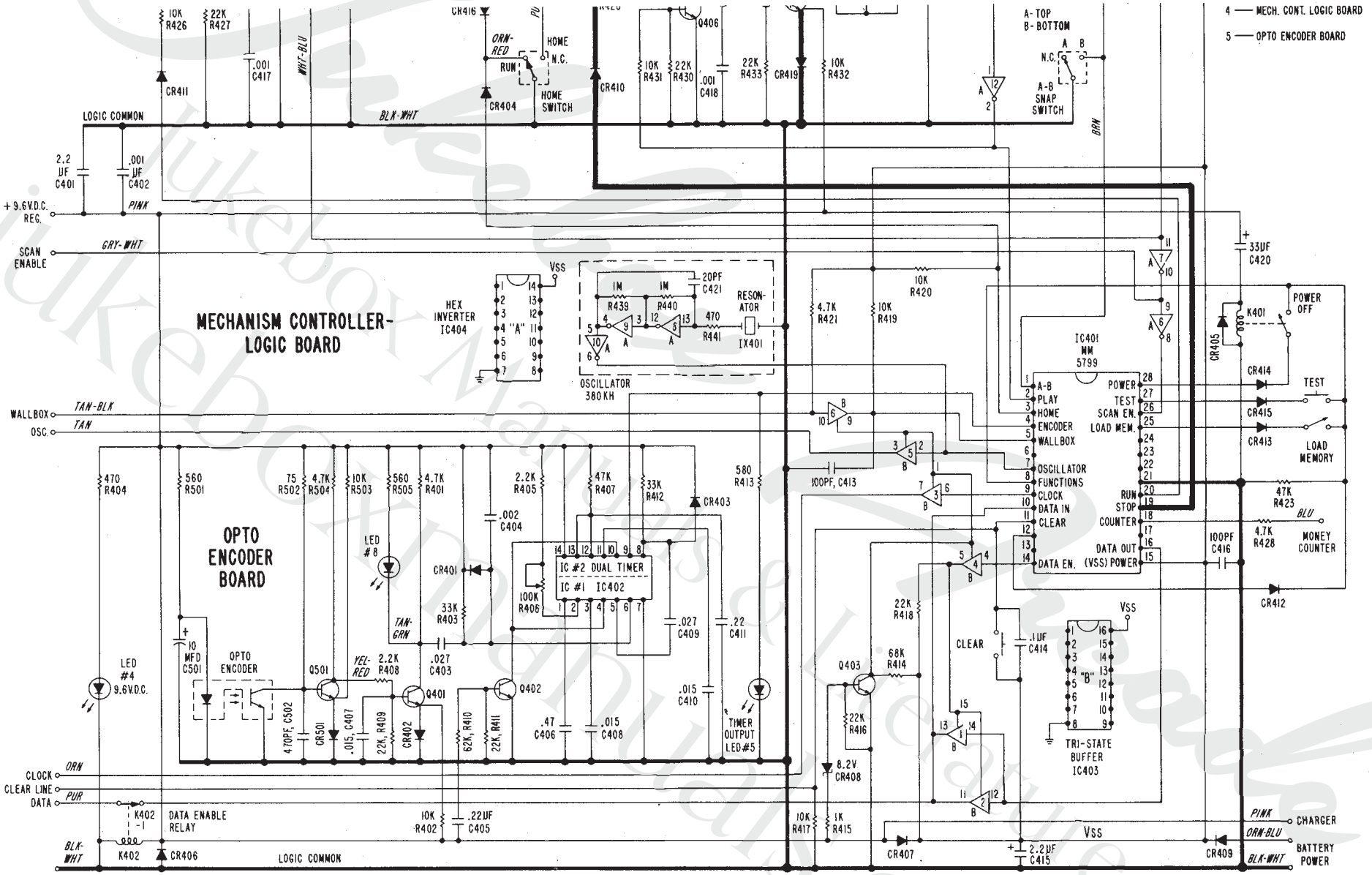
1. Physically the selected record must be placed on the turntable with the assurance that the correct side will come up.

2. Mechanically, on every complete rotation of the Record Magazine, the A-B Snap Switch position changes to "A-Top", or "B-Bottom" record side circuits. This changes the signal level on Pin 1 to "low" or "high" respectively.






POWER SUPPLY REGULATOR BOARD
MECHANISM CIRCUITS
MECHANISM POWER SUPPLY BOARD
+32V.D.C.
PINK-WHT
RED-BLU
WALL BOX AUDIO
BRN-WHT
POWER COMMON
BLK
LOGIC COMMON
BLK-WHT
Q205
Q305
Q306
Q303
Q304
Q404
Q405
Q406
Q302
Q301
K1-1
K1-2
K301
K301-1
K301-2
K302-1
K302-2
K403
K403-1
REVERSE RELAY K302
PLAY CONTROL RELAY K1
LATCHING RELAY
"RESET" COIL
"LATCH" COIL
TIMING MODULE P.E.C. 301
MAG. MOTOR
GRIP. MOTOR
BRUSH NOISE FILTER
PLAY METER
MUTE NETWORK IN AMPLIFIER
POWER SUPPLY +32V.D.C. INDICATOR LED #1
MUSIC CYCLE LED #7
INDEX LED #6
SCAN SWITCH
MANUAL CANCEL SW.
TONE ARM SW.
#1 MICRO
#2 MICRO
#2A MICRO
#3 MICRO
HOME SWITCH
A-B SNAP SWITCH
SIDE OF RECORD A- TOP B- BOTTOM
(SAFETY) DISABLE STOP
STOP MAG.
1/4 AMP SLO-BLO F301
VSS
FIRST NUMBER AFTER COMPONENT LETTER DESIGNATION RELATES TO THE FOLLOWING P.C. BOARDS.
R201 — MAIN POWER SUPPLY REGULATOR BOARD
3 — MECH. POWER SUPPLY BOARD
4 — MECH. CONT. LOGIC BOARD
5 — OPTO ENCODER BOARD

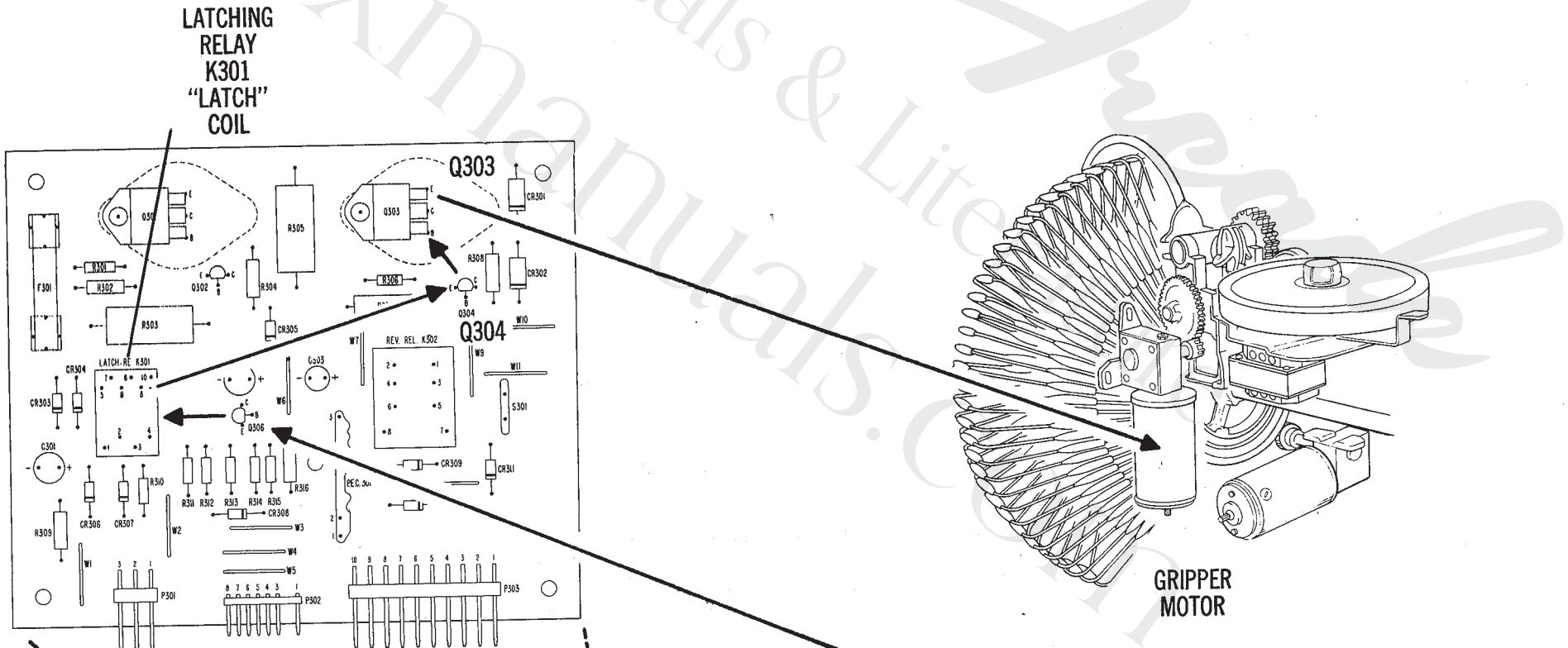

MECHANISM CONTROLLER-
LOGIC BOARD
OPTO
ENCODER
BOARD
4 — MECH. CONT. LOGIC BOARD
5 — OPTO ENCODER BOARD
A- TOP
B- BOTTOM
A-B
SNAP
SWITCH
HOME
SWITCH
HEX
INVERTER
IC404
OSCILLATOR
380 KH
RESON-
ATOR
IX401
IC401
MM
5799
IC #2 DUAL TIMER
IC #1 IC402
OPTO
ENCODER
LED
#4
9.6V.D.C.
LED
#8
TRI-STATE
BUFFER
IC403
"A"
"B"
DATA ENABLE
RELAY
K402
POWER
OFF
TEST
LOAD
MEMORY
MONEY
COUNTER
CLEAR
RUN
STOP
COUNTER
SCAN EN.
LOAD MEM.
DATA EN.
(VSS) POWER
CHARGER
BATTERY
POWER
LOGIC COMMON
+9.6V.D.C.
REG.
SCAN
ENABLE
WALLBOX
OSC.
CLOCK
CLEAR LINE
DATA
Vss

SEQUENCE 13. SELECTION LOCATED — MAGAZINE MOTOR STOPS — GRIPPER MOTOR RUNS

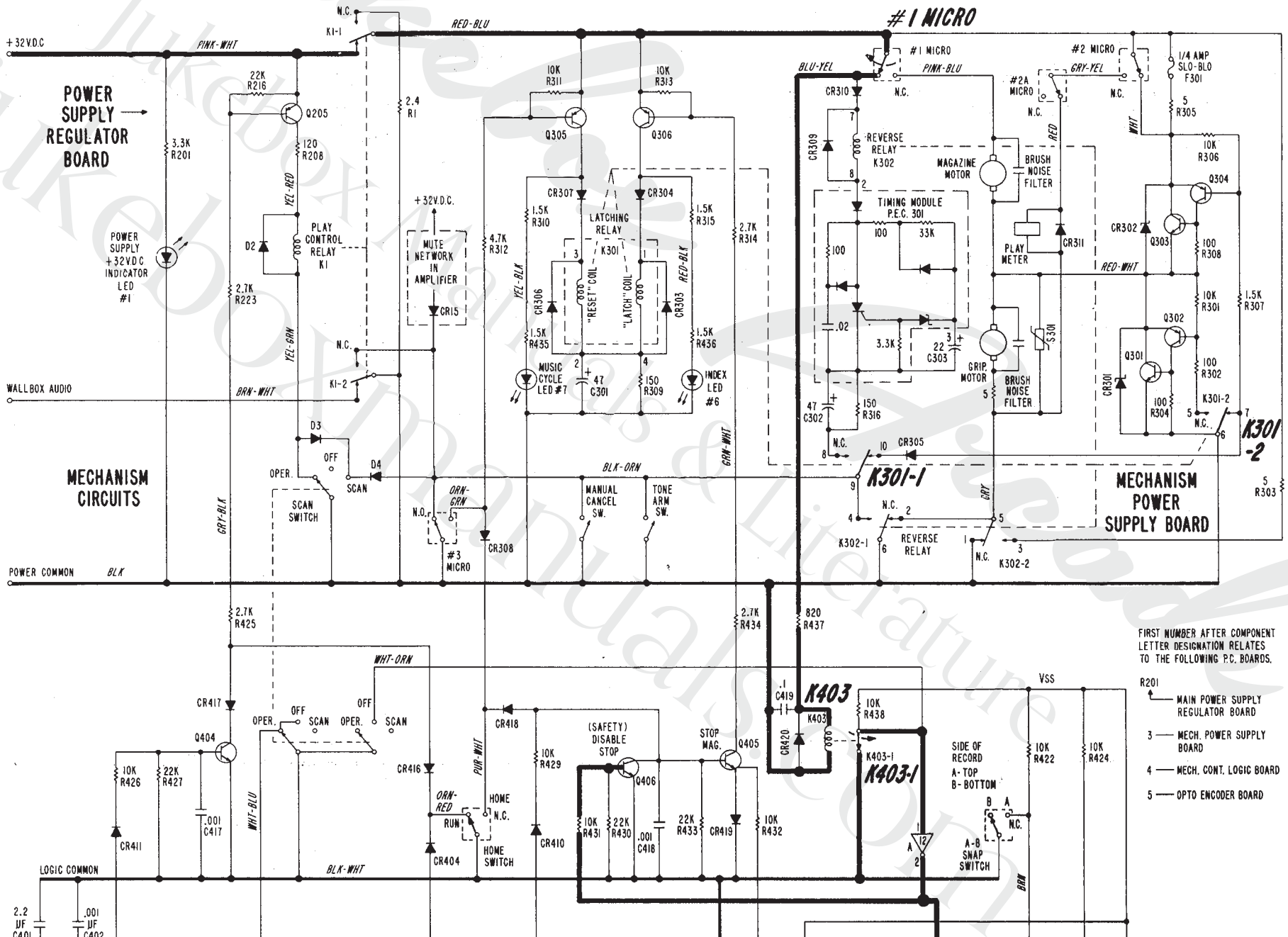
1. When the electrical and physical conditions are met and selection located, the output from Pin 19 goes high and applied to the base of Q405.

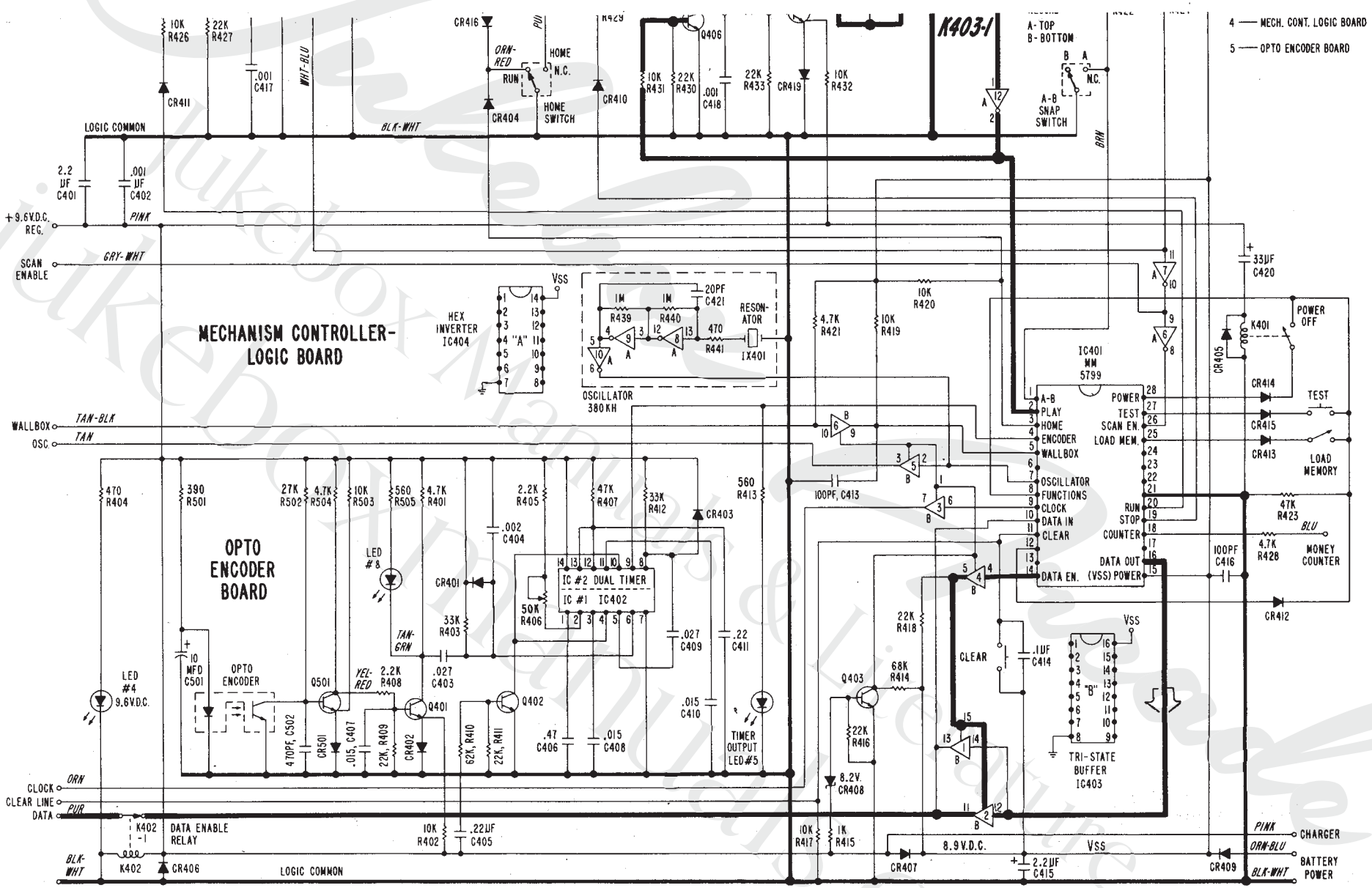
2. Q405 turns on and drives Q306 causing the Latching Relay K301 "Latch" coil to energize, thereby causing relay contacts K301-1 and K301-2 to transfer.

3. K301-2 turns on Q304 and Q303 causing a dynamic brake to be applied to the Magazine Motor, this stops the rotation of the record magazine and starts the Gripper Motor.



MECHANISM POWER BOARD
LOGIC BOARD
Q405
IC404
R440
R439
C421
R429
CR405
C420
K401
W1
R428
Q406
R441
IX401
R423
R430
C416
IC401
R417
CR412
C413
C414
R419
R431
R420
CR404
R416
CR414
CR415
CR413
CR410
CR403
R415
J409
R412
CR411
C410
C411
19
27


#1 MICRO
POWER SUPPLY REGULATOR BOARD
+32V.D.C
PINK-WHT
RED-BLU
22K R216
Q205
120 R208
3.3K R201
2.4 R1
POWER SUPPLY +32V.D.C INDICATOR LED #1
D2
PLAY CONTROL RELAY K1
YEL-RED
2.7K R223
YEL-GRN
N.C.
K1-1
K1-2
WALLBOX AUDIO
BRN-WHT
+32V.D.C.
MUTE NETWORK IN AMPLIFIER
CR15
10K R311
10K R313
Q305
Q306
CR307
CR304
1.5K R310
1.5K R315
LATCHING RELAY K301
"RESET" COIL
"LATCH" COIL
CR306
CR303
1.5K R435
1.5K R436
4.7K R312
2.7K R314
YEL-BLK
RED-BLK
MUSIC CYCLE LED #7
INDEX LED #6
47 C301
150 R309
D3
D4
OFF
OPER.
SCAN
SCAN SWITCH
MECHANISM CIRCUITS
GRY-BLK
ORN-GRN
#3 MICRO
CR308
MANUAL CANCEL SW.
TONE ARM SW.
GRN-WHT
BLK-ORN
POWER COMMON
BLK
BLU-YEL
PINK-BLU
#1 MICRO
#2 MICRO
GRY-YEL
#2A MICRO
CR310
CR309
REVERSE RELAY K302
MAGAZINE MOTOR
BRUSH NOISE FILTER
TIMING MODULE P.E.C. 301
100
33K
.02
3.3K
22 C303
PLAY METER
CR311
GRIP MOTOR
S301
47 C302
150 R316
CR305
K301-1
K302-1
REVERSE RELAY
K302-2
MECHANISM POWER SUPPLY BOARD
1/4 AMP SLO-BLO F301
5 R305
10K R306
Q304
CR302
Q303
100 R308
10K R301
1.5K R307
Q302
Q301
CR301
100 R302
100 R304
K301-2
K301-2
5 R303
RED-WHT
WHT
RED
2.7K R425
2.7K R434
820 R437
WHT-ORN
CR417
Q404
10K R426
22K R427
.001 C417
CR411
WHT-BLU
LOGIC COMMON
BLK-WHT
CR418
CR416
CR404
ORN-RED
PUR-WHT
HOME
RUN
N.C.
HOME SWITCH
10K R429
CR410
(SAFETY) DISABLE STOP
Q406
10K R431
22K R430
.001 C418
22K R433
CR419
10K R432
STOP MAG.
Q405
.1 C419
K403
CR420
K403-1
10K R438
SIDE OF RECORD
A-TOP
B-BOTTOM
A-B SNAP SWITCH
VSS
10K R422
10K R424
BRN
2.2 UF C401
.001 UF C402
FIRST NUMBER AFTER COMPONENT LETTER DESIGNATION RELATES TO THE FOLLOWING P.C. BOARDS.
R201 — MAIN POWER SUPPLY REGULATOR BOARD
3 — MECH. POWER SUPPLY BOARD
4 — MECH. CONT. LOGIC BOARD
5 — OPTO ENCODER BOARD


MECHANISM CONTROLLER-
LOGIC BOARD
OPTO
ENCODER
BOARD
K403-1
A- TOP
B- BOTTOM
A-B
SNAP
SWITCH
4 — MECH. CONT. LOGIC BOARD
5 — OPTO ENCODER BOARD
LOGIC COMMON
+9.6V.D.C.
REG.
SCAN
ENABLE
WALLBOX
OSC.
HEX
INVERTER
IC404
OSCILLATOR
380KH
IC401
MM
5799
IC #2 DUAL TIMER
IC #1 IC402
LED
#4
9.6V.D.C.
LED
#8
OPTO
ENCODER
TRI-STATE
BUFFER
IC403
CLOCK
CLEAR LINE
DATA
DATA ENABLE
RELAY
K402
K402
-1
CR406
LOGIC COMMON
8.9V.D.C.
8.2V.
CR408
CR407
CR409
CHARGER
BATTERY
POWER
POWER
OFF
TEST
LOAD
MEMORY
MONEY
COUNTER
TIMER
OUTPUT
LED#5
HOME
SWITCH
RUN
N.C.
A-B
PLAY
HOME
ENCODER
WALLBOX
OSCILLATOR
FUNCTIONS
CLOCK
DATA IN
CLEAR
DATA EN.
POWER
TEST
SCAN EN.
LOAD MEM.
RUN
STOP
COUNTER
DATA OUT
(VSS) POWER
CLEAR
"B"
R426 10K
R427 22K
C417 .001
CR411
C401 2.2 UF
C402 .001 UF
R429
R431 10K
R430 22K
C418 .001
R433 22K
CR419
R432 10K
CR416
CR404
CR410
Q406
R439 1M
R440 1M
C421 20PF
R441 470
IX401 RESON-
ATOR
R421 4.7K
R419 10K
R420 10K
C420 33UF
K401
CR405
CR414
CR415
CR413
R423 47K
R428 4.7K
C416 100PF
CR412
C413 100PF,
R404 470
R501 390
R502 27K
R504 4.7K
R503 10K
R505 560
R401 4.7K
R405 2.2K
R407 47K
R412 33K
CR403
R413 560
C404 .002
R406 50K
R403 33K
C409 .027
C411 .22
C403 .027
C410 .015
C406 .47
C408 .015
C501 10
MFD
C502 470PF,
CR501
R409 22K,
CR402
R410 62K,
R411 22K,
Q501
Q401
Q402
R408 2.2K
R402 10K
C405 .22UF
R418 22K
R414 68K
Q403
R416 22K
C414 .1UF
R417 10K
R415 1K
C415 2.2UF
VSS
CLOCK
CLEAR LINE
DATA
WALLBOX
OSC.
TAN-BLK
TAN
ORN
PUR
BLK-
WHT
GRY-WHT
PINK
WHT-BLU
BLK-WHT
ORN-
RED
YEL-
RED
TAN-
GRN
BRN
BLU
ORN-BLU

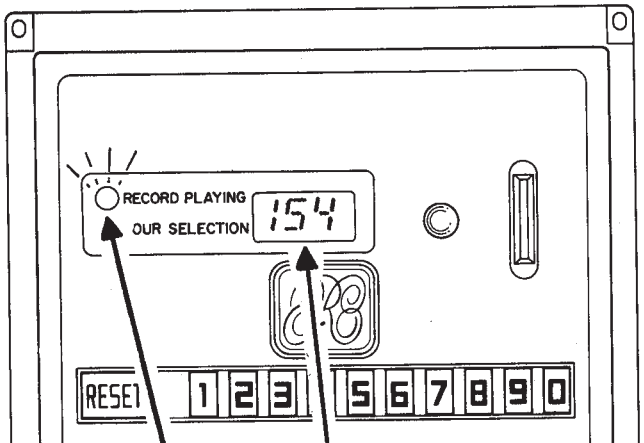
SEQUENCE 14. CAM SHAFT ROTATES—MICRO #1 OPERATES—"RECORD PLAYING" IS INDICATED IN THE DISPLAY

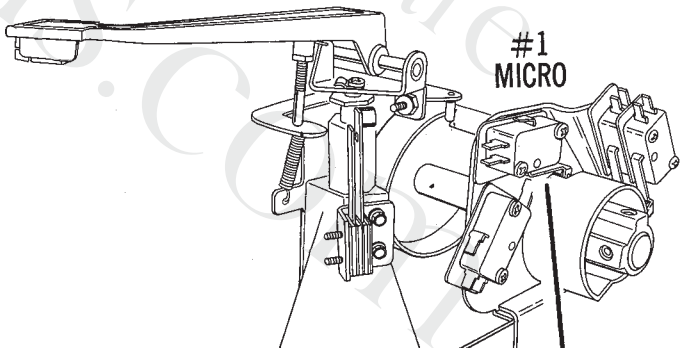
1. The "jaws" of the gripper arm now grasp the selected record and carry it to the turntable. During the placing of the record on the turntable, the rotating gripper cam operates four Micro switches.

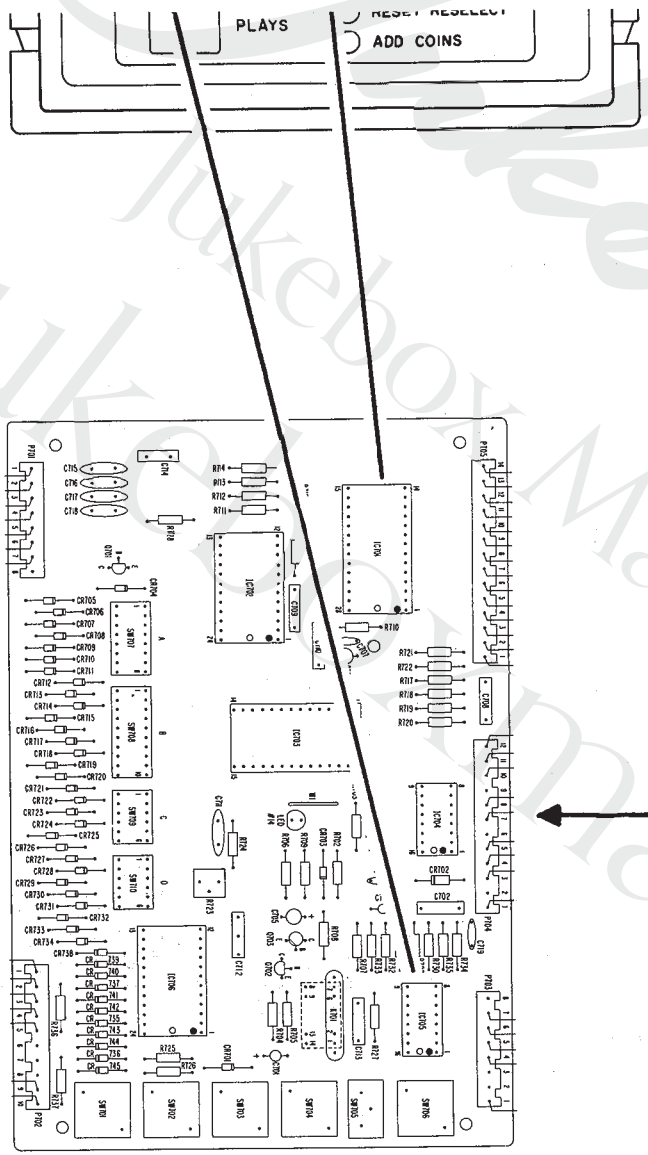
2. Micro #1 operates first. the N.C. circuit to the Magazine Motor is disconnected to assure that both D.C. motors do not run at the same time.

3. The N.O. side of Micro #1 activates relay K403. The signal after the Hex Inverter becomes high and is applied to Pin 2 of the MP IC401, and also to the base of Q406 which disables the "Latch" coil circuit. Latching relay contacts K301-1 and K301-2 remain magnetically latched in the N.O. position.

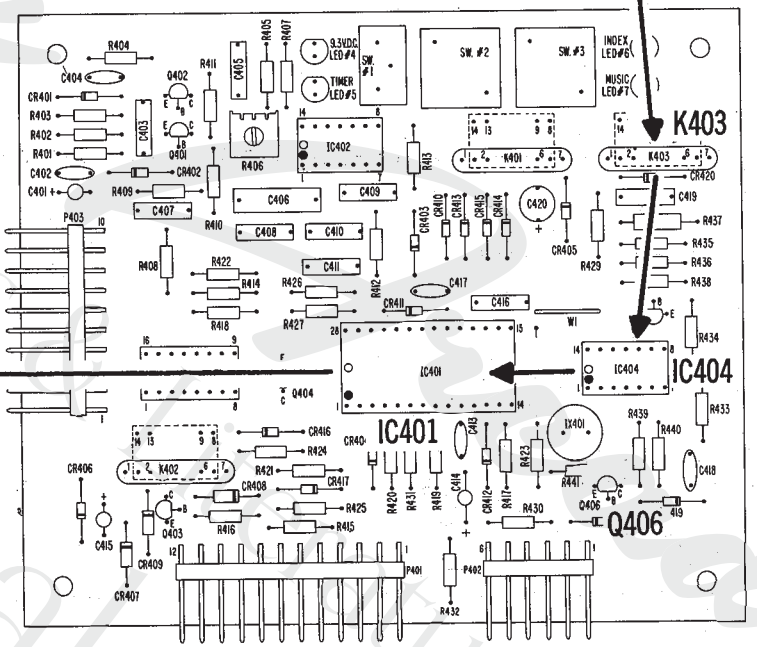
4. During the time interval the "Data Enable" signal on Pin 14 becomes low, the "Data Out" line on Pin 16 starts "Record Playing" transmission to the Credit Unit for processing. "Record Playing" is then indicated in the record display.



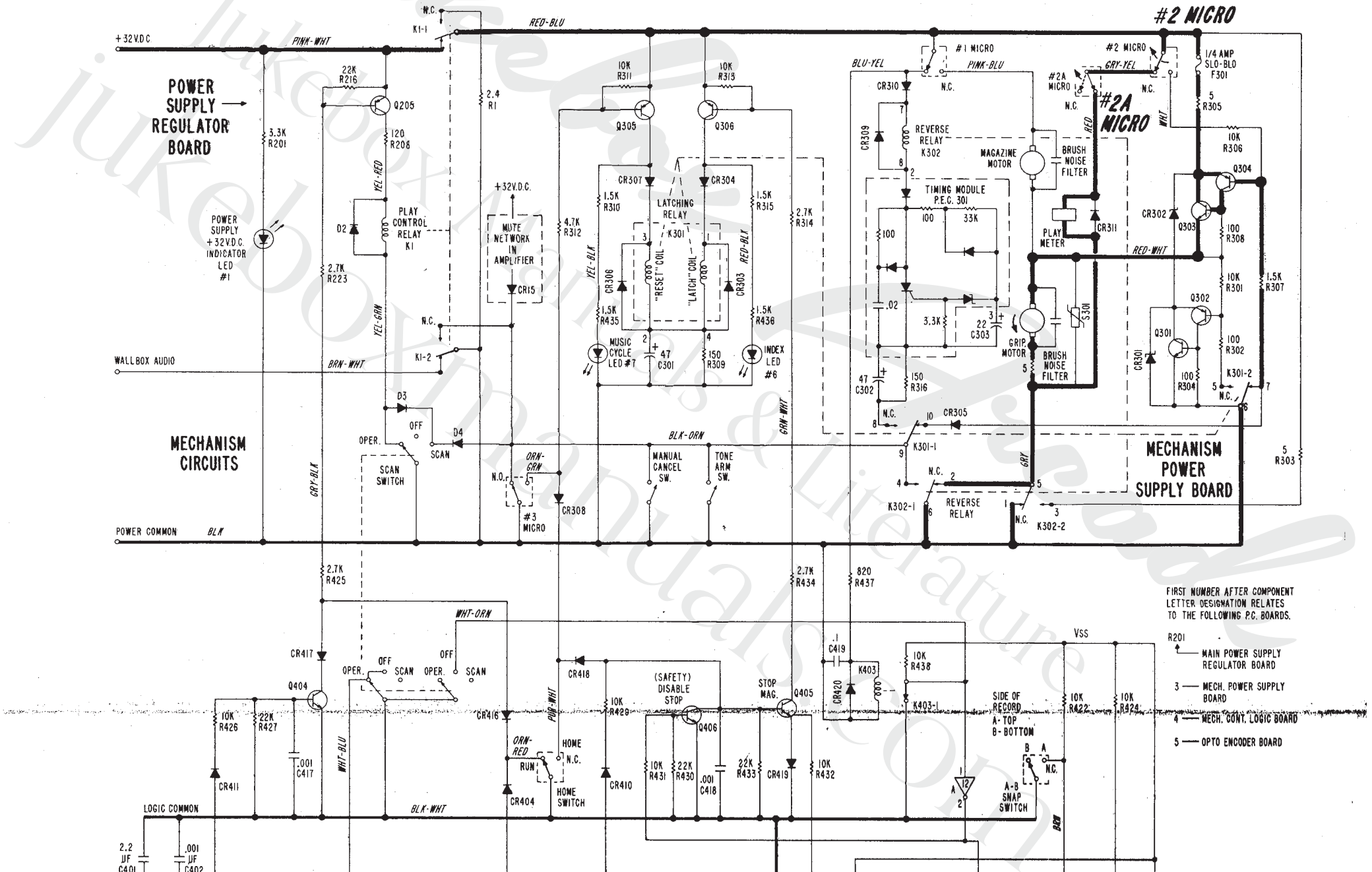


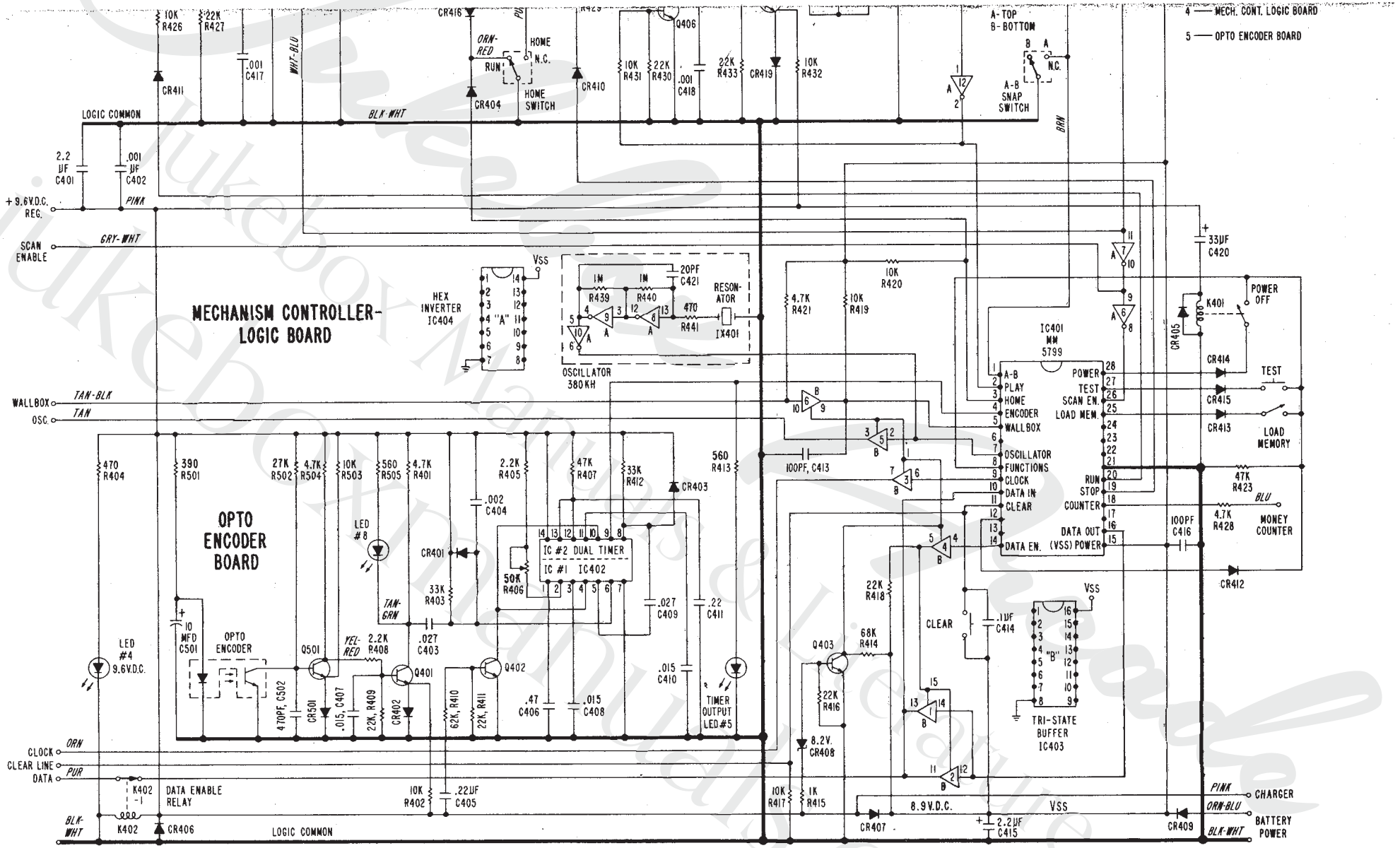


CREDIT BOARD



LOGIC BOARD


POWER SUPPLY REGULATOR BOARD
MECHANISM CIRCUITS
MECHANISM POWER SUPPLY BOARD
#2 MICRO
#2A MICRO
+32V.D.C.
WALLBOX AUDIO
POWER COMMON
LOGIC COMMON
POWER SUPPLY +32V.D.C. INDICATOR LED #1
PLAY CONTROL RELAY K1
MUTE NETWORK IN AMPLIFIER
LATCHING RELAY K301
"RESET" COIL
"LATCH" COIL
MUSIC CYCLE LED #7
INDEX LED #6
REVERSE RELAY K302
TIMING MODULE P.E.C. 301
MAGAZINE MOTOR
BRUSH NOISE FILTER
PLAY METER
GRIP MOTOR
SCAN SWITCH
MANUAL CANCEL SW.
TONE ARM SW.
#3 MICRO
(SAFETY) DISABLE STOP
STOP MAG.
HOME SWITCH
A-B SNAP SWITCH
SIDE OF RECORD A-TOP B-BOTTOM
Vss
FIRST NUMBER AFTER COMPONENT LETTER DESIGNATION RELATES TO THE FOLLOWING P.C. BOARDS.
R201 — MAIN POWER SUPPLY REGULATOR BOARD
3 — MECH. POWER SUPPLY BOARD
4 — MECH. CONT. LOGIC BOARD
5 — OPTO ENCODER BOARD


MECHANISM CONTROLLER-
LOGIC BOARD
OPTO
ENCODER
BOARD
4 — MECH. CONT. LOGIC BOARD
5 — OPTO ENCODER BOARD
A-TOP
B-BOTTOM
A-B
SNAP
SWITCH
HOME
SWITCH
RUN
HOME
N.C.
LOGIC COMMON
+9.6V.D.C.
REG.
SCAN
ENABLE
HEX
INVERTER
IC404
OSCILLATOR
380KH
RESON-
ATOR
IX401
IC401
MM
5799
POWER
OFF
TEST
LOAD
MEMORY
MONEY
COUNTER
WALLBOX
OSC.
LED
#8
LED
#4
9.6V.D.C.
OPTO
ENCODER
IC #2 DUAL TIMER
IC #1 IC402
TIMER
OUTPUT
LED #5
TRI-STATE
BUFFER
IC403
CLEAR
8.2V.
CR408
8.9V.D.C.
VSS
DATA ENABLE
RELAY
K402
CLOCK
CLEAR LINE
DATA
CHARGER
BATTERY
POWER

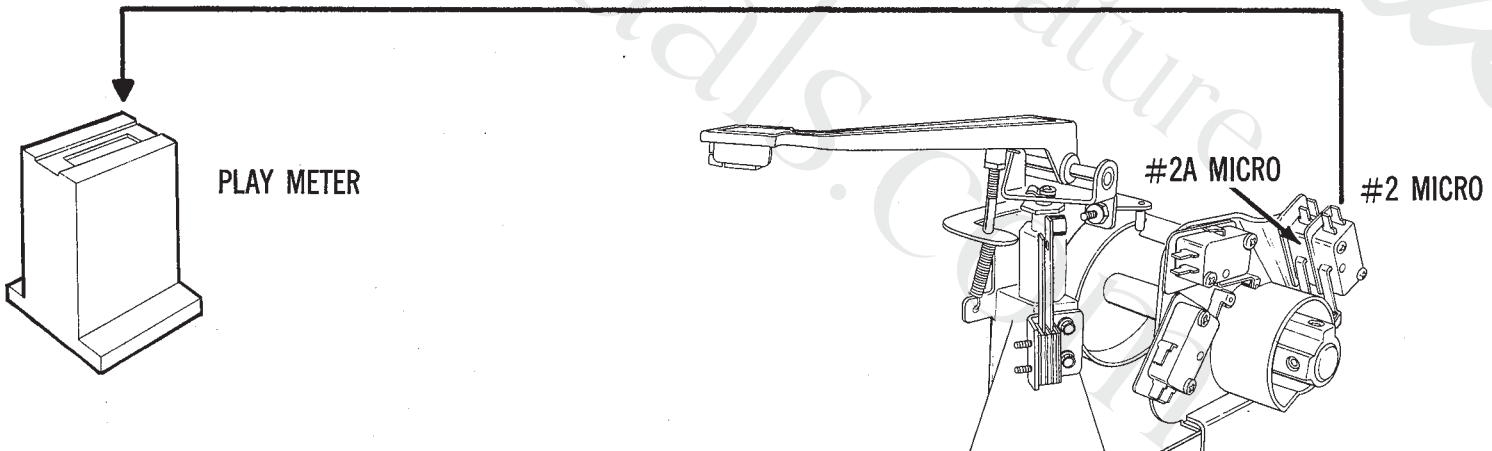
SEQUENCE 15. MICRO #2 TRANSFERS

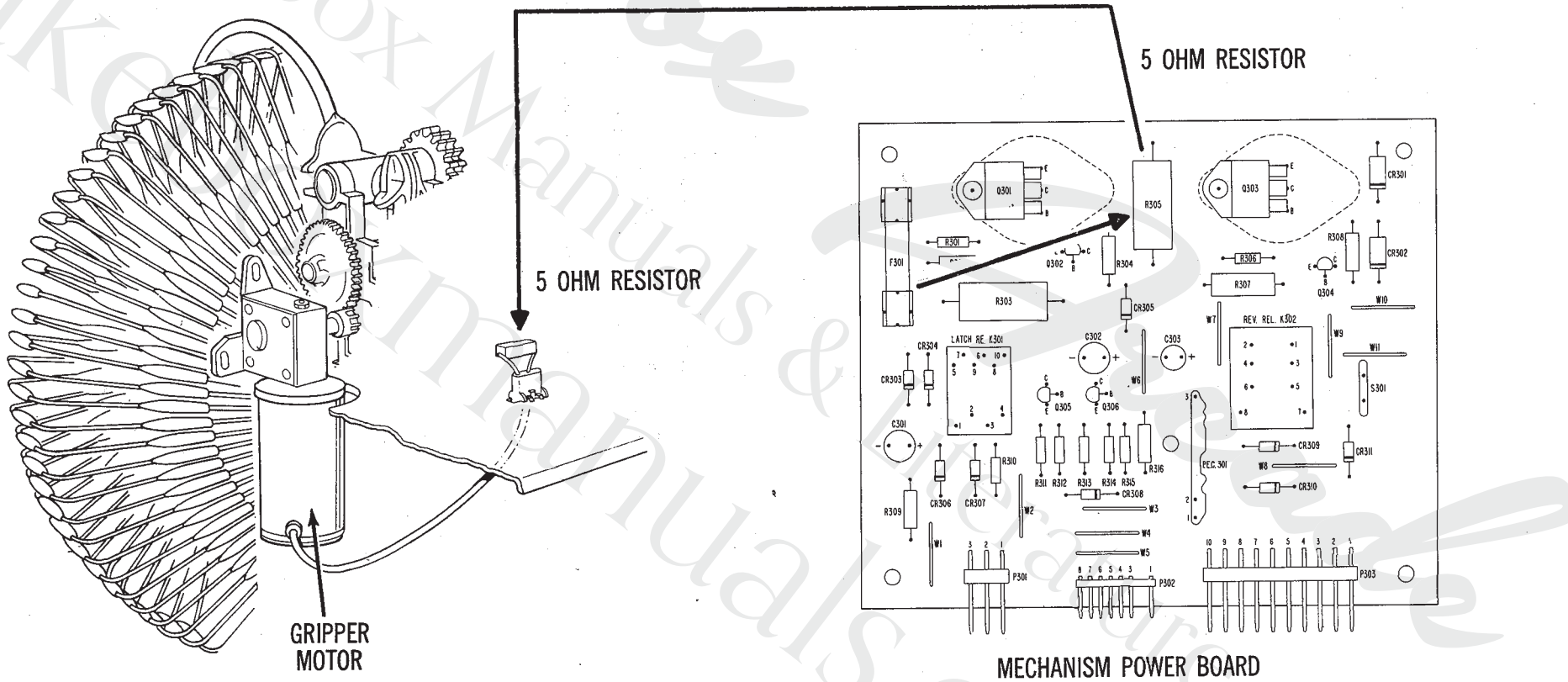
Micor #2 followed by 2A operate next.

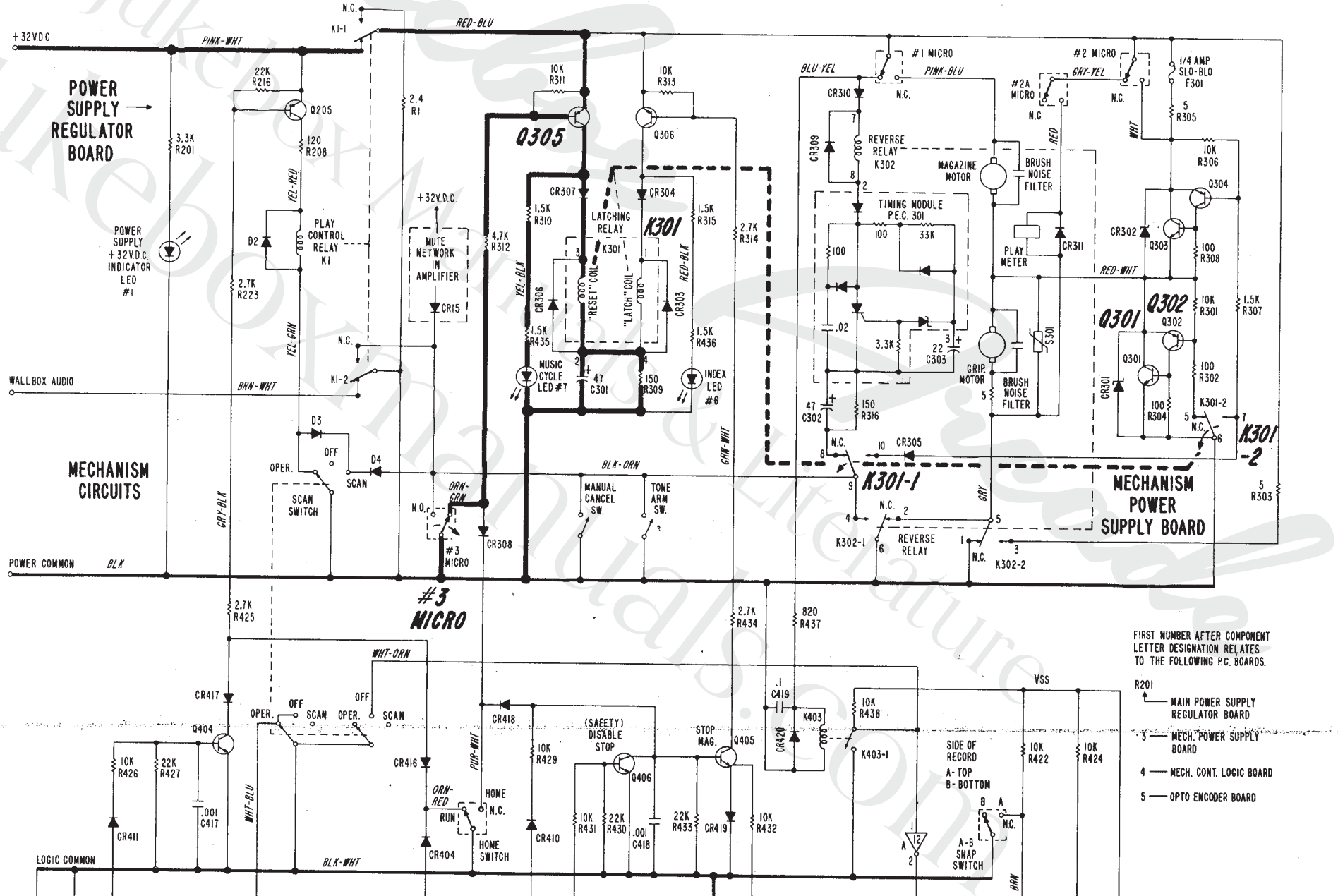
1. Transfer of Micro #2 to N.C. operates the Play Meter which registers one count.

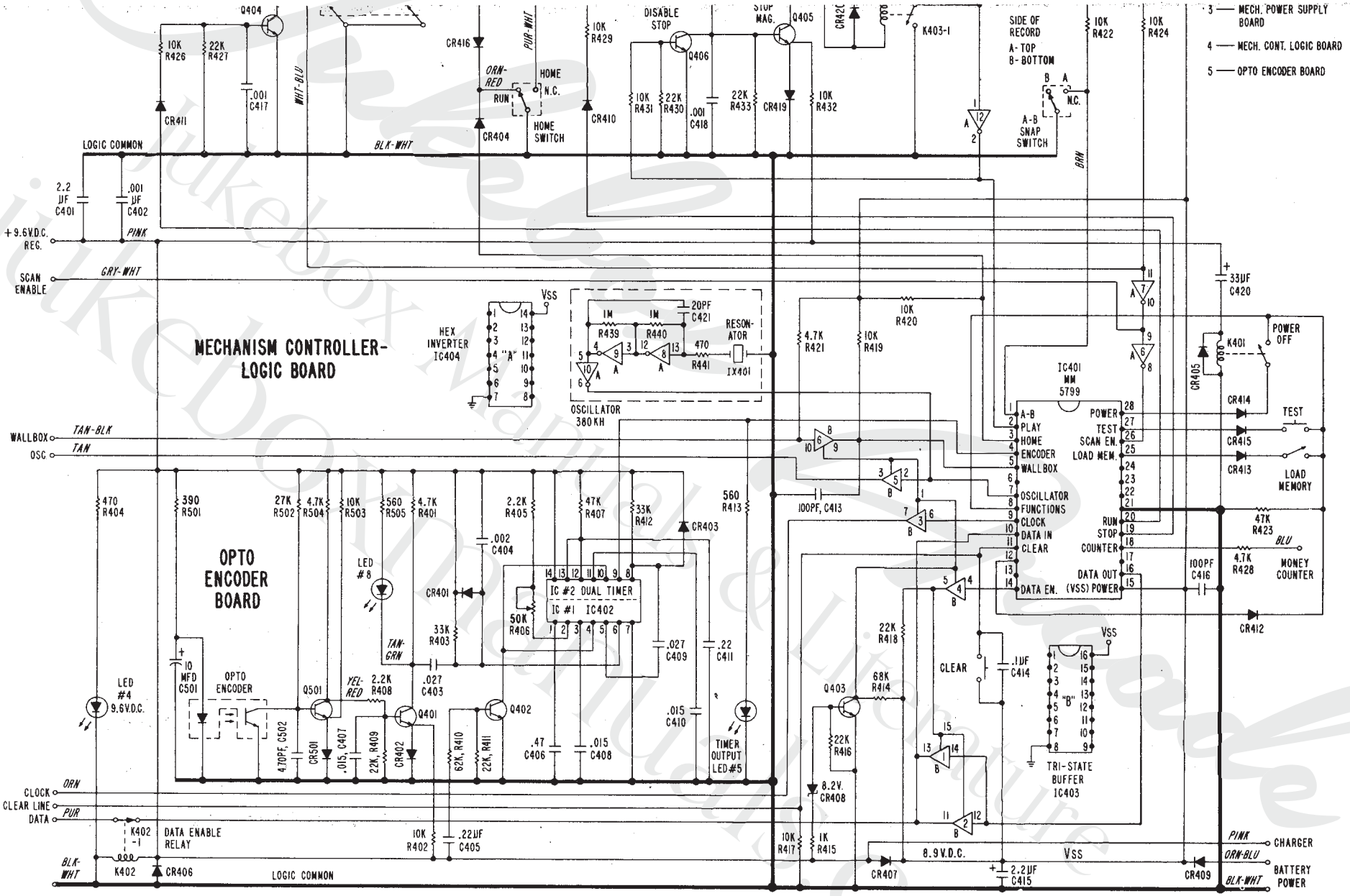
2. At the same time the Gripper Motor circuit is switched through two 5 ohm resistors, thereby reducing the speed of the motor. This allows the tone arm to advance more slowly when placing the pick-up stylus on the record.

3. Subsequent operation of Micro 2A breaks the play meter circuit.






POWER SUPPLY REGULATOR BOARD
+32V.D.C
PINK-WHT
RED-BLU
N.C.
K1-1
22K R216
Q205
120 R208
3.3K R201
2.4 R1
YEL-RED
YEL-GRN
D2
PLAY CONTROL RELAY K1
2.7K R223
POWER SUPPLY +32V.D.C. INDICATOR LED #1
+32V.D.C
MUTE NETWORK IN AMPLIFIER
CR15
10K R311
10K R313
Q305
Q306
CR307
CR304
1.5K R310
1.5K R315
LATCHING RELAY K301
"RESET" COIL
"LATCH" COIL
K301
4.7K R312
2.7K R314
YEL-BLK
RED-BLK
CR306
CR303
1.5K R435
1.5K R436
MUSIC CYCLE LED #7
47 C301
150 R309
INDEX LED #6
N.C.
K1-2
WALLBOX AUDIO
BRN-WHT
D3
D4
OFF
OPER.
SCAN
SCAN SWITCH
MECHANISM CIRCUITS
GRY-BLK
BLK-ORN
GRN-WHT
ORN-GRN
N.O.
#3 MICRO
CR308
MANUAL CANCEL SW.
TONE ARM SW.
POWER COMMON
BLK
#3 MICRO
2.7K R425
WHT-ORN
CR417
CR418
CR416
CR404
CR410
CR411
Q404
Q405
Q406
10K R426
22K R427
.001 C417
WHT-BLU
PUR-WHT
ORN-RED
RUN
HOME N.C.
HOME SWITCH
10K R429
(SAFETY) DISABLE STOP
STOP MAG.
10K R431
22K R430
.001 C418
22K R433
CR419
10K R432
2.7K R434
820 R437
.1 C419
CR420
K403
K403-1
10K R438
VSS
SIDE OF RECORD
A- TOP
B- BOTTOM
A-B SNAP SWITCH
10K R422
10K R424
LOGIC COMMON
BLK-WHT
BRN
#1 MICRO
BLU-YEL
PINK-BLU
CR310
CR309
REVERSE RELAY K302
MAGAZINE MOTOR
BRUSH NOISE FILTER
#2A MICRO
#2 MICRO
GRY-YEL
1/4 AMP SLO-BLO F301
5 R305
WHT
RED
10K R306
Q304
CR302
Q303
100 R308
TIMING MODULE P.E.C. 301
100
33K
.02
3.3K
22 C303
PLAY METER
CR311
RED-WHT
Q301
Q302
10K R301
1.5K R307
100 R302
100 R304
CR301
K301-2
GRIP MOTOR
S301
47 C302
150 R316
CR305
K301-1
MECHANISM POWER SUPPLY BOARD
GRAY
K302-1
REVERSE RELAY
K302-2
5 R303
FIRST NUMBER AFTER COMPONENT LETTER DESIGNATION RELATES TO THE FOLLOWING P.C. BOARDS.
R201 — MAIN POWER SUPPLY REGULATOR BOARD
3 — MECH. POWER SUPPLY BOARD
4 — MECH. CONT. LOGIC BOARD
5 — OPTO ENCODER BOARD

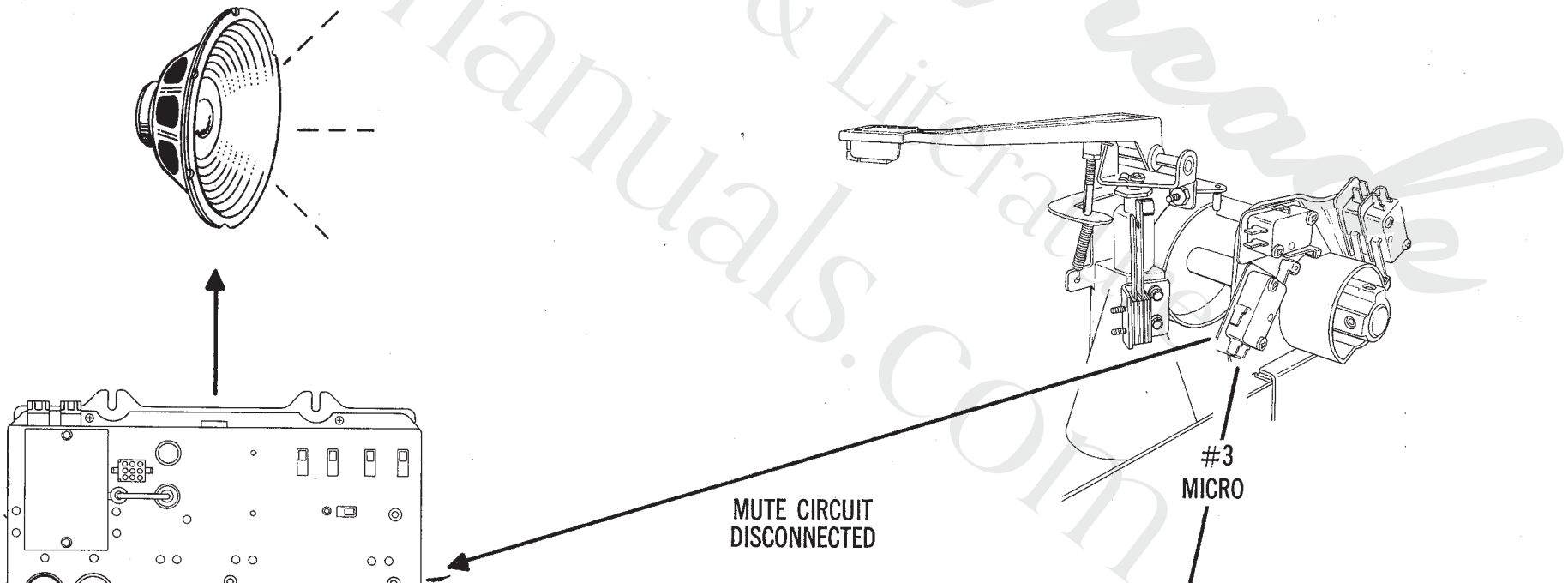

MECHANISM CONTROLLER-
LOGIC BOARD
OPTO
ENCODER
BOARD
3 — MECH. POWER SUPPLY BOARD
4 — MECH. CONT. LOGIC BOARD
5 — OPTO ENCODER BOARD
LOGIC COMMON
+ 9.6V.D.C. REG.
SCAN ENABLE
WALLBOX
OSC
CLOCK
CLEAR LINE
DATA
DISABLE STOP
STOP MAG.
HOME SWITCH
SIDE OF RECORD
A-TOP
B-BOTTOM
A-B SNAP SWITCH
HEX INVERTER IC404
OSCILLATOR 380KH
RESONATOR
IC401 MM 5799
IC #2 DUAL TIMER
IC #1 IC402
TRI-STATE BUFFER IC403
DATA ENABLE RELAY
CLEAR
8.9V.D.C.
8.2V.
POWER OFF
TEST
LOAD MEMORY
MONEY COUNTER
CHARGER
BATTERY POWER
LED #4 9.6V.D.C.
LED #8
TIMER OUTPUT LED #5

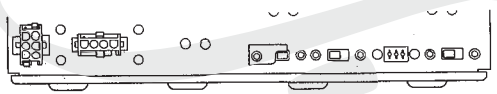
SEQUENCE 16. RECORD TRANSFER COMPLETED — MUSIC CYCLE STARTS

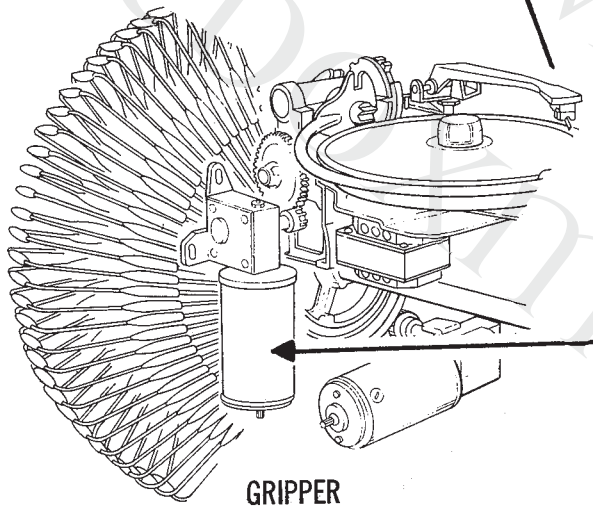
1. When Micro #3 transfers, Q305 turns on allowing the Latching Relay K301 "Reset" coil to energize and return the latching relay contacts K301-1 and K301-2 to their N.C. condition.

2. Transfer of K301-2 disconnects the Gripper Motor circuit. Due to the voltage generated by the rotation of the gripper motor, Q302 and Q301 turn on momentarily causing the motor to dynamically brake. Both D.C. motors are now stopped.

3. At this point the tone arm is in the record groove, the amplifier mute system is disconnected by the transfer of the #3 Micro, and the music cycle starts.

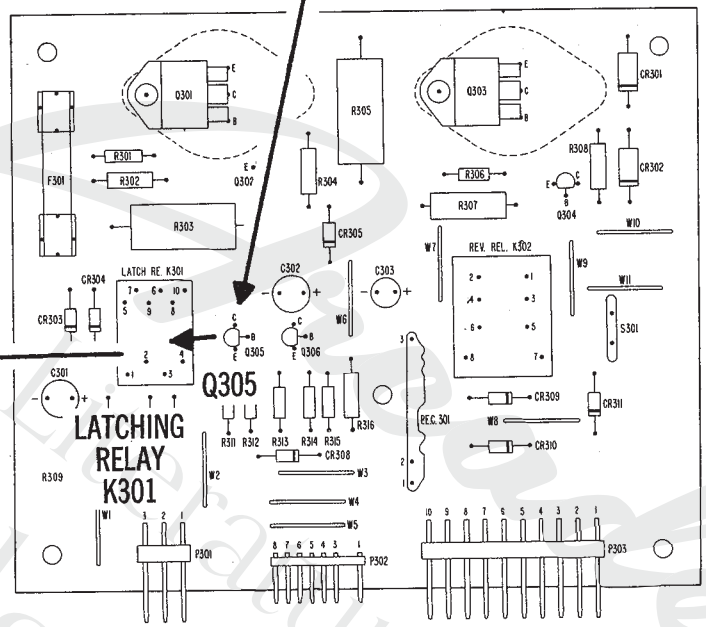




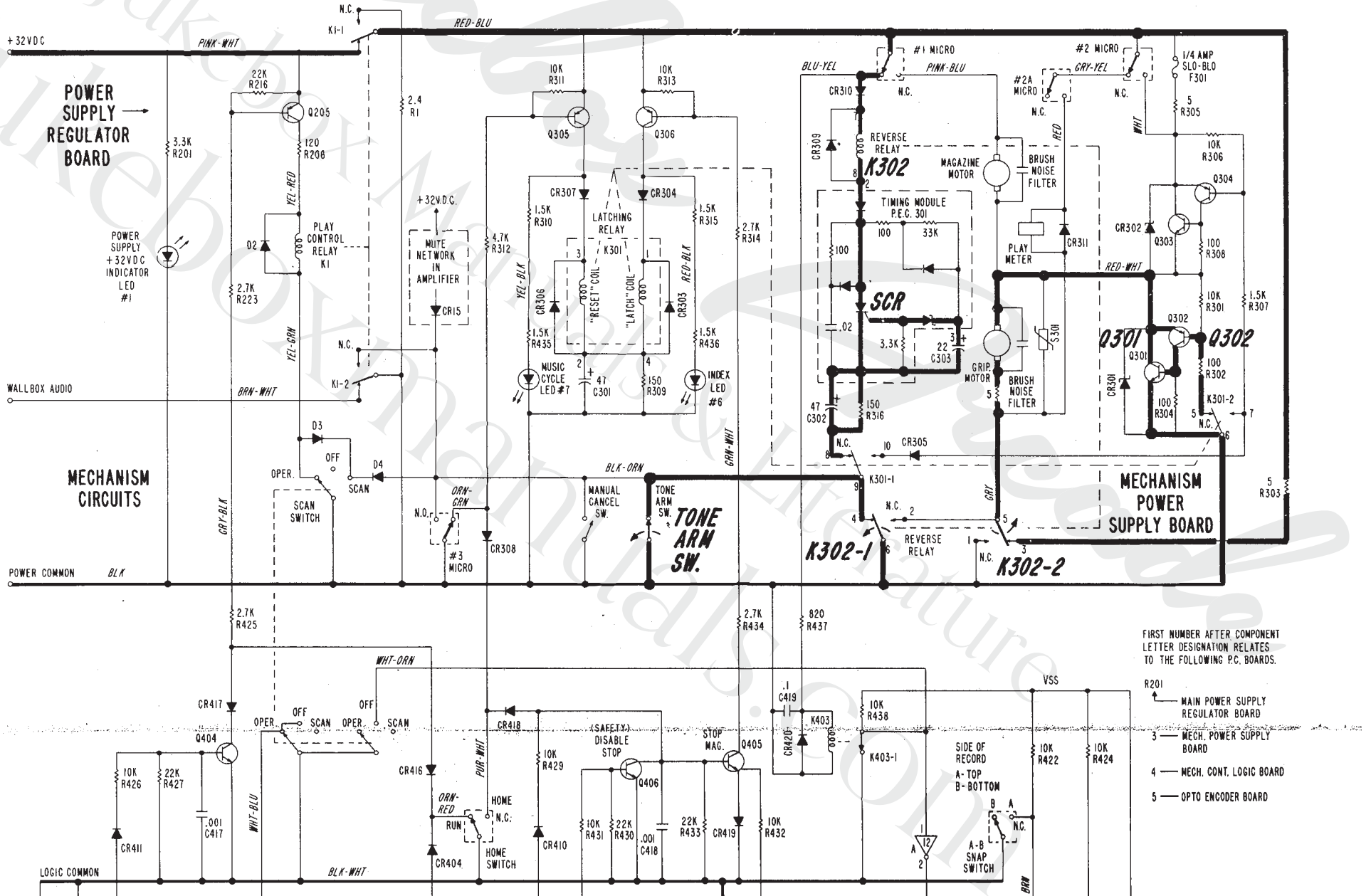


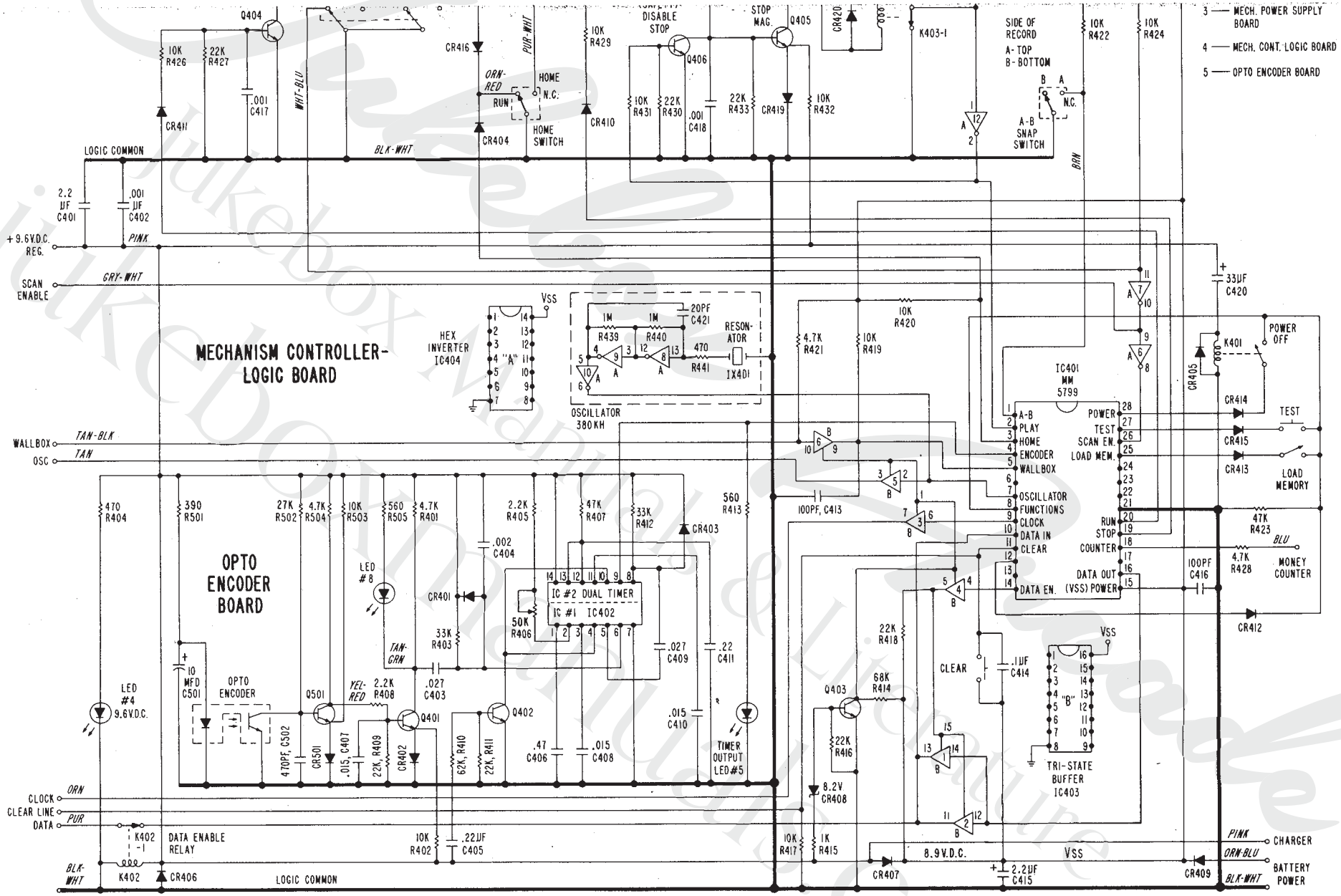
GRIPPER
MOTOR

CONTACT
K301-2



MECHANISM POWER BOARD


POWER SUPPLY REGULATOR BOARD
MECHANISM CIRCUITS
MECHANISM POWER SUPPLY BOARD
TONE ARM SW.
+32VDC
PINK-WHT
RED-BLU
POWER SUPPLY +32VDC INDICATOR LED #1
PLAY CONTROL RELAY K1
MUTE NETWORK IN AMPLIFIER
WALLBOX AUDIO
BRN-WHT
POWER COMMON
BLK
LATCHING RELAY
"RESET" COIL
"LATCH" COIL
MUSIC CYCLE LED #7
INDEX LED #6
MANUAL CANCEL SW.
SCAN SWITCH
OPER.
SCAN
OFF
#3 MICRO
#1 MICRO
#2 MICRO
#2A MICRO
REVERSE RELAY
K302
K302-1
K302-2
MAGAZINE MOTOR
BRUSH NOISE FILTER
PLAY METER
GRIP MOTOR
TIMING MODULE P.E.C. 301
SCR
Q301
Q302
1/4 AMP SLO-BLO F301
K301-1
K301-2
CR305
CR308
CR309
CR310
CR311
CR301
CR302
CR303
CR304
CR307
Q205
Q303
Q304
Q305
Q306
R201
R216
R223
R305
R306
R307
R308
R310
R311
R312
R313
R314
R315
R316
R425
R434
R437
C301
C302
C303
LOGIC COMMON
BLK-WHT
WHT-ORN
WHT-BLU
GRY-BLK
YEL-RED
YEL-GRN
YEL-BLK
RED-BLK
RED-WHT
GRN-WHT
BLK-ORN
BLU-YEL
PINK-BLU
GRY-YEL
GRY
RED
WHT
ORN-GRN
ORN-RED
PUR-WHT
BRN
CR404
CR410
CR411
CR416
CR417
CR418
CR419
CR420
Q404
Q405
Q406
R426
R427
R429
R430
R431
R432
R433
R438
R422
R424
C417
C418
C419
K403
K403-1
HOME SWITCH
HOME
RUN
(SAFETY) DISABLE STOP
STOP MAG.
SIDE OF RECORD
A-TOP
B-BOTTOM
A-B SNAP SWITCH
VSS
FIRST NUMBER AFTER COMPONENT LETTER DESIGNATION RELATES TO THE FOLLOWING P.C. BOARDS.
R201 — MAIN POWER SUPPLY REGULATOR BOARD
3 — MECH. POWER SUPPLY BOARD
4 — MECH. CONT. LOGIC BOARD
5 — OPTO ENCODER BOARD

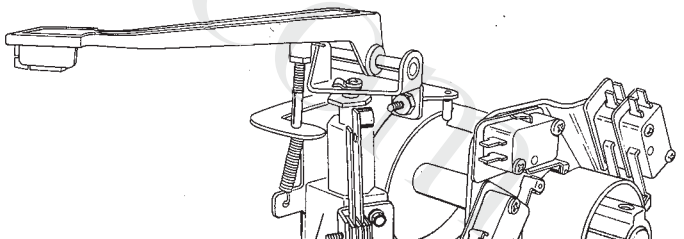

MECHANISM CONTROLLER-
LOGIC BOARD
OPTO
ENCODER
BOARD
3 — MECH. POWER SUPPLY BOARD
4 — MECH. CONT. LOGIC BOARD
5 — OPTO ENCODER BOARD
LOGIC COMMON
+ 9.6V.D.C. REG.
SCAN ENABLE
WALLBOX
OSC
CLOCK
CLEAR LINE
DATA
HEX INVERTER IC404
OSCILLATOR 380KH
RESONATOR
IC401 MM 5799
IC #2 DUAL TIMER
IC #1 IC402
TRI-STATE BUFFER IC403
DISABLE STOP
STOP MAG.
HOME SWITCH
SIDE OF RECORD
A-TOP
B-BOTTOM
A-B SNAP SWITCH
DATA ENABLE RELAY
POWER OFF
TEST
LOAD MEMORY
MONEY COUNTER
CLEAR
8.9V.D.C.
8.2V CR408
CHARGER
BATTERY POWER

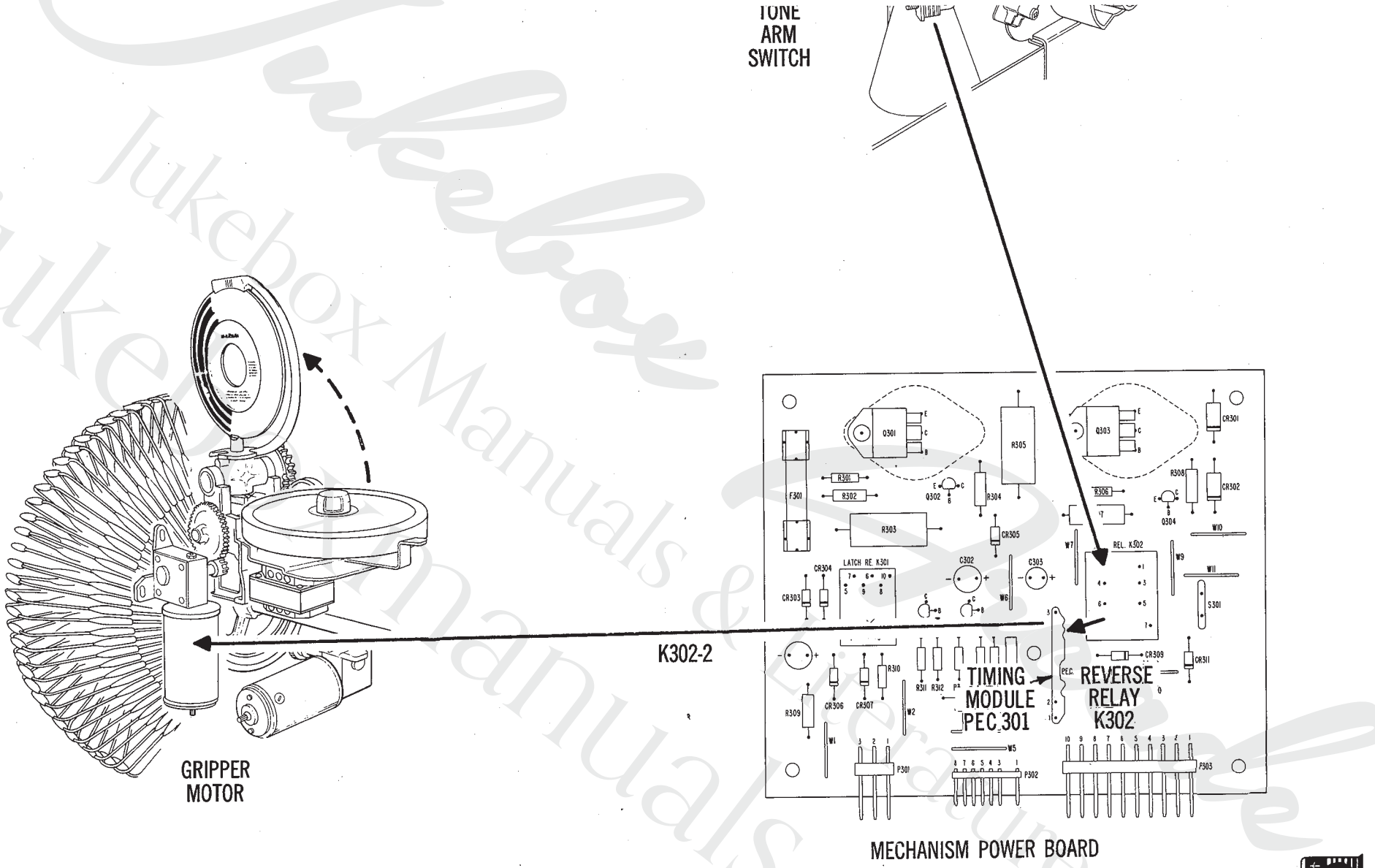
SEQUENCE 17. MUSIC CYCLE ENDS

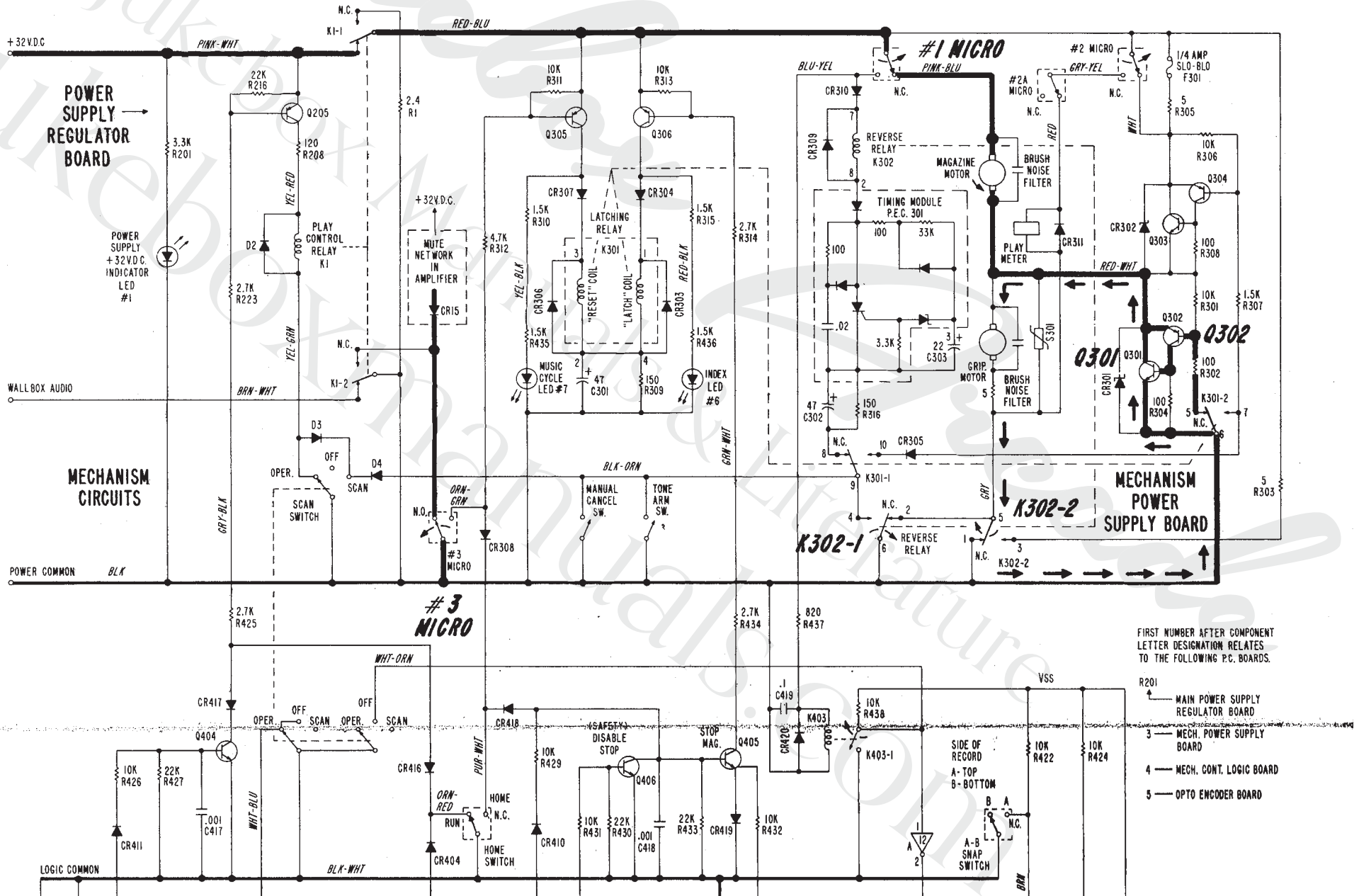
1. As record play is ended the tone arm moves into the record cut-off groove closing the Tone Arm Switch. After a delay of approximately 150 milliseconds, the Timing Module (PEC 301) SCR conducts thereby energizing the Reverse Relay K302. Relay contacts K302-1 and K301-2 now transfer.

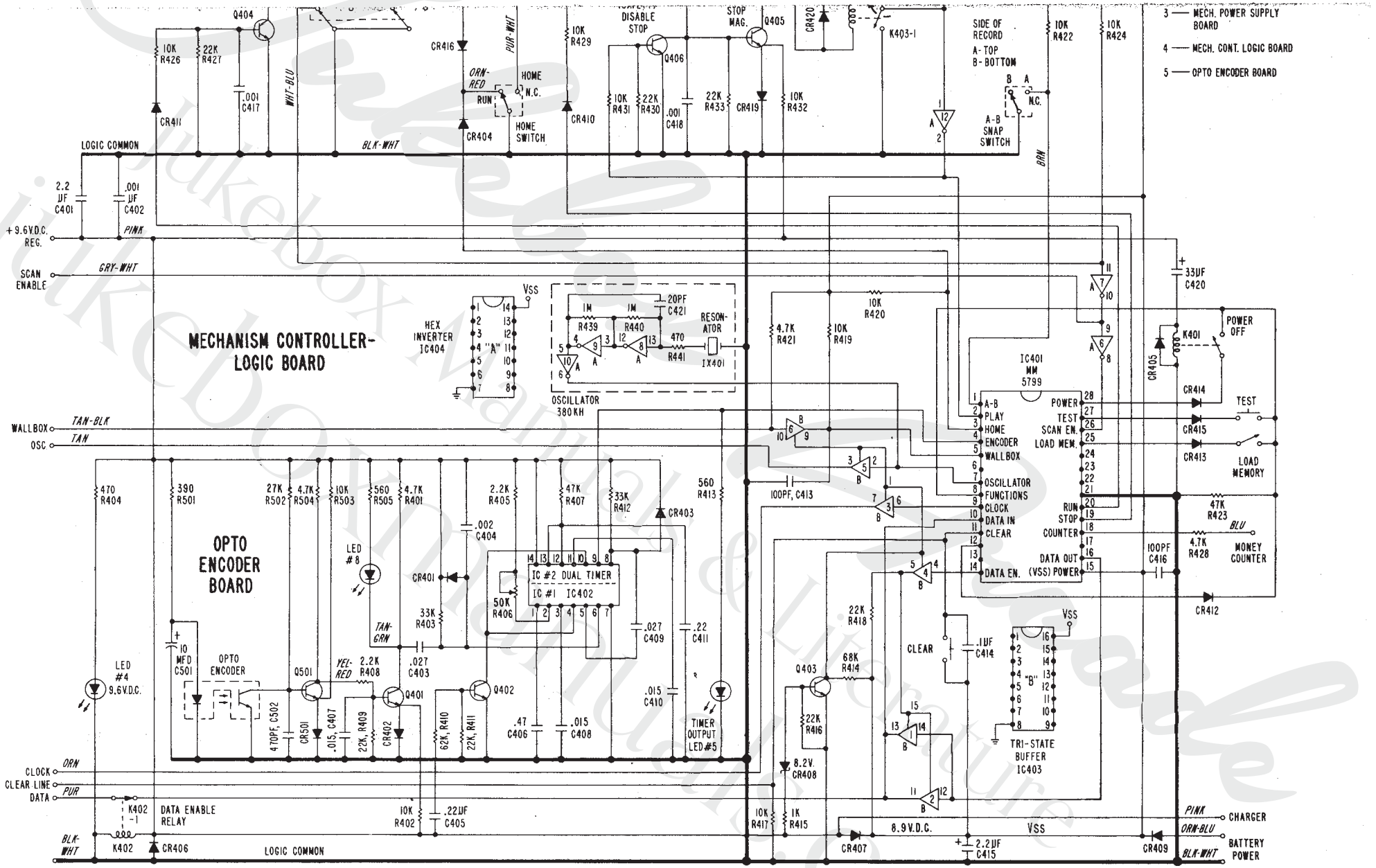
2. K302-1 provides a holding circuit to the Reverse Relay K302.

3. K302-2 causes the Gripper Motor to operate in reverse via Q302 and Q301, and proceeds to return the record to the magazine.






POWER SUPPLY REGULATOR BOARD
+32V.D.C
PINK-WHT
RED-BLU
#1 MICRO
#2 MICRO
#2A MICRO
1/4 AMP SLO-BLO F301
POWER SUPPLY +32V.D.C. INDICATOR LED #1
PLAY CONTROL RELAY K1
MUTE NETWORK IN AMPLIFIER
LATCHING RELAY K301
"RESET" COIL
"LATCH" COIL
MUSIC CYCLE LED #7
INDEX LED #6
REVERSE RELAY K302
MAGAZINE MOTOR
BRUSH NOISE FILTER
TIMING MODULE P.E.C. 301
PLAY METER
GRIP MOTOR
WALL BOX AUDIO
BRN-WHT
MECHANISM CIRCUITS
SCAN SWITCH
OPER.
SCAN
OFF
MANUAL CANCEL SW.
TONE ARM SW.
#3 MICRO
MECHANISM POWER SUPPLY BOARD
K302-1
K302-2
POWER COMMON
BLK
LOGIC COMMON
BLK-WHT
WHT-ORN
PUR-WHT
ORN-RED
HOME SWITCH
RUN
HOME
(SAFETY) DISABLE STOP
STOP MAG.
SIDE OF RECORD
A-TOP
B-BOTTOM
A-B SNAP SWITCH
VSS
FIRST NUMBER AFTER COMPONENT LETTER DESIGNATION RELATES TO THE FOLLOWING P.C. BOARDS.
R201 — MAIN POWER SUPPLY REGULATOR BOARD
3 — MECH. POWER SUPPLY BOARD
4 — MECH. CONT. LOGIC BOARD
5 — OPTO ENCODER BOARD

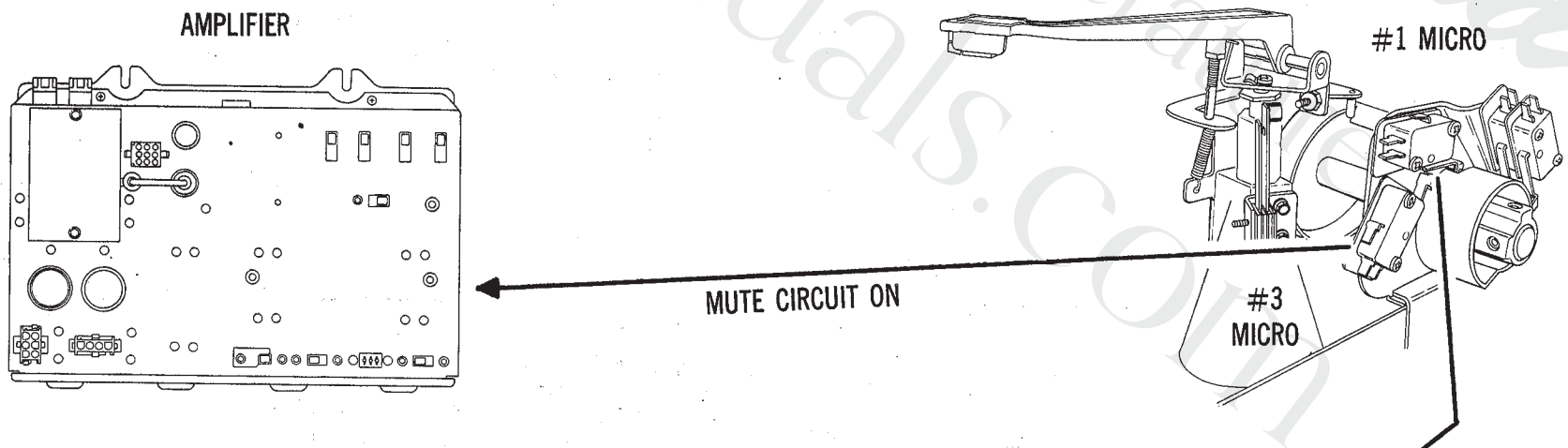

MECHANISM CONTROLLER-
LOGIC BOARD
OPTO
ENCODER
BOARD
3 — MECH. POWER SUPPLY BOARD
4 — MECH. CONT. LOGIC BOARD
5 — OPTO ENCODER BOARD
LOGIC COMMON
+ 9.6V.D.C. REG.
SCAN ENABLE
WALLBOX
OSC
CLOCK
CLEAR LINE
DATA
DISABLE STOP
STOP MAG.
HOME SWITCH
SIDE OF RECORD
A-TOP
B-BOTTOM
A-B SNAP SWITCH
HEX INVERTER IC404
OSCILLATOR 380KH
RESON-ATOR
IC401 MM 5799
IC #2 DUAL TIMER
IC #1 IC402
LED #8
LED #4 9.6V.D.C.
OPTO ENCODER
DATA ENABLE RELAY
TRI-STATE BUFFER IC403
8.2V. CR408
8.9V.D.C.
VSS
POWER OFF
TEST
LOAD MEMORY
MONEY COUNTER
CLEAR
TIMER OUTPUT LED #5
CHARGER
BATTERY POWER

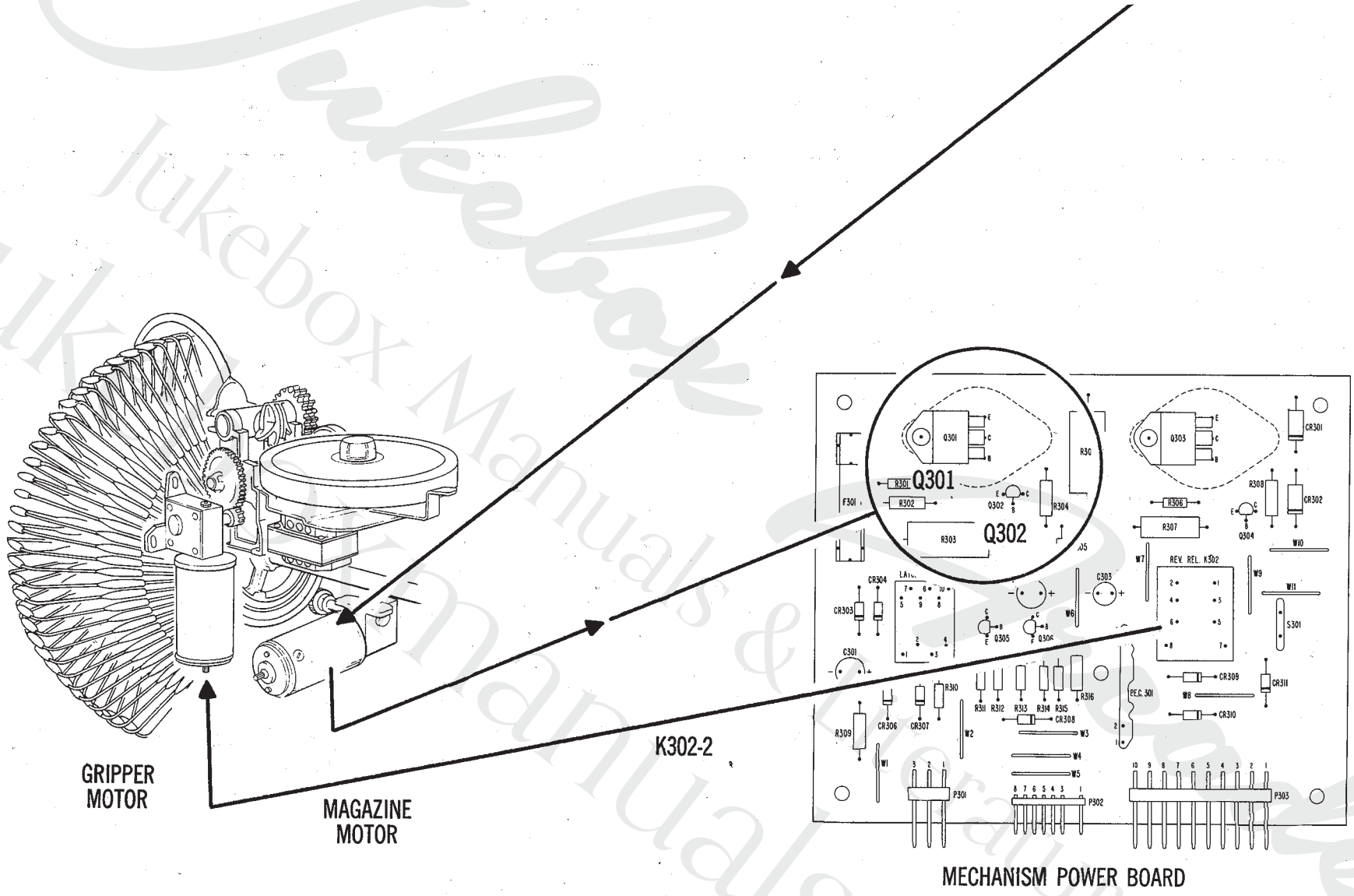
SEQUENCE 18. MICRO SWITCHES RETURN

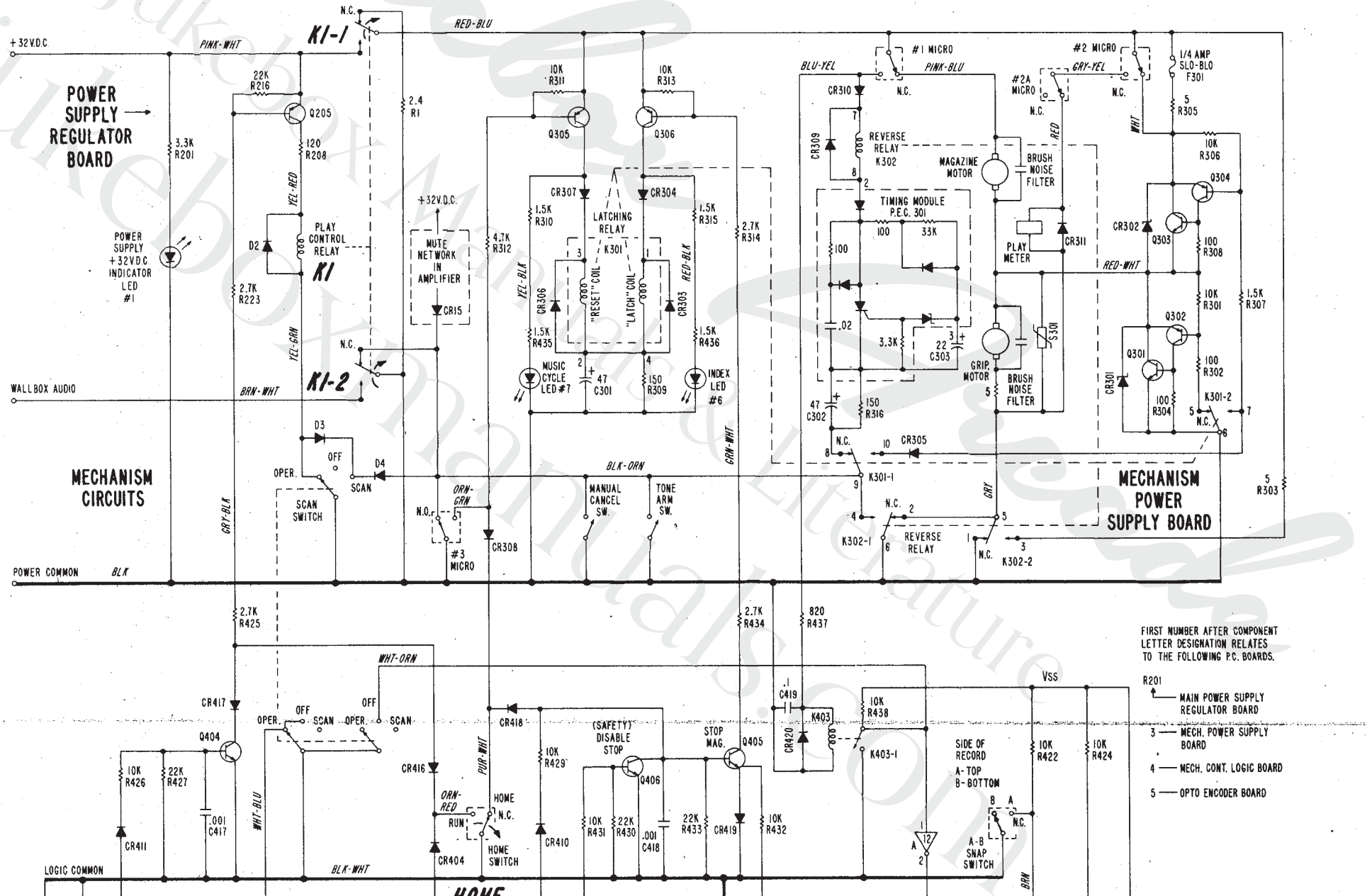
1. During the return of the record, the four Micro switches return to their original positions. Micro #3 mutes the sound system through the network provided in the amplifier.

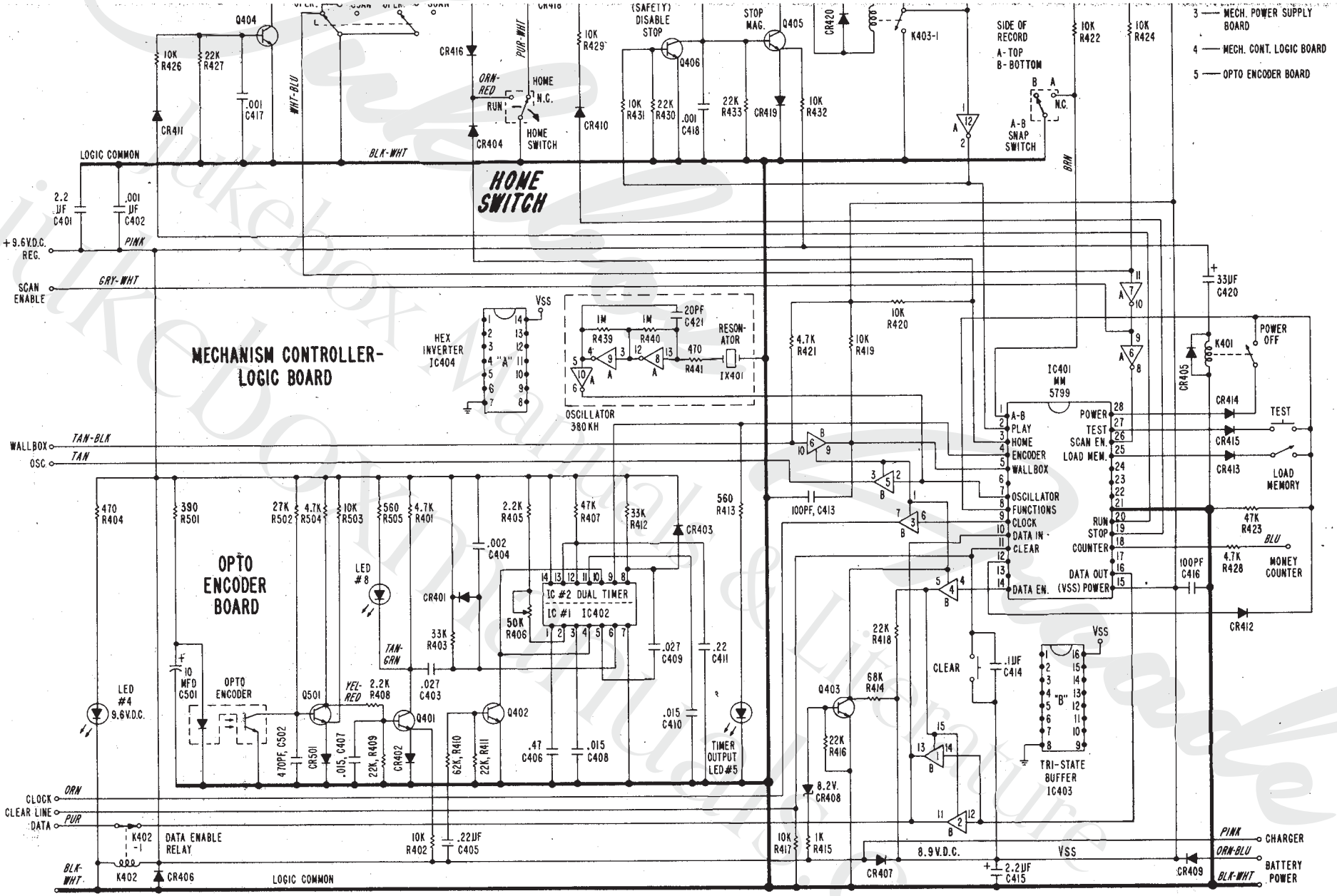
2. When Micro #1 returns, the Reverse Relay K302 coil circuit is disconnected, relay relaxes and relay contacts K302-1 and K302-2 return to their N.C. position.

3. K302-2 places a dynamic brake on the Gripper Motor while at the same time, a circuit is again completed to the Magazine Motor via the Micro #1, transistors Q302 and Q301 causing the motor to run.





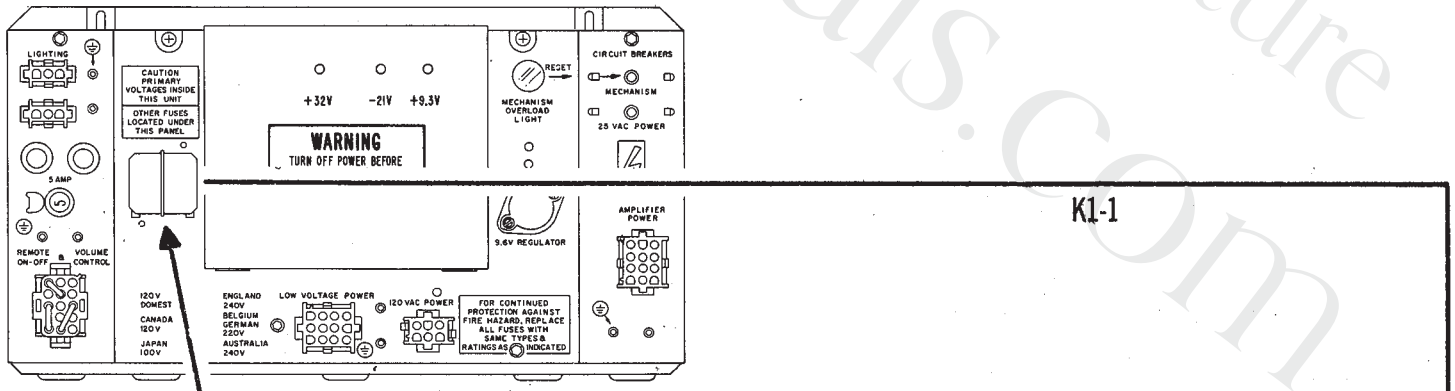

POWER SUPPLY REGULATOR BOARD
+32V.D.C.
PINK-WHT
N.C.
K1-1
RED-BLU
22K R216
Q205
120 R208
YEL-RED
3.3K R201
POWER SUPPLY +32V.D.C. INDICATOR LED #1
D2
PLAY CONTROL RELAY K1
2.7K R223
YEL-GRN
N.C.
K1-2
2.4 R1
+32V.D.C.
MUTE NETWORK IN AMPLIFIER
CR15
WALL BOX AUDIO
BRN-WHT
MECHANISM CIRCUITS
D3
OFF
OPER.
SCAN
D4
SCAN SWITCH
GRY-BLK
POWER COMMON
BLK
10K R311
Q305
10K R313
Q306
CR307
CR304
LATCHING RELAY K301
1.5K R310
1.5K R315
"RESET" COIL
"LATCH" COIL
CR306
CR303
1.5K R435
1.5K R436
MUSIC CYCLE LED #7
47 C301
150 R309
INDEX LED #6
4.7K R312
2.7K R314
YEL-BLK
RED-BLK
BLK-ORN
GRN-WHT
MANUAL CANCEL SW.
TONE ARM SW.
ORN-GRN
N.O.
#3 MICRO
CR308
#1 MICRO
BLU-YEL
PINK-BLU
N.C.
CR310
CR309
REVERSE RELAY K302
#2A MICRO
#2 MICRO
GRY-YEL
1/4 AMP SLO-BLO F301
5 R305
WHT
RED
MAGAZINE MOTOR
BRUSH NOISE FILTER
TIMING MODULE P.E.C. 301
100
33K
.02
3.3K
22 C303
CR311
PLAY METER
GRIP MOTOR
S301
BRUSH NOISE FILTER
47 C302
150 R316
CR305
K301-1
K302-1
REVERSE RELAY
K302-2
GRY
10K R306
Q304
CR302
Q303
100 R308
RED-WHT
10K R301
1.5K R307
Q302
Q301
CR301
100 R302
100 R304
K301-2
5 R303
MECHANISM POWER SUPPLY BOARD
2.7K R425
2.7K R434
820 R437
WHT-ORN
CR417
OFF
OPER.
SCAN
Q404
10K R426
22K R427
.001 C417
CR411
WHT-BLU
CR416
CR418
PUR-WHT
ORN-RED
HOME
RUN
N.C.
HOME SWITCH
CR404
10K R429
CR410
(SAFETY) DISABLE STOP
Q406
STOP MAG.
Q405
10K R431
22K R430
.001 C418
22K R433
CR419
10K R432
.1 C419
CR420
K403
K403-1
10K R438
SIDE OF RECORD A-TOP B-BOTTOM
A-B SNAP SWITCH
Vss
10K R422
10K R424
LOGIC COMMON
BLK-WHT
BRN
FIRST NUMBER AFTER COMPONENT LETTER DESIGNATION RELATES TO THE FOLLOWING P.C. BOARDS.
R201 — MAIN POWER SUPPLY REGULATOR BOARD
3 — MECH. POWER SUPPLY BOARD
4 — MECH. CONT. LOGIC BOARD
5 — OPTO ENCODER BOARD

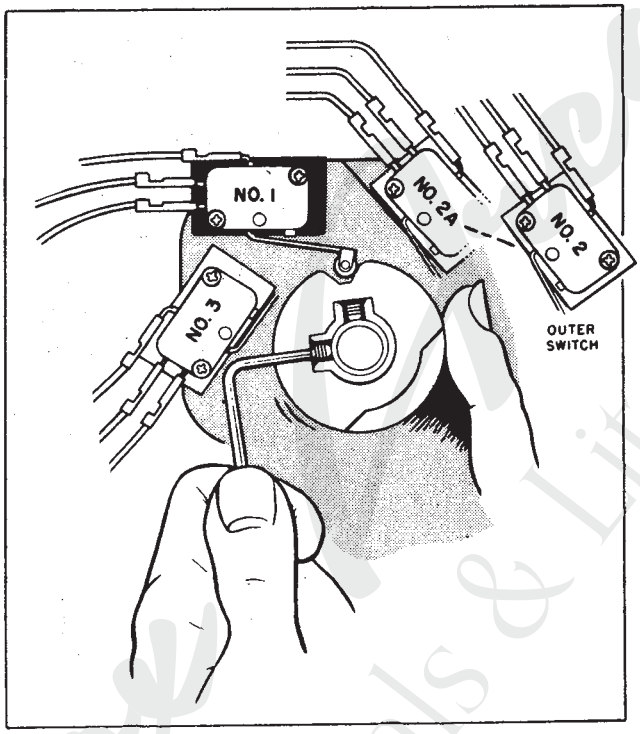

MECHANISM CONTROLLER-
LOGIC BOARD
OPTO
ENCODER
BOARD
HOME
SWITCH
3 — MECH. POWER SUPPLY BOARD
4 — MECH. CONT. LOGIC BOARD
5 — OPTO ENCODER BOARD
LOGIC COMMON
+9.6V.D.C. REG.
SCAN ENABLE
WALLBOX
OSC.
CLOCK
CLEAR LINE
DATA
DATA ENABLE RELAY
K402
K402-1
CR406
CR407
CR408
CR409
CR410
CR411
CR412
CR413
CR414
CR415
CR416
CR417
CR418
CR419
CR420
CR401
CR402
CR403
CR404
CR405
Q401
Q402
Q403
Q404
Q405
Q406
Q501
IC401 MM 5799
IC #1 IC402
IC #2 DUAL TIMER
HEX INVERTER IC404
OSCILLATOR 380KH
IX401
RESONATOR
IC403
TRI-STATE BUFFER
LED #4 9.6V.D.C.
LED #8
TIMER OUTPUT LED #5
OPTO ENCODER
K401
POWER OFF
TEST
LOAD MEMORY
MONEY COUNTER
SIDE OF RECORD
A-TOP
B-BOTTOM
A-B SNAP SWITCH
(SAFETY) DISABLE STOP
STOP MAG.
HOME SWITCH
8.2V.
8.9V.D.C.
VSS
CLEAR
R401 4.7K
R402 10K
R403 33K
R404 470
R405 2.2K
R406 50K
R407 47K
R408 2.2K
R409 22K
R410 62K
R411 22K
R412 33K
R413 560
R414 68K
R415 1K
R416 22K
R417 10K
R418 22K
R419 10K
R420 10K
R421 4.7K
R422 10K
R423 47K
R424 10K
R426 10K
R427 22K
R428 4.7K
R429 10K
R430 22K
R431 10K
R432 10K
R433 22K
R439 1M
R440 1M
R441 470
R501 390
R502 27K
R503 10K
R504 4.7K
R505 560
C401 2.2 UF
C402 .001 UF
C403 .027
C404 .002
C405 .22UF
C406 .47
C407 .015
C408 .015
C409 .027
C410 .015
C411 .22
C412 100PF
C413 100PF
C414 .1UF
C415 2.2UF
C416 100PF
C417 .001
C418 .001
C420 33UF
C421 20PF
C501 10 MFD
C502 470PF
WALLBOX TAN-BLK
OSC TAN
BLK-WHT
WHT-BLU
PUR-WHT
ORN-RED
GRY-WHT
PINK
ORN
PUR
BRN
TAN-GRN
YEL-RED
ORN-BLU
CHARGER
BATTERY POWER
LOAD MEM.
SCAN EN.
DATA EN.
DATA OUT
RUN STOP COUNTER

SEQUENCE 19. SCAN CYCLE COMPLETED

1. When rotation of the Home Switch Cam releases the Home Switch into the cam dip, the opto-encoder counter in Logic Board MP is reset to zero . . . If no other selections are in the memory, then the circuit to the Play Control Relay K1 is disconnected. Relay contacts K1-1 and K1-2 return to standby and turn off the mechanism power.

2. K1-1 applies a dynamic brake across the magazine armature bringing the motor to a quick stop thus completing the mechanism cycle.





MICRO SWITCH AND CAM ADJUSTMENT

Cycle of the record mechanism is controlled by the operation of four micro switches actuated in the proper sequence by a rotating cam shaft.

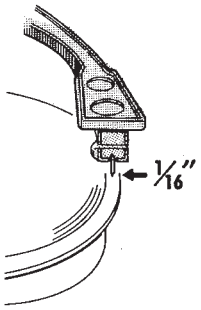
To adjust, phonograph must be in stand-by position (gripper arm over record magazine), and the service scan switch moved to "off".

1. Rotate the knurled end of the gripper motor shaft clockwise until a jam occurs.

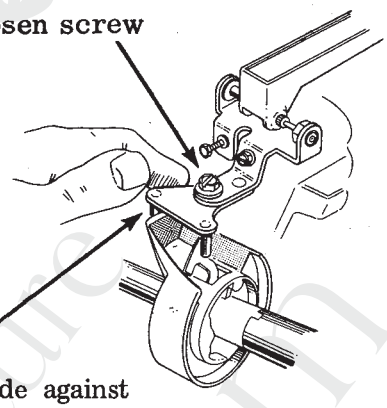
2. At this point, the No. 1 switch roller must be in the cam groove and in contact with the back drop-off. If the roller is cammed out, loosen the two cam set screws and rotate the cam until the proper position is obtained.

TONE ARM ADJUSTMENTS

NEEDLE SET-DOWN



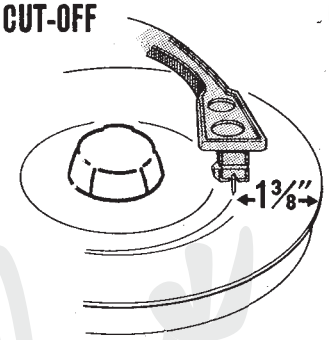
Stop mechanism just before needle lands on record. Needle must be at least 1/16" in from record edge.



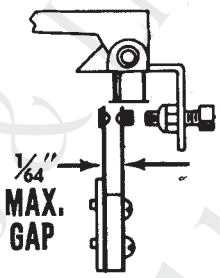
To adjust:

Hold outer pin guide against cam and move Tone Arm "in" or "out"—Tighten screw.

RECORD CUT-OFF



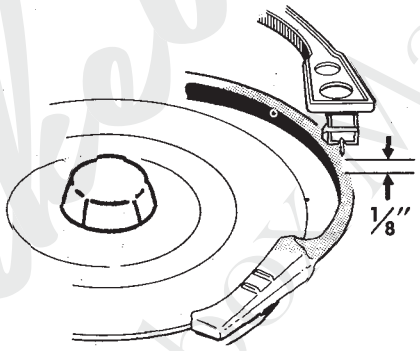
Cut-off position is 1-3/8" from record edge.



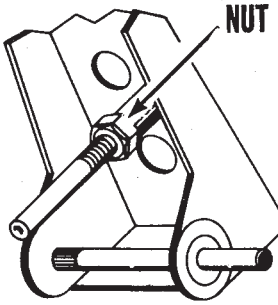
To adjust:

Move adjustment screw to obtain proper gap.

NEEDLE CLEARANCE ABOVE GRIPPER ARM



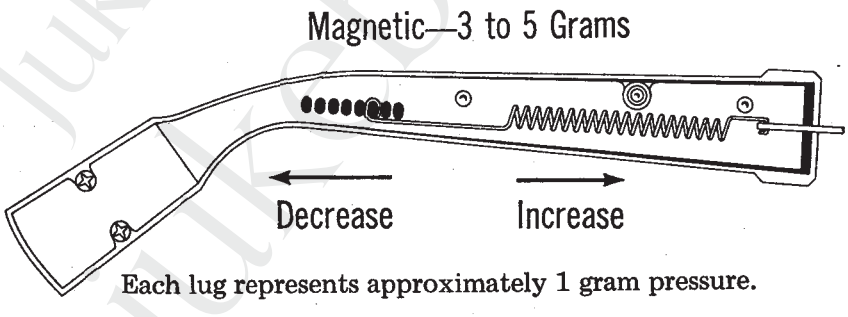
On even numbered selections the tone arm needle passes over the bow of the gripper arm. Needle clearance must be 1/8".



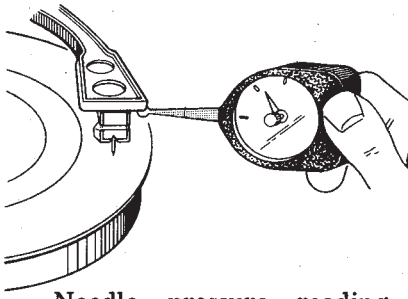
To adjust:

Loosen nut. Raise or lower adjustment screw for needle clearance. Tighten nut.

TONE ARM GRAM PRESSURE ADJUSTMENT

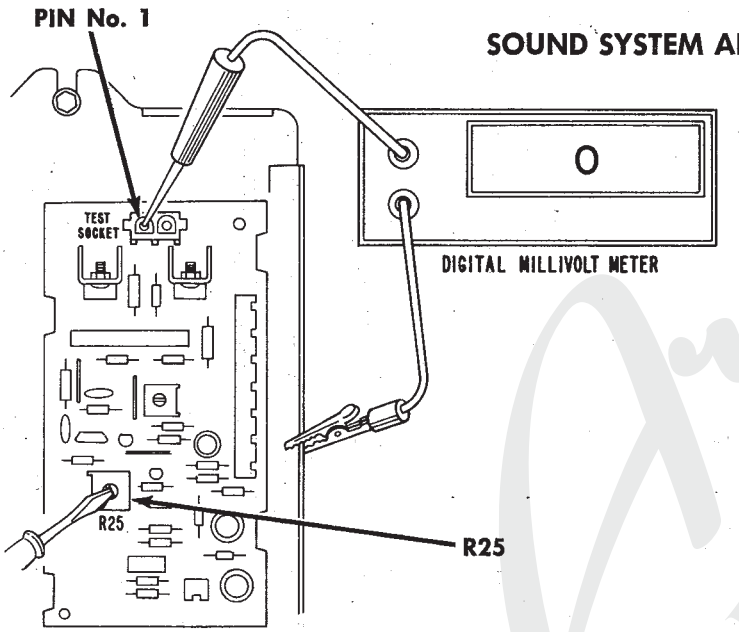


Each lug represents approximately 1 gram pressure.



Needle pressure reading taken at the point of contact of the needle on the record.

SOUND SYSTEM ADJUSTMENTS



DRIVER P.C. BOARD

CENTER VOLTAGE (OUTPUT LINE) ANI
IDLE CURRENT ADJUSTMENT.

These controls are located on the DRIVER P.C
BOARDS (52265-A) for each channel. They
should only be re-adjusted when a DRIVER P.C
board or HEAT SINK assembly (52360-A) ha
been replaced or repaired.

CONDITIONS:

1. Line voltage: 120 volts.

2. Load: None. Disconnect plug from SPEAKER
TERMINAL STRIP socket on front of amplifier

3. Signal: None. Turn VOLUME CONTROL to
minimum.

EQUIPMENT: Digital Millivoltmeter

PROCEDURE:

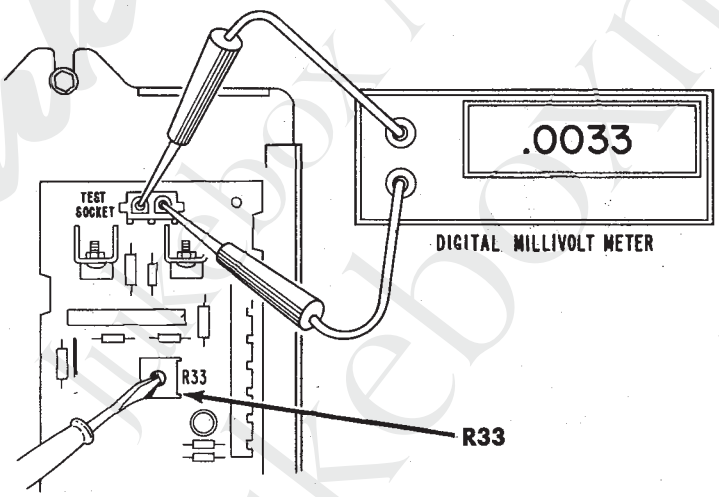
1. With POWER OFF, pre-set R33 (current) to
minimum (CCW) and R25 (voltage) to center
of rotation.

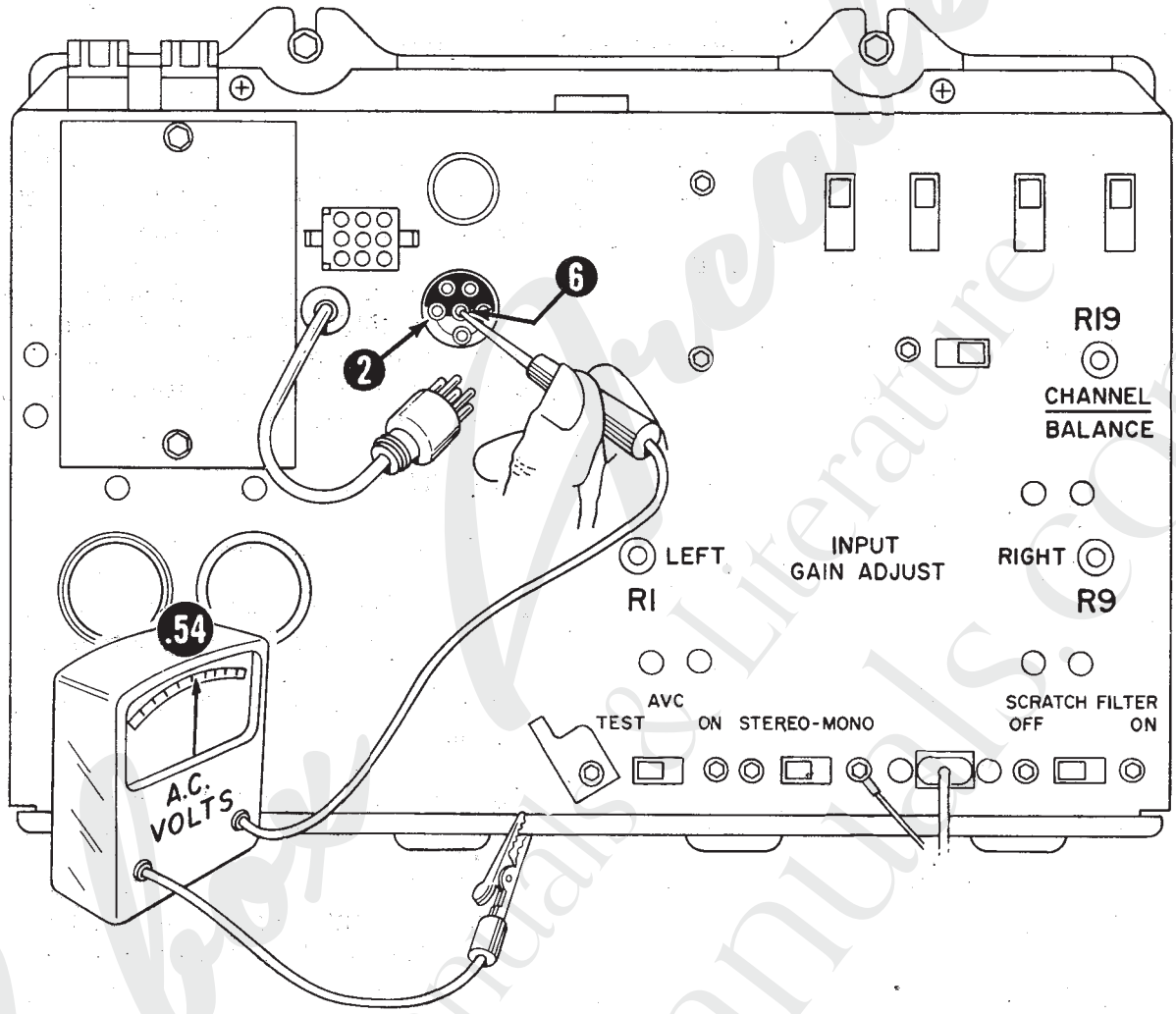
2. Connect meter between ground and pin #1 o
TEST SOCKET on driver P.C. board to be
adjusted.

3. Switch POWER ON. Adjust R25 for 0 volts
plus or minus .001 volts.

4. Connect meter to pins 1 and 2 of TEST SOCKET

5. Adjust R33 for .0033 volts plus or minus .001
volts. (Indicates 7 to 13 MA through R43)





INPUT GAIN ADJUSTMENT (R1 and R9)

These controls are located on the PRE-AMPLIFIER and A.V.C. P.C. BOARD (52295-A) and are accessible through the front of the amplifier. They should only be adjusted when the PICK UP CARTRIDGE has been replaced or the PRE-AMPLIFIER P.C. BOARD has required service or replacement.

CONDITIONS:

1. Set A.V.C. switch to TEST.

2. Set STEREO-MONO switch to STEREO.

3. Set SCRATCH FILTER switch to OFF.

EQUIPMENT:

1. RMC STEREO TEST RECORD #1001.

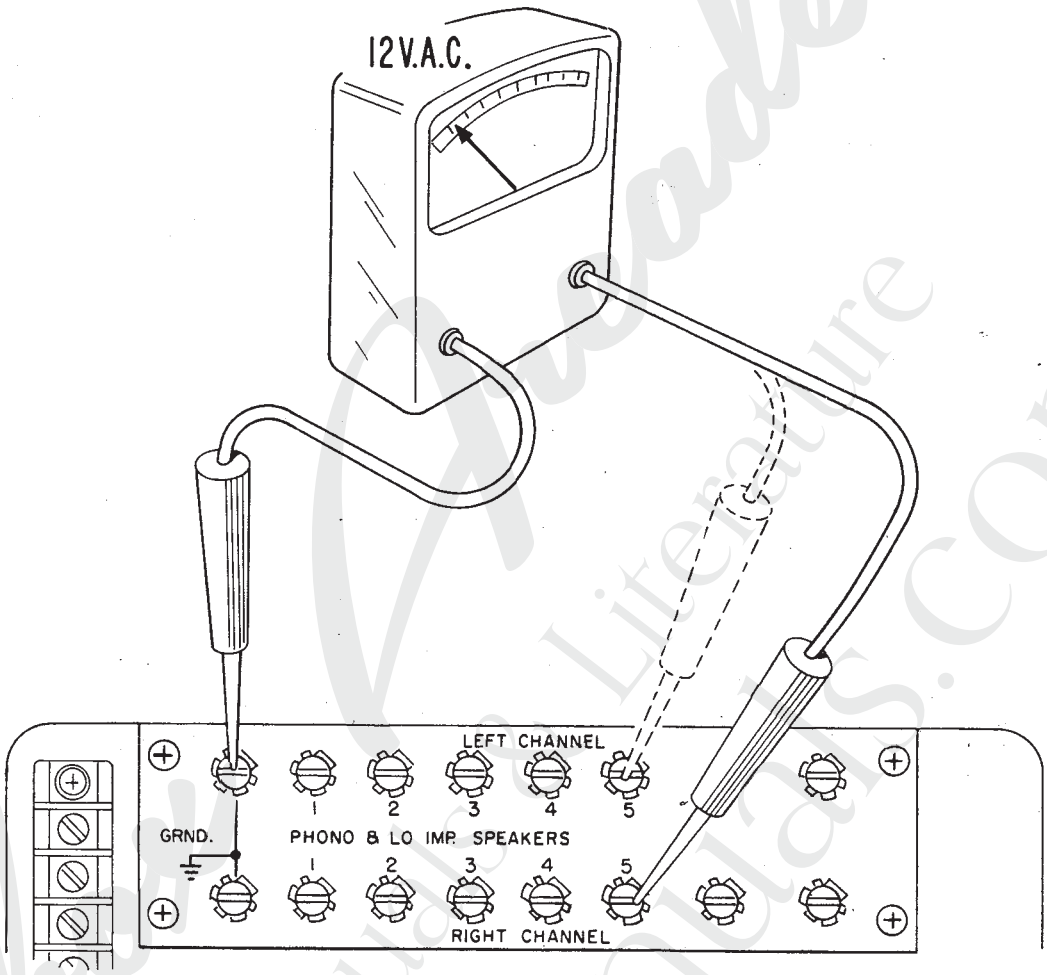
2. A.C. Voltmeter (1000 ohms per volt minimum)

PROCEDURE:

1. Remove VOLUME CONTROL plug from socket on amplifier front.

2. Connect the A.C. voltmeter to pin #6 of the VOLUME CONTROL SOCKET and GROUND. Play Band #2 (right channel) of test record. Set the RIGHT INPUT GAIN ADJUST (R9) for .54 volts.

3. Connect the A.C. voltmeter to pin #2 of the VOLUME CONTROL SOCKET and GROUND. Play Band #1 (left channel) of test record. Set the LEFT INPUT GAIN ADJUST (R1) for .54 volts.



BALANCE CONTROL

This control is located on the TONE CONTROL P.C. BOARD (52260-A) and is accessible through the amplifier front. Re-adjustment should only be required if the amplifier has been serviced.

CONDITIONS:

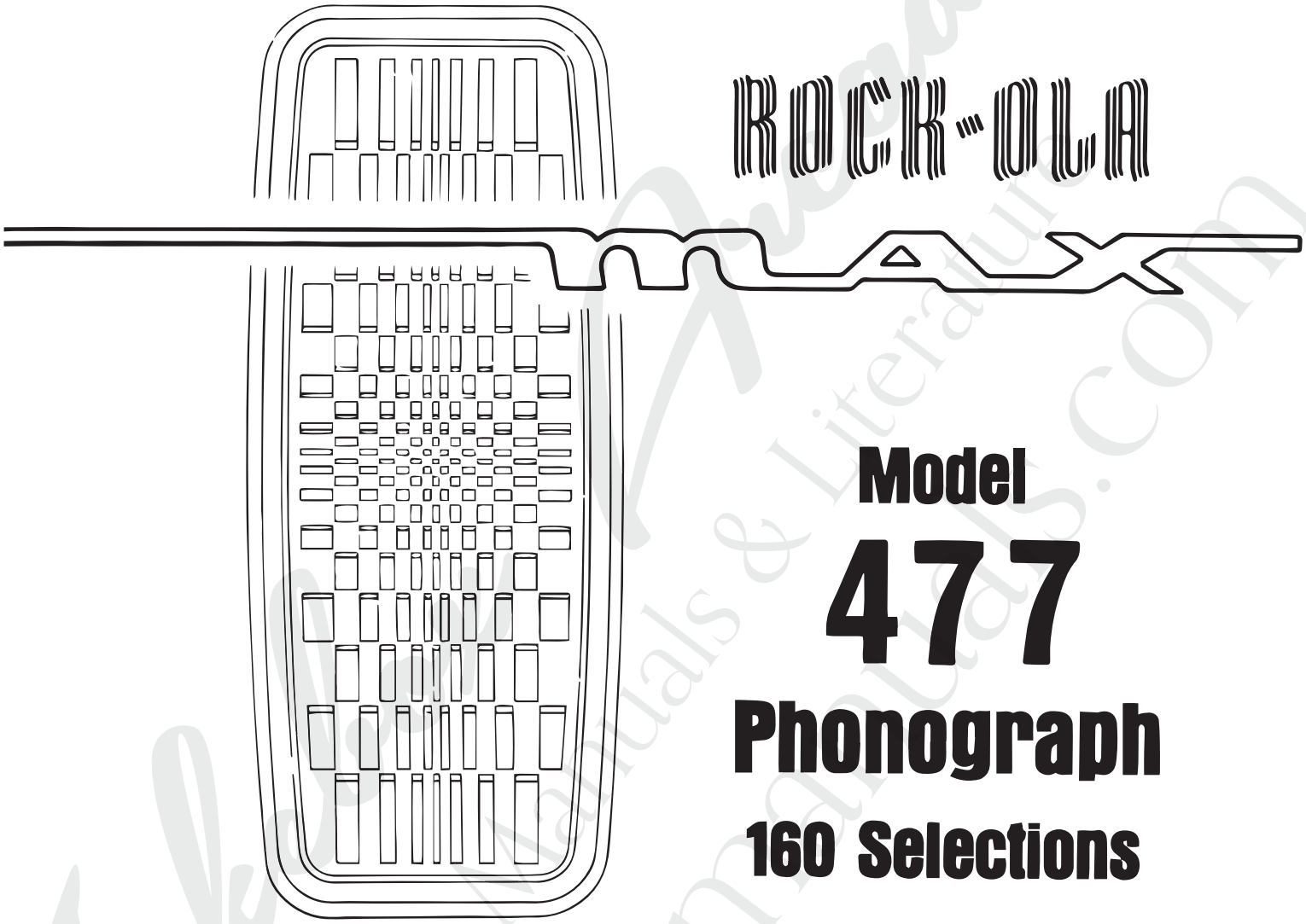
1. Set A.V.C. switch to ON.
2. Set STEREO-MONO switch to STEREO.
3. Set SCRATCH FILTER switch to OFF.
4. Set TONE CONTROLS to MAXIMUM.
5. Set VOLUME CONTROL to MAXIMUM.
6. INPUT GAIN CONTROLS must be adjusted correctly.

EQUIPMENT:

1. RMC STEREO TEST RECORD #1001.
2. A. C. VOLTMETER (1000 ohms per vo minimum)

PROCEDURE:

1. Play Band #3 (right and left channels) of th test record. Connect the A.C. voltmeter t ground and terminals #5 on the AUDIO DIS TRIBUTION terminal strip. Alternately connec the meter to #5 left and #5 right. Adjust th BALANCE CONTROL (R19) for equal voltage on both channels. (Approximately 12 volts)



Model 477 Phonograph

160 Selections

PARTS CATALOG

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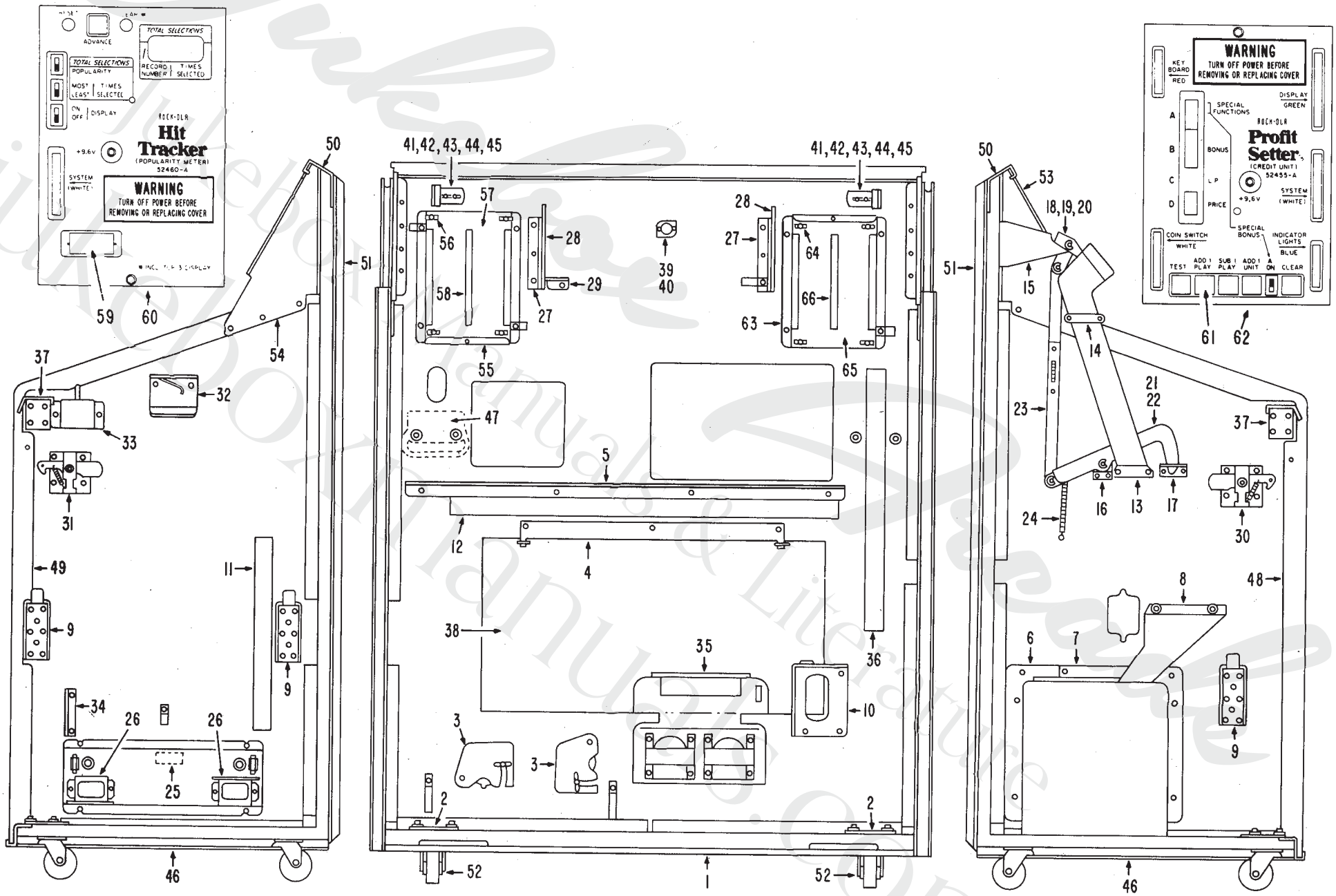
TOTAL SELECTIONS
ADVANCE
TOTAL SELECTIONS
POPULARITY
MOST / LEAST
TIMES SELECTED
ON / OFF
DISPLAY
RECORD NUMBER
TIMES SELECTED
ROCK-OLA
Hit Tracker
(POPULARITY METER)
52460-A
+9.6V
SYSTEM (WHITE)
WARNING
TURN OFF POWER BEFORE REMOVING OR REPLACING COVER
* INCL. THE 3 DISPLAY
59
60
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41,42,43,44,45
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18,19,20
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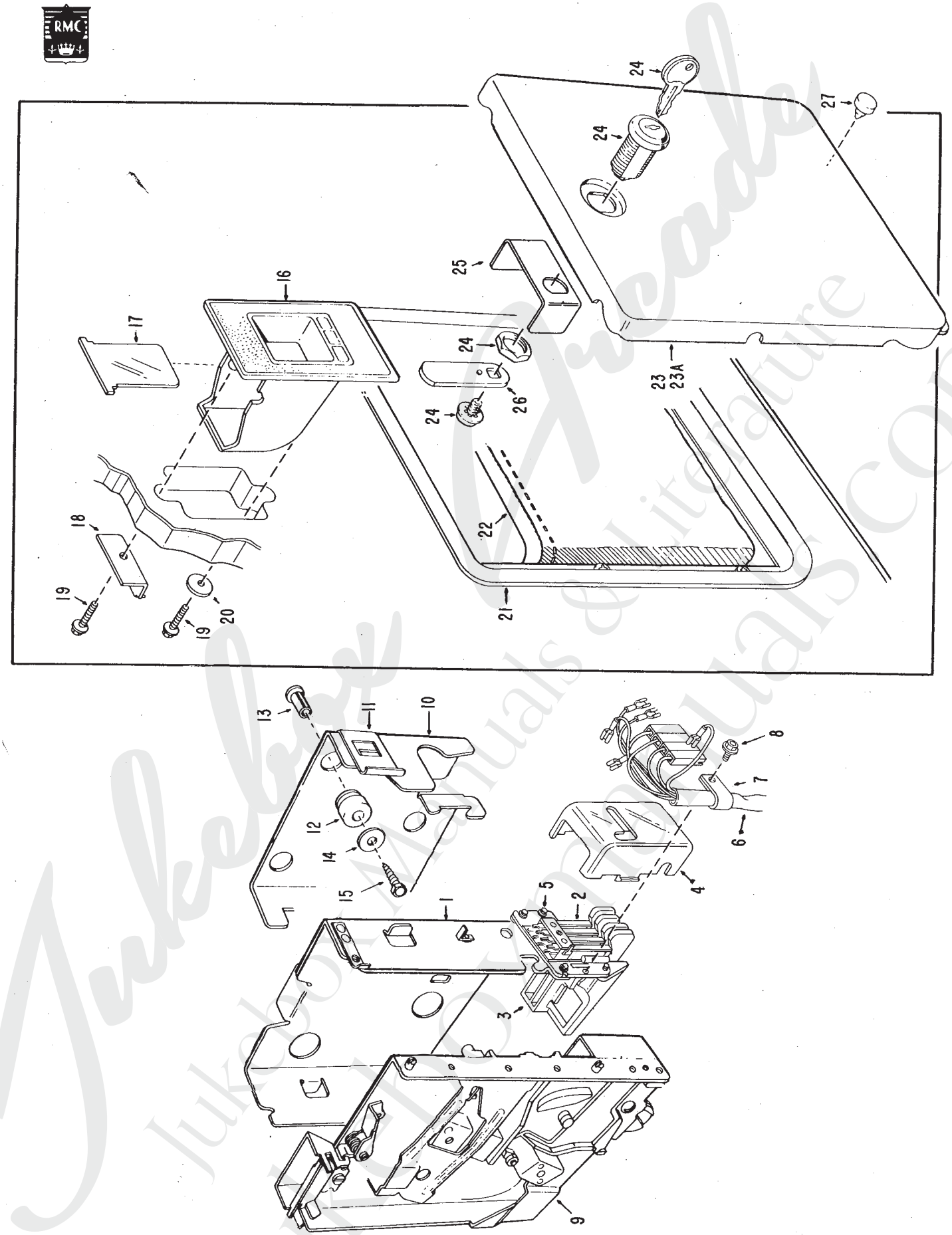
WARNING
TURN OFF POWER BEFORE REMOVING OR REPLACING COVER
KEY BOARD
RED
DISPLAY
GREEN
SPECIAL FUNCTIONS
A
B
C
D
BONUS
L P
PRICE
ROCK-OLA
Profit Setter
(CREDIT UNIT)
52455-A
+9.6V
SYSTEM (WHITE)
COIN SWITCH
WHITE
SPECIAL BONUS
INDICATOR LIGHTS
BLUE
TEST
ADD 1 PLAY
SUB 1 PLAY
ADD 1 UNIT
A ON
CLEAR
61
62

CABINET AND RELATED PARTS

Item	Part No.	Description
1	52873	Door Mtg. Channel
2	51712	Caster Backing Plate
3	46956	Cable Cover
4	52636	Back Door Lock Plate
5	52869	Rest Angle
6	48980	Cash Box Housing
7	49043	Lock Strap Cash Box
8	49863	Lower Coin Chute
9	52845	Mech Support Brkt
10	52846	Mech Support-Rear (R-H)
11	52994	Raceway Duct 11-7/8
	52979	Raceway Cap 11-7/8
12	52980	Raceway Duct 23-7/8
	52979	Raceway Cap 23-7/8
13	52919-A	Coin Chute Assembly
14	52076	Coin Chute Strap
15	52868	Plunger Lever Mtg. Brkt
16	52012-A	Actuator Bracket Assembly
17	51998	Actuator Lever Guide
18	52848	Plunger Lever
19	52883	Plunger Lever Pin
20	ST-9245	"E" Ring — Truarc
21	52847	Actuator Lever
22	ST-9258	"E" Ring — Truarc
23	52921-A	Connecting Link Assembly
24	50811	Latch Spring
25	47563	Noise Suppression Capacitors
26	42817	25W Ballast — 120VAC-60HZ
	49626	25W Ballast — 220/240VAC-50HZ
	52019	25W Ballast — 100VAC-50/60HZ (Japan)
27	52886	Module Support Brkt
28	52888	Module Pivot Plate
29	52811	Module Reinforce Brkt
30	51476-A	Door Latch Assembly R.H.
31	51477-A	Door Latch Assembly L.H.
32	52913-A	Dome Stay Rest Angle Assembly
33	52664-A	Scan Switch Assembly
	52554	Scan Switch Only
34	52702	Bracket — Universal M-N-L Housing

Item	Part No.	Description
35	52465-A	Audio Distribution Assembly
36	52981	Raceway Duct 23-7/8
	52979	Raceway Cap 23-7/8
37	52844	Tie Bar
38	52686-1A	Back Door & Bumper Assembly
39	V-438	25 Watt Starter
40	50752	Starter Socket
41	V-10671	Fluorescent Lamp 25W Daylite 28"
42	46634	Fluorescent Light Holder
43	46861	Flur-O-Lock
44	49552	Light Socket Insulator
45	52892	Light Mtg Brkt
46	52842	Rub Strip
47	49997-A	Handle & Brkt Assembly
48	52840	Cabinet Trim Extrusion R-H
49	52841	Cabinet Trim Extrusion L-H
50	52872	Dome Hinge Mtg Brkt
51	52843	Bumper Strip
52	ST-6030-2	Caster
53	52870	Top Rail Support R-H
54	52871	Top Rail Support L-H
HIT TRACKER (POPULARITY METER) No. 52460-A		
55	52427	Unit Mounting Plate
56	ST-10657	Circuit Board Support
57	52608	Board Insulator
58	45816-6¼	Rubber Cushion
59	52230-A	Pop Meter P.C. Board Assembly
60	52428	Pop Meter Cover
PROFIT SETTER (CREDIT UNIT) No. 52455-A		
61	52225-A	Credit Unit P.C. Board Assembly
62	52426	Credit Unit Cover
63	52427	Unit Mounting Plate
64	ST-10657	Circuit Board Support
65	52608	Board Insulator
66	45816-6¼	Rubber Cushion

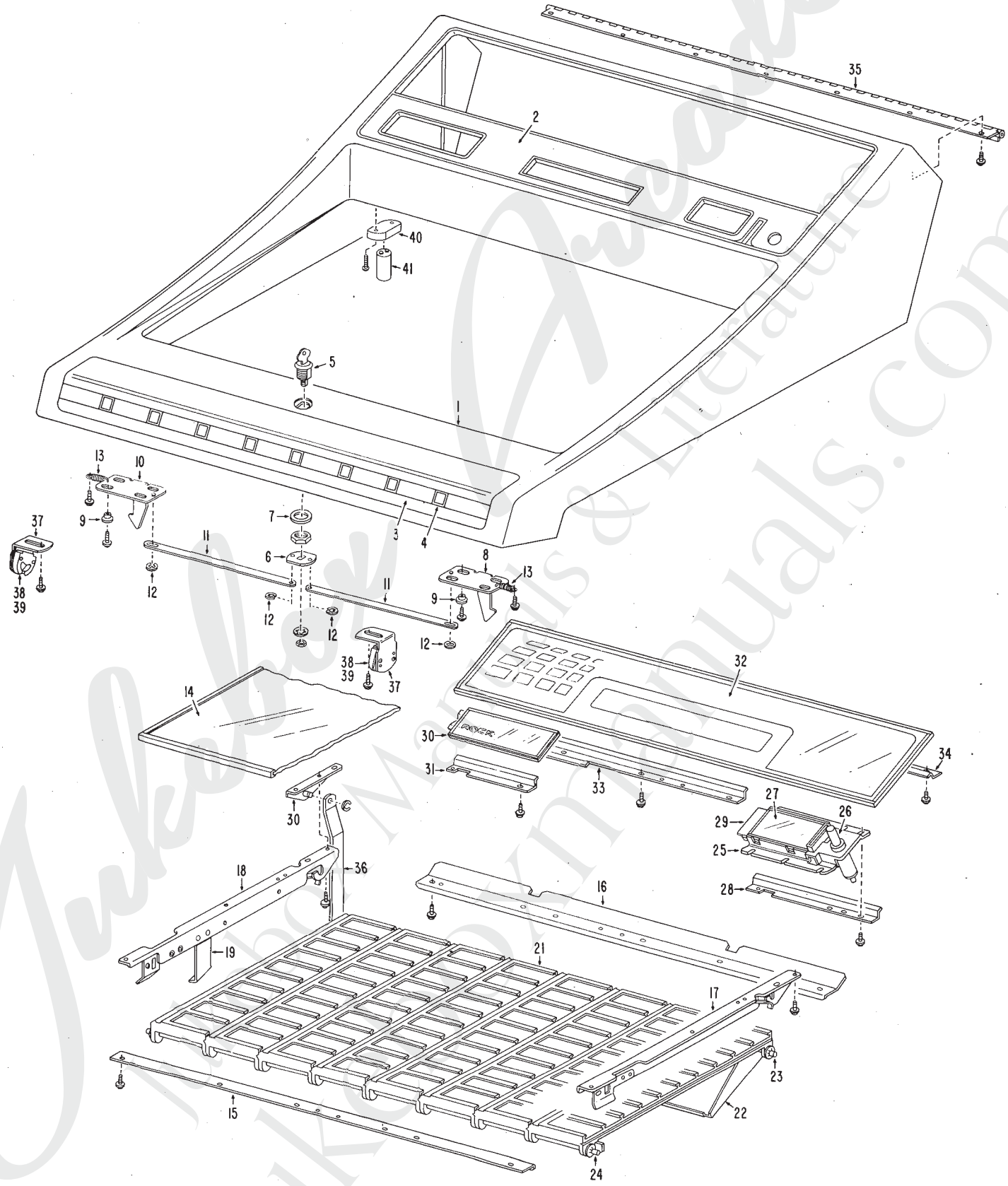


SLUG REJECTOR HOUSING ASSEMBLY

Item	Part No.	Description
1	45411-A	Slug Rejector Housing Riveting Assem.
2	52530-A	Coin Switch, Guide & Cover Assembly – 50¢
	52535-A	Coin Switch, Guide & Cover Assembly – 25¢
	52540-A	Coin Switch, Guide & Cover Assembly – Export
3	45460-1	Coin Guide (Only)
4	45463-1	Coin Switch Cover (Only)
5	ST-9733	4-40 X 1/4 Hex Flg. P.K. Swageform
6	52917-A	Coin Switch Cable Assembly – U.S.A.
	52922-A	Coin Switch Cable Assembly – Export
7	ST-3604	Black Nylon Clamp 7/16"
8	ST-8258	6-32 X 3/8 Hex Flg. Swageform
9	47165	Slug Rejector – 50¢ U.S.A.
10	45042-A	Slug Rejector Housing Cab. Rivet Assem.
11	44867	Latch Spring (Only)
12	44517	Mounting Grommet
13	44518	Grommet Spacer
14	ST-3139	Flat Washer
15	ST-9717	#10 X 1 Hex. Flg. (Type A)

CASH BOX HOUSING ASSEMBLY

16	48982	Coin Return Cup
17	49041	Coin Return Flap
18	49040	Coin Cup Mtg. Bracket
19	ST-9722	8 X 3/4 Hex Flg. (type B)
20	ST-4843	Flat Washer
21	49060	Cash Door Frame
22	49062	Cash Bag
23-A	51019-A	Cash Box Door Assembly (Compl)
23	49061	Cash Box Door (Only)
24	ST-10441	Lock with Keys
25	49058	Cash Box Lock Guard
26	50796	Cam Bolt – Cash Box
27	43293	Button Bumper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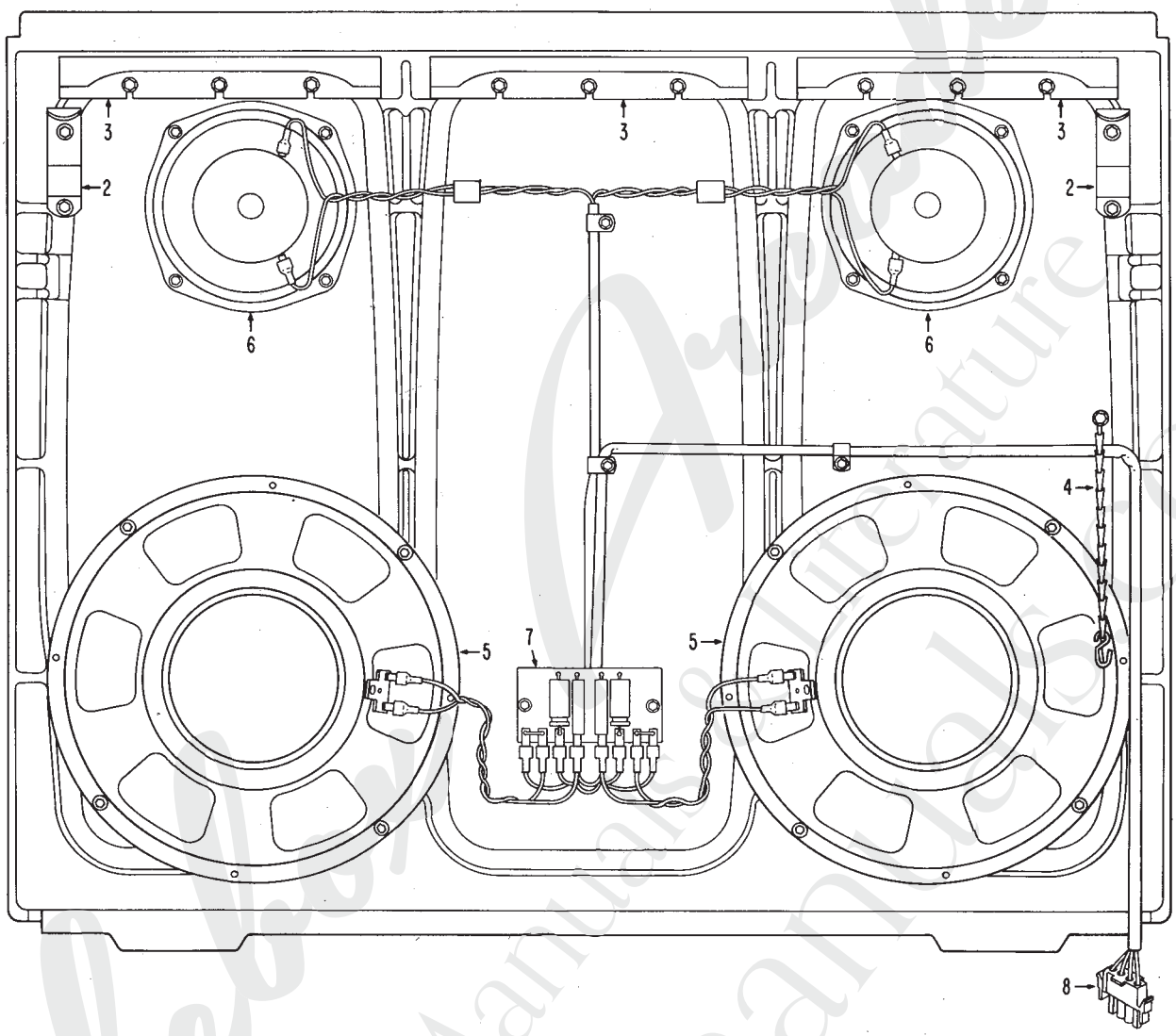
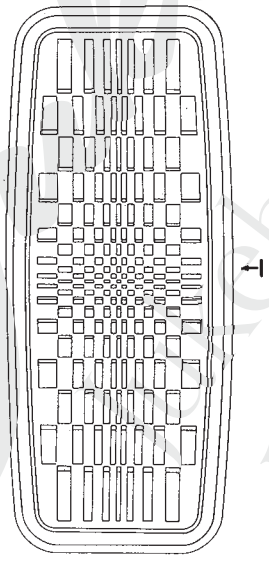
DOME ASSEMBLY No. 52785-A

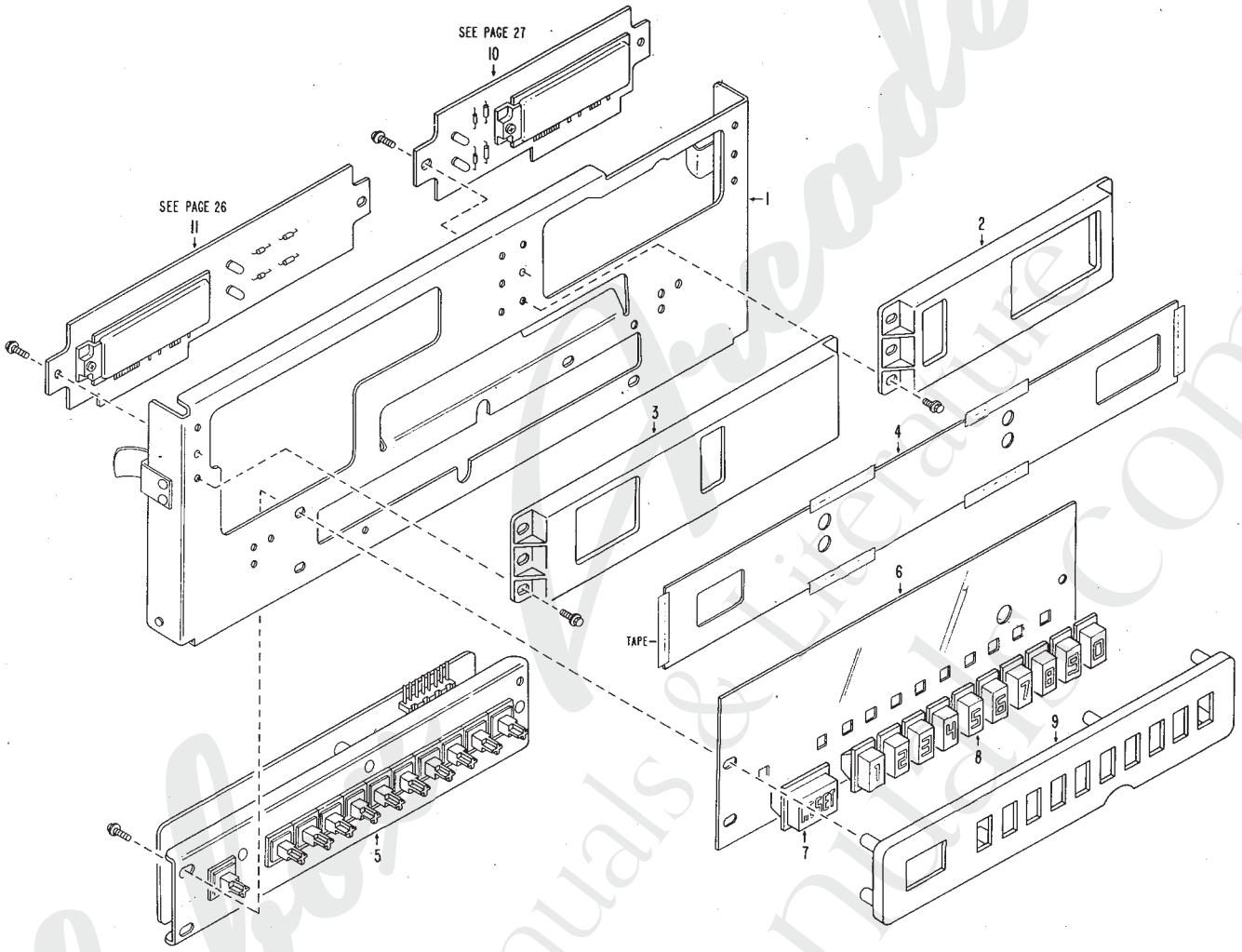
Item	Part No.	Description	Item	Part No.	Description
1	52802	Dome Casting	22	52993	Light Reflector
2	52810	Dome Insert	23	52146	Program Tie Rod-Long
3	52838	Dome Front Extrusion	24	51812	Program Tie Rod
4	52809	Rock-Ola Logo Button		ST-9873	Push Nut
		Rock-Ola Logo Inserts	25	52803	Coin Entry Casting
5	ST-10423	Lock w/Key	26	49039-1	Reject Button
	ST-10423K	Key Only (P600)		43800-1	Reject Button Spring
6	51262-A	Cam Bolt Rivet Assembly		46273	Rubber Washer
7	ST-10473	Washer		ST-9827	Keeper
8	52951-A	Dome Latch R.H. Rivet Assem.	27	52814	Instruction Glass
9	52837	Dome Latch Bushing	28	52826	Instruction Glass Retainer
10	52952-A	Dome Latch L.H. Rivet Assem.	29	52817	Instruction Card U.S.A.
11	52834	Dome Lock Arm		52818	Instruction Card German
12	ST-9263	"E" Ring		52907	Instruction Card Japan
13	45474	Program Holder Spring	30	52815	Rock-Ola Glass
14	52812	Program Glass	31	52827	Rock-Ola Glass Retainer
	50836	Vinyl Channel (1/8 x 30-5/8)	32	52813	Display Glass
	50836	Vinyl Channel (1/8 x 11-5/8)	33	52823	Display Glass Retainer-Bottom
15	52828	Program Glass Retainer	34	52822	Display Glass Retainer-Top
16	52824	Program Glass Top Retainer	35	52839	Dome Hinge
17	52956-A	Program Mtg. Brkt. R.H.	36	52831	Dome Stay
18	52957-A	Program Mtg. Brkt. L.H.	37	52892	Light Mtg. Bracket
19	52901	Scan Switch Cam	38	46634	Fluorescent Light Holder
20	52958-A	Dome Stay Brkt. Assembly	39	49552	Light Socket Insulator
21	52998-A	Program Holder Assembly	40	50752	Starter Socket
	47031	Program Holder Number Strip	41	V-438	25 Watt Starter
	46998-3	Program Holder Only			





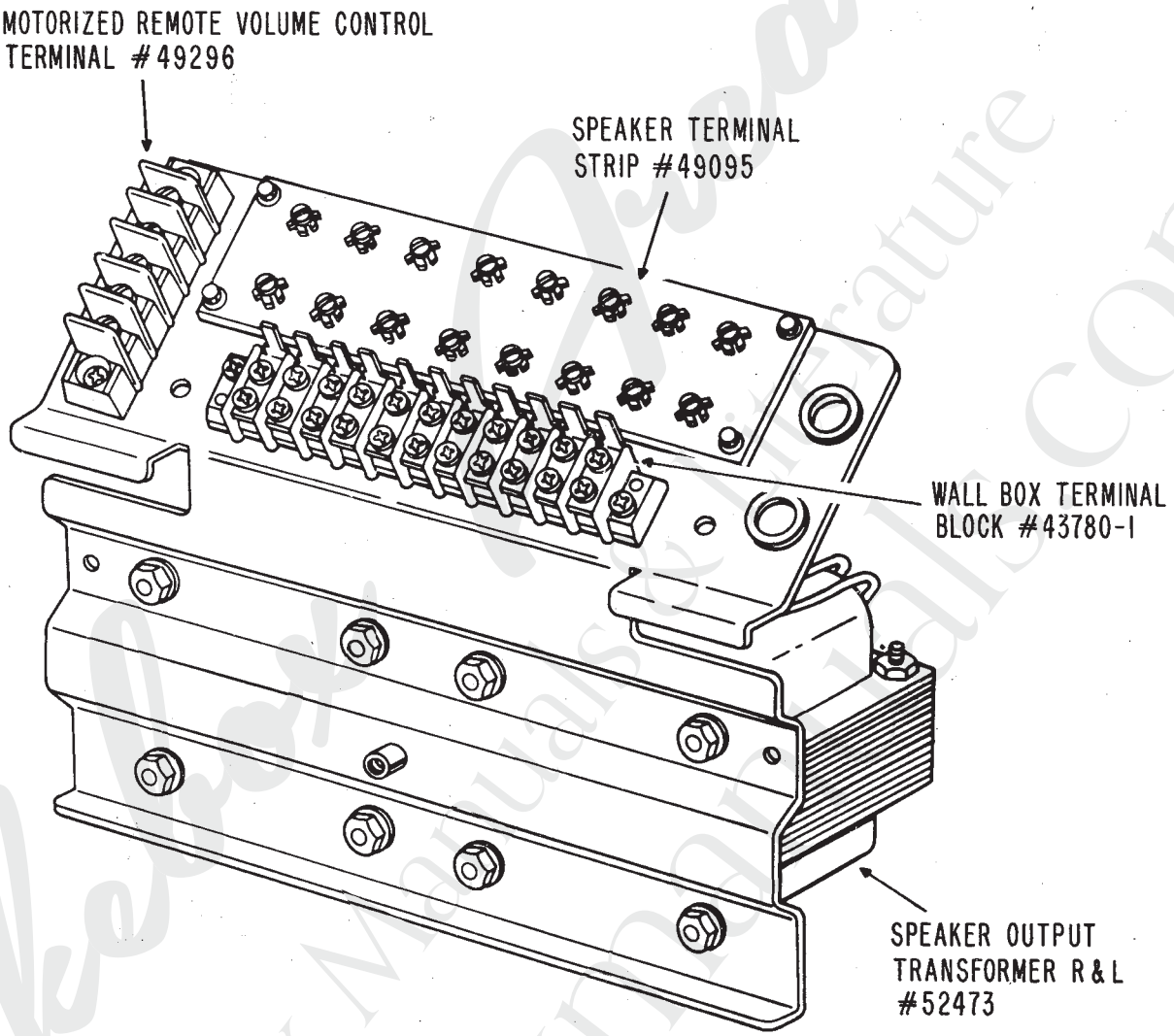
FRONT DOOR ASSEMBLY No. 52790-A

Item	Part No.	Description
1	52805	Grille Cloth (Formed)
	ST-10363	Adhesive (St. Clair 4587)
2	51412	Door Latch Bracket
3	52808	Door Light Shield
4	ST-10457	Door Chain
	19127	Hook Chain
5	52903	12" Speaker
6	51809	6" Speaker
7	52890-A	Speaker Crossover Term Brd
	48844	8 Mfd 35V RMS NP Capacitor 20%
	43207	5 Ohm Resistor 5W 10%
8	ST-10590	Universal 4 Circ MNL Pin Hsg

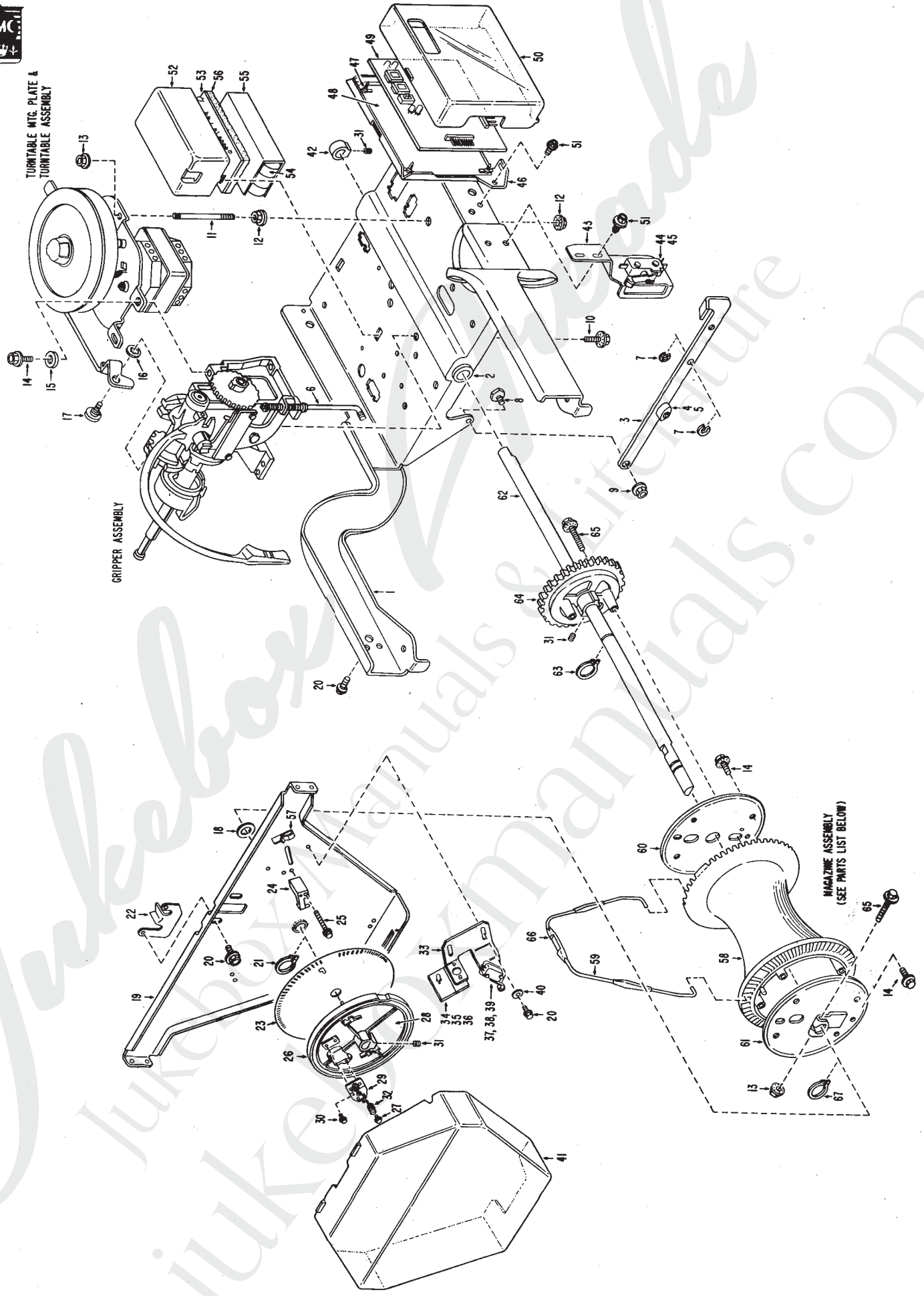


MODULE ASSEMBLY No. 52780-A

Item	Part No.	Description	Item	Part No.	Description
1	52923-A	Front Plate Rivet Assem.	5	51498	Diode 2N4148
2	52306-A	Record Selection Casting		ST-10578	8 Cir. Right Angle Post Connector
3	52304	Signal Light Casting		ST-4555	6-32¼ Phil Pan Hd M.S.
4	52819	Display Card (Domestic)	6	52997	P.B. Blue Filter
	52820	Display Card (German)	7	52243	Reset Button (Domestic)
	52908	Display Card (Japan)		52244	Reset Button (German)
5	52425-A	Keyboard Assembly	8	52242	Switch Button Set
	52179-A	Mtg. Channel Rivet Assem.	9	52804	Push Switch Housing
	52252	Switch-Pushbutton	10	52030-A	Record Play P.C. Brd Assem.
	52253	Keyboard P.C. Board	11	52035-A	Credit Display Brd Assem.



AUDIO DISTRIBUTION ASSEMBLY #52465-A

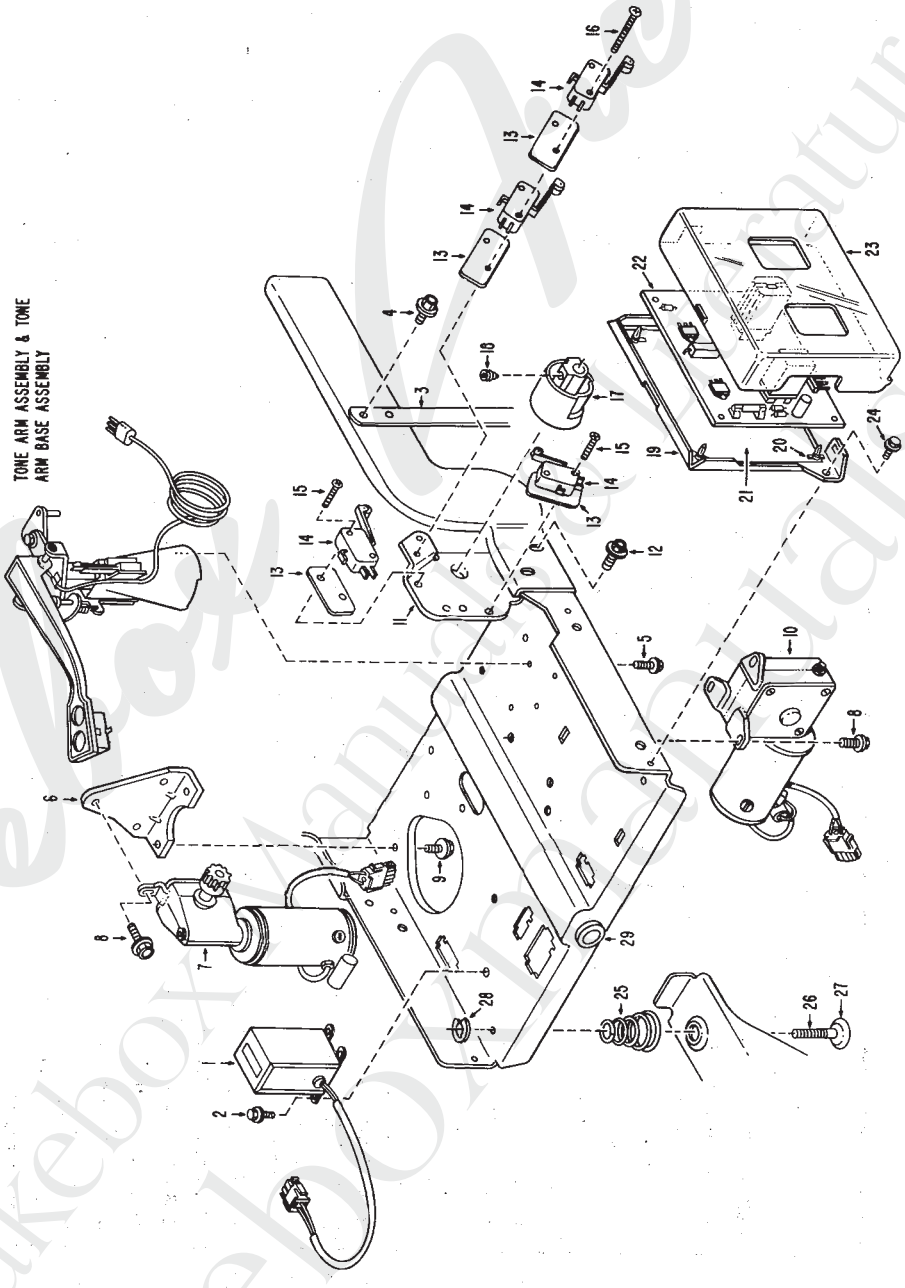


MECHANISM ASSEMBLY 160 SELECTION NO. 52185-A

Item	Part No.	Description
1	52475-A	Chassis Plate Weld Assembly
2	52308	Main Bearing
3	52478-A	Linkage-Gripper & Stud Rivet Assembly
4	34317	Odd-Even Alternating Dog
5	ST-9249	Truarc "E" Ring
6	52202	Connecting Rod-Gripper Linkage
7	ST-9825	Keeper
8	34422-1	Hex Stud
9	ST-8722	10-32 Flg. Hex Whiz Lock Nut
10	ST-2588	1/4-20 x 3/8 Hex Flg.
11	36312-1	Turntable Mounting Stud
12	ST-8723	1/4-20 Whiz Lock Nut
13	ST-8722	10-32 Whiz Lock Nut
14	ST-2578	10-32 x 3/8 Hex Flg. Whiz Lock
15	ST-4864	.203 I.D. x 1/2 O.D. x 1/16 Flat Washer
16	ST-4862	#10 Shakeproof Lock Washer
17	35813-1	Drive Bracket Screw
18	52194	Washer .640 x 1 x .030
19	52187	End Mounting Plate
20	ST-2566	8-32 x 1/4 Hex Flg. Whiz Lock
21	ST-9377	Retaining Ring
22	46378	Rest Bracket - Gripper Arm
23	52189	Encoder Disc
24	52173	Guide Block
25	ST-2575	8-32 x 1¼ Hex Flg. Whiz Lock
26	52171	Adjustment Disc
27	ST-10437	8 x 5/8 Hex Flg. (Type B)
28	52172	Adjustment Disc Holder
29	52518-A	Nut Mounting Plate Assembly
30	ST-8295	8 x 5/16 Hex Flg. (Type B)
31	ST-3509	1/4-20 x 5/16 Hex Socket Set Screw
32	37672	Tension Spring
33	52188	Module Mtg. Plate
34	52250-A	Opto Board Assembly
35	52197	Opto Board Insulator
36	52766	Opto Light Shield
37	ST-6551	4-36 x 9/16 Phil Pan Hd. M.S.
38	43494	Micro Switch Insulator
39	43414	SPDT Enclosed Snap Switch
40	ST-4835	11/64 I.D. x 1/2 O.D. x .032 Flat Washer
41	52174	End Plate Cover
42	52193	Main Shaft Collar
43	52204	Odd-Even Switch Bracket
44	52389	A-B Snap Switch
45	ST-4570	6-32 x 7/8 Phil Pan Hd. M.S.
46	52199	Board Mtg. Plate
47	ST-10657	Circuit Board Support
48	52198	Power Board Insulator
49	52240-A	Logic P.C. Board Assembly
50	52176	Logic Board Cover
51	ST-8269	8-32 x 3/8 Hex Flg. Swageform
52	52178	Battery Housing
53	52255-A	Battery Board Assembly
54	52512-A	Battery Pack Assembly
55	52731	Battery Pack Insulator
56	41352	Foam Cushion 1/4 x 1/2 x 4
57	ST-9819	Cable Clamp

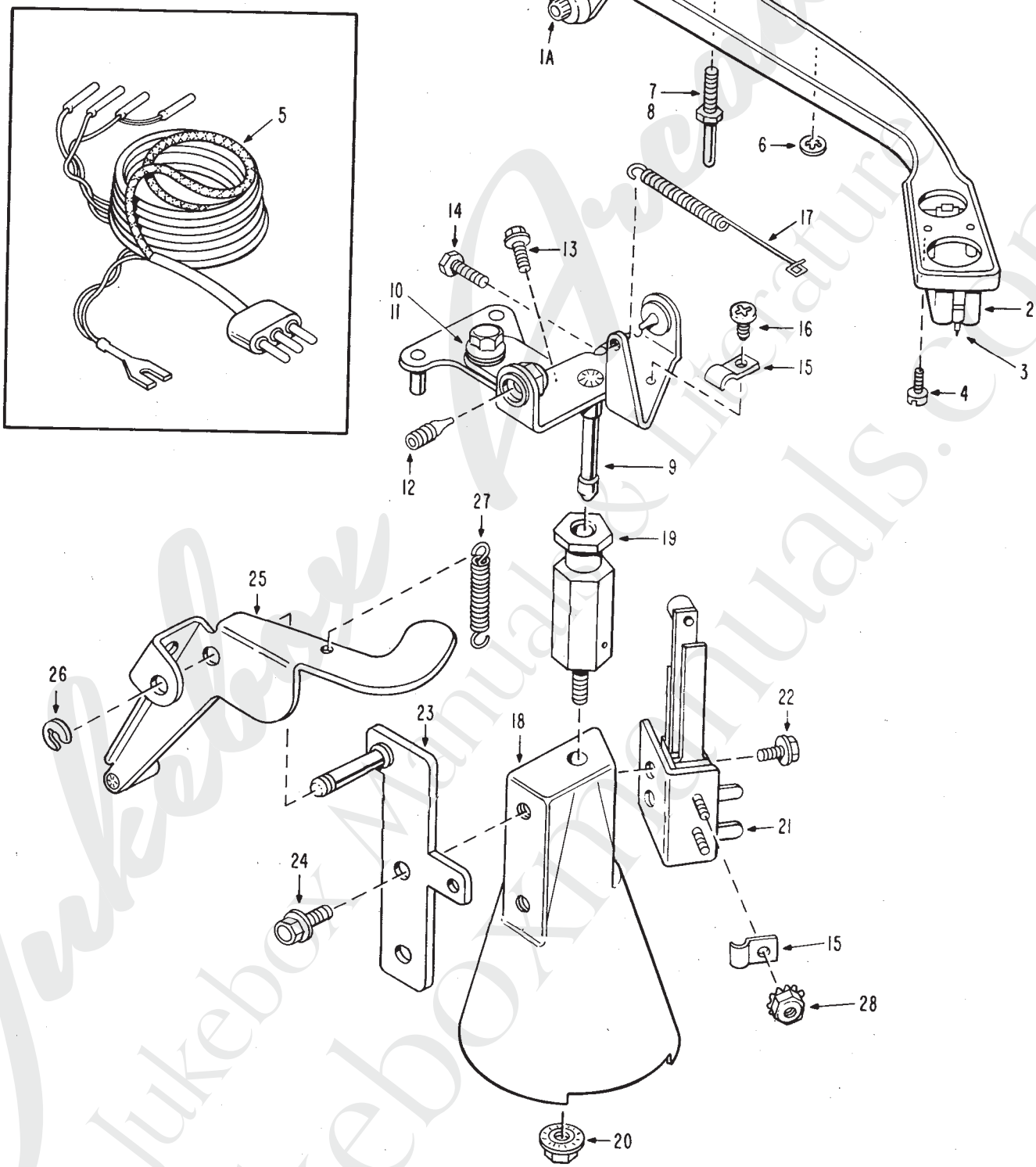
MAGAZINE ASSEMBLY NO. 52120-A

Item	Part No.	Description
58	43030	Hub Magazine
59	43222-A	Separator Wire Assembly
60	43218-2	Cover – Magazine Wire
61	43226-1A	Cover & Bracket Welding Assembly
62	52192	Main Shaft
63	ST-9194	Truarc Retaining Ring
64	52177	Drive Gear
65	ST-2586	10-32 x 1-1/2 Hex Flg. Whiz Lock
66	47061	Magazine Label
67	ST-9377	Retaining Ring


TONE ARM ASSEMBLY & TONE
ARM BASE ASSEMBLY

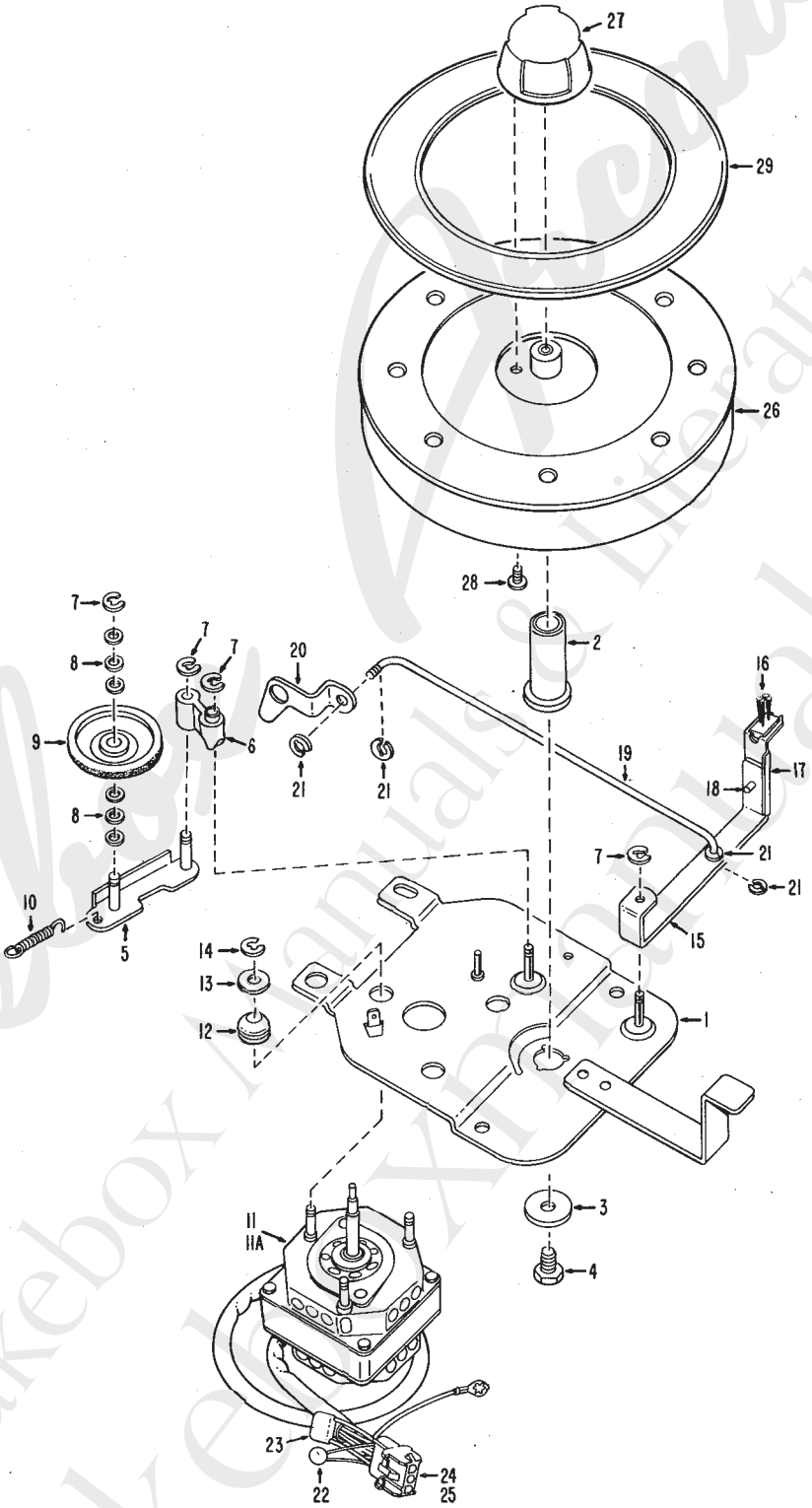
MECHANISM ASSEMBLY — CONTINUED

Item	Part No.	Description
1	52476-1A	Electronic Counter Assembly
2	ST-8258	6-32 X 3/8 Hex Flg.
3	39120-3	Record Guard Steel Band
4	ST-2566	8-32 X 1/4 Hex Flg. Whiz Lock
5	ST-2569	8-32 X 1/2 Hex Flg. Whiz Lock
6	52206	Mounting Bracket — Gripper Motor
7	52498-A	Gripper Motor Assembly — Compl — MAMCO
		Interchangeable with
	52499-A	Gripper Motor Assembly — Compl — RAE
8	ST-2589	1/4-20 X 1/2 Hex Flg. Whiz Lock
9	ST-2588	1/4-20 X 3/8 Hex Flg. Whiz Lock
10	52502-A	Magazine Motor Assembly — RAE
11	43492	Micro Switch Mounting Plate
12	ST-2578	10-32 X 3/8 Hex Flg. Whiz — Lock
13	43494	Micro Switch Insulator
14	43414	Spdt Enclosed Snap Switch
15	ST-6551	4-36 X 9/16 Phil Pan Hd. M.S.
16	ST-6552	4-36 X 1 Phil Pan Hd. M.S.
17	43493-1	Micro Safety Cam
18	ST-2253	10-32 X 1/4 Allen Hd Set Screw
19	52199	Board Mtg Plate
20	ST-10657	Circuit Board Support
21	52198	Power Board Insulator
22	52245-A	Power P.C. Board Assembly
23	52175	Power Board Cover
24	ST-8269	8-32 X 3/8 Hex Flg. Swageform
25	39680	Chassis Spring (Red)
26	34403-1	Spring Mtg. Bolt
27	34404	Mounting Bolt Washer
28	ST-9827	Keeper
29	52308	Main Bearing



TONE ARM ASSEMBLY — MAGNETIC NO. 52130-A

Item	Part No.	Description
1	41611-A	Tone Arm & Pivot Shaft Assembly
1A	41435	Tone Arm Pivot Shaft
2	43467	M44MR Shure Pickup Cartridge (Special)
3	43469	Stylus
4	ST-6564	4-40 x 3/8 Phil. F.H.M.S.
5	47178-1A	Dual Input Cable
6	ST-314	Shakeproof Lockwasher #3
7	41446	Tone Arm Rest Pin
8	ST-423	5-40 Hex Nut
9	41608-A	Pivot Bracket Riveting Assembly
10	ST-399	Flat Washer
11	ST-2576	10-32 x 1/4 Hex Flg. Whiz Lock
12	41433	Tone Arm Pivot Screw
13	ST-2547	5-40 x 3/8 Hex Flg. Whiz Lock
14	ST-2520	6-32 x 1/2 Hex Hd. M.S.
15	17011	Wire Clip
16	ST-4574	5-40 x 3/16 Phil. P.H. M.S.
17	41758	Tone Arm Spring
		TONE ARM BASE ASSEMBLY NO. 51890-A
18	41366	Tone Arm Base
19	41612-A	Pivot Bushing & Ball Assembly
20	ST-8717	10-32 Hex Whiz Lock Nut
21	41649-2A	Tone Arm Switch & Bracket Assembly
22	ST-2555	6-32 x 1/4 Hex Flg. Whiz Lock
23	52159-A	Support Bracket & Stud Assembly
24	ST-2566	8-32 x 1/4 Hex Flg. Whiz lock
25	41609-A	Lifter Lever & Cam Pin Assembly
26	ST-9825	Keeper
27	34444	Lifter Lever Spring
28	ST-3457	5-40 Keps Nut

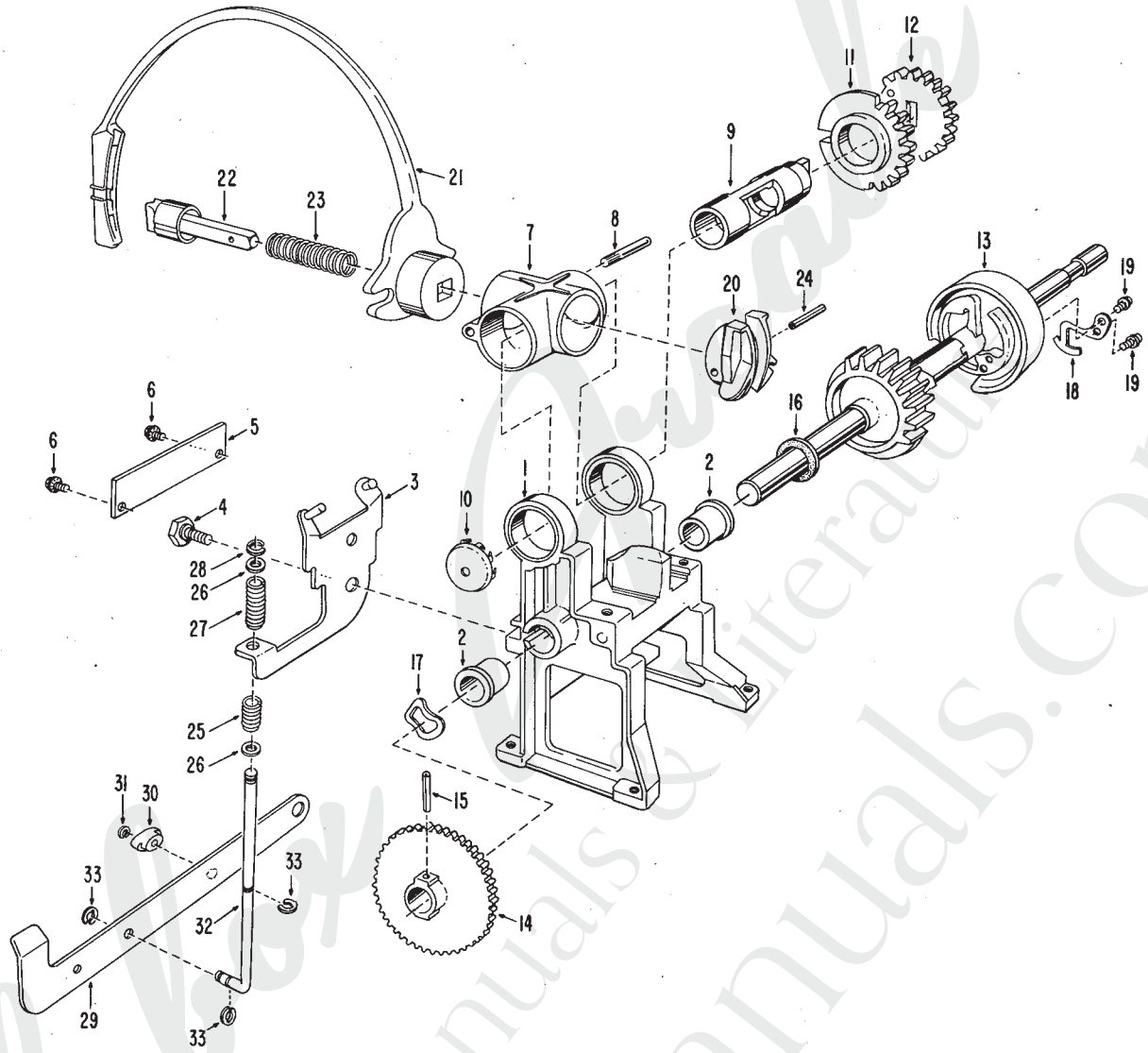


45 R.P.M.—60HZ TURNTABLE MOUNTING PLATE ASSEMBLY NO. 52090-A
45 R.P.M.—50HZ TURNTABLE MOUNTING PLATE ASSEMBLY NO. 52095-A

Item	Part No.	Description
1	52232-A	Turntable Mounting Plate Riveting Assembly 45
2	46294	Turntable Bearing
3	ST-4808	.203 I.D. x 3/4 O.D. x .062 Flat Washer
4	46296	Turntable Shaft Bearing
5	52144-A	Idler Link Riveting Assembly
6	35830	Link Toggle
7	ST-9266	Truarc "E" Ring
8	36291	Fiber Washer
9	35831	Idler
10	35832	Idler Spring
11	52485-A	Turntable Motor Assembly 60HZ
11A	52555-A	Turntable Motor Assembly 50HZ
12	18849	Turntable Grommet
13	ST-4813	.203 I.D. x 1/2 O.D. x .032 Flat Washer
14	ST-9263	Truarc "E" Ring
15	52217	Brush Arm
16	17008	Brush
17	48489	Brush Holder
18	ST-8256	6-32 x 1/4 Hex. Flg.
19	52233	Drive Rod
20	36294-1	Drive Bracket
21	ST-9825	Keeper
22	53014	Metal Oxide Varistor 150V
23	52763	.1 MFD 125 V.A.C. Capacitor
24	ST-10496	Universal Pin
25	ST-10589	3 Circ. Universal Socket Housing

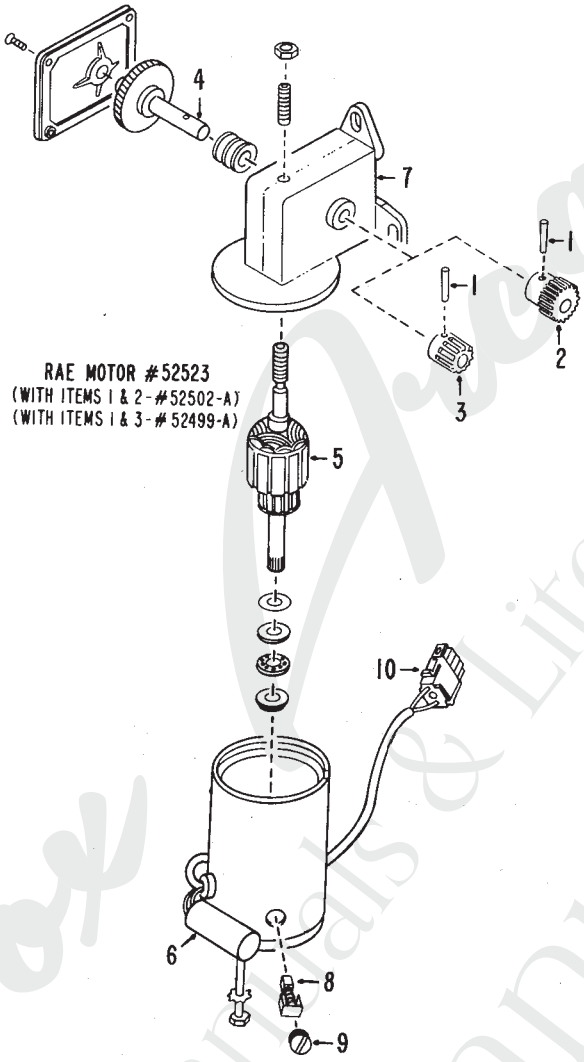
45 R.P.M. TURNTABLE ASSEMBLY COMPLETE NO. 52100-A

26	52235-A	Turntable Assembly
27	52236	Record Hub — 45 R.P.M.
28	ST-8211	6 x 1/2 Phil. Pan Hd. (Type B)
29	52237	Turntable Mat

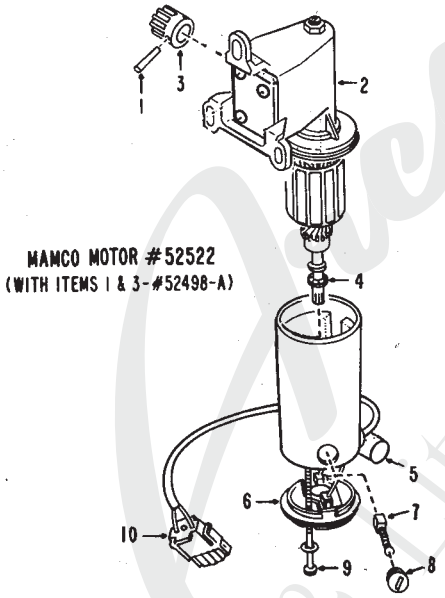


GRIPPER ASSEMBLY NO. 52125-A

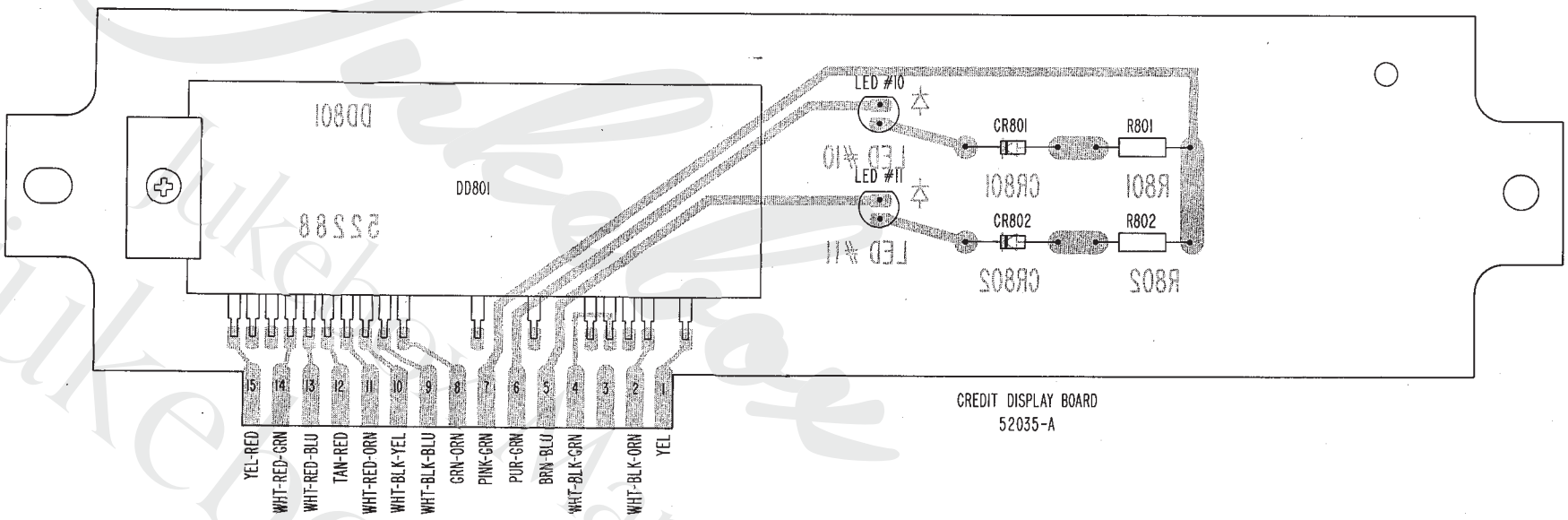
Item	Part No.	Description	Item	Part No.	Description
1	45421-1	Gripper Housing	18	17524	Tone Arm Cam Keeper Spring
2	45422	Gripper Housing Bearing	19	ST-2555	6-32 x 1/4 Hex Flg. Whiz Lock
3	52268-A	Brkt. Gripper Rev. Rivet Assem.	20	34323-7A	Cam-Gripper Reversing Assem.
4	34422-1	Hex Stud	21	34322-6A	Gripper Arm Assembly
5	34371	Reversing Brkt. Ret. Strip	22	34314-A	Inner Gripper Assembly
6	ST-2568	8-32 x 3/8 Hex Flg. Whiz Lock	23	39775	Spring — Gripper
7	34315-6	Gripper Spider	24	ST-534	Spirol Pin — Medium Duty
8	34421	Gripper Stop Pin	25	34864	Spring — Connecting Rod — Lower
9	34399	Trunnion Shaft	26	ST-4853	Flat Washer
10	34877	Trunnion Shaft Button	27	34447	Spring — Connecting Rod — Upper
11	34312-1	Gripper Turnover Gear	28	ST-9825	Keeper
12	36308-1A	Gripper Release Gear Assem.	29	52478-A	Linkage — Gripper & Stud Rivet Assem.
13	43359-1A	Gripper Shaft Assem.	30	34317	Odd-Even Alternating Dog
14	34310	Gripper Shaft Gear	31	ST-9249	"E" Ring
15	ST-534	Spirol Pin — Medium Duty	32	52202	Connecting Rod — Gripper Linkage
16	34929	Gripper Shaft Thrust Washer	33	ST-9825	Keeper
17	ST-4828	Spring Washer			



Item	Part No.	Description
1	ST-530	Spirol Pin – 1/8 Dia. x 3/4
2	34308	Magazine Drive Gear
3	34309	Gripper Motor Gear
4	52931	Gear & Shaft Assembly
5	52939	Armature Assembly
6	47563	Noise Suppression Capacitor
7	52934	Gearhead Housing Assembly
8	52944	Motor Brush
9	52945	Brush Cap & Spring
10	ST-10586	3 Circ. Universal Pin Hsg.
	ST-10498	Universal Pin

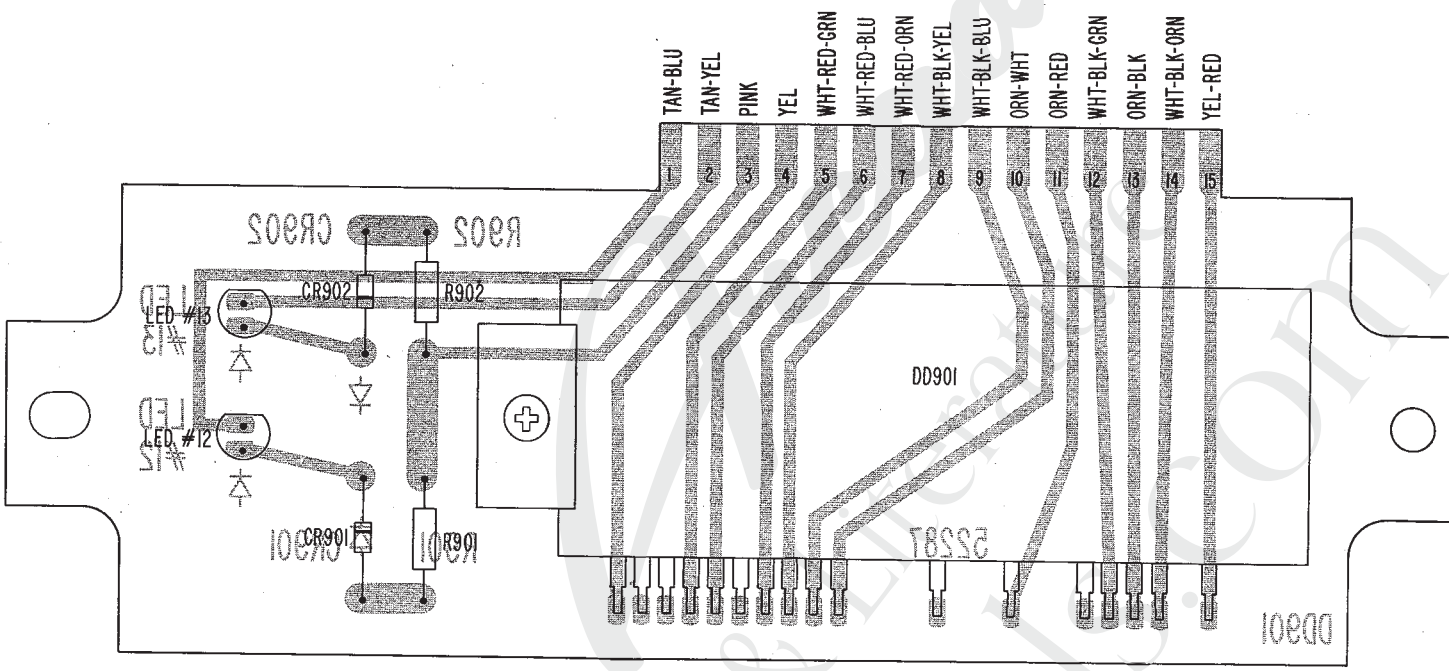


Item	Part No.	Description
1	ST-530	Pin Spirol 1/8 Dia. x 3/4
2	51587-A	Armature & Related Parts with Gripper Drive Gear
3	34309	Gripper Motor Gear
4	51072	Thrust Bearing
5	47563	Noise Suppression Capacitor
6	51073	End Cap & Brush Holder Assy.
7	50361	Motor Brush
8	50362	Brush Cap
9	ST-10456	Thru Bolt
10	ST-10586	3 Circ. Universal Pin Hsg.
	ST-10498	Universal Pin



CREDIT DISPLAY P.C. BOARD NO. 52035-A

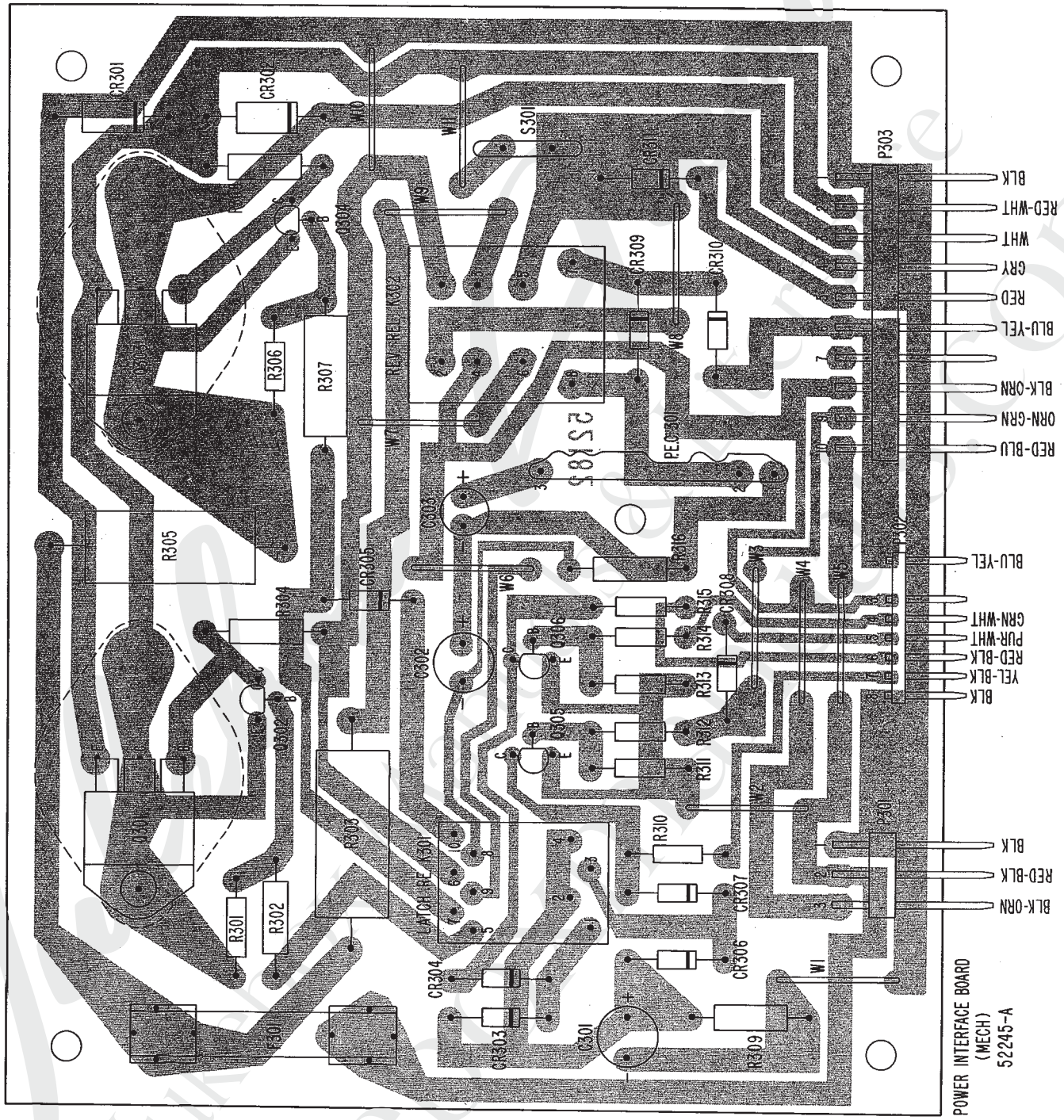
Item	Part No.	Description
		RESISTORS
R801 & R802	49264	470 OHM 1/4W 5%
		DIODES
CR801 & CR802	51498	Diode 1N4148
LED #10 & LED #11	52759	Hi-Intensity Led (Red)
		MISCELLANEOUS
DD801	52388	4 Digit Display
	52677	Caplug – Tapered
	52307	Numeric Display Holder
	ST-7248	Mach. Screw #4-40 x 1/2
	ST-10469	Hex Nut #4-40



RECORD PLAY DISPLAY BOARD
52030-A

RECORD PLAY P.C. BOARD ASSEMBLY NO. 52030-A

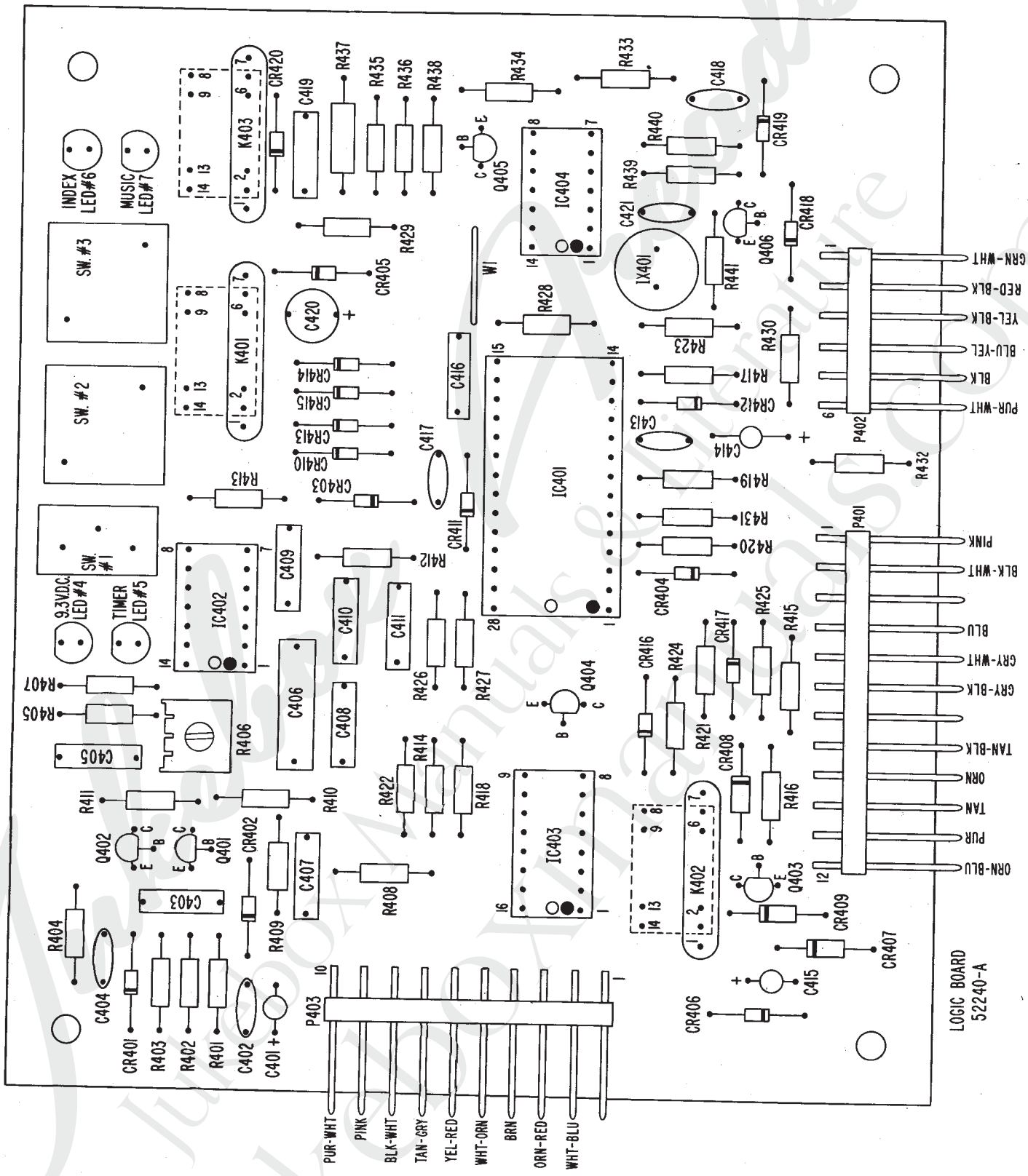
Item	Part No.	Description
		RESISTORS
R901 & R902	49264	470 OHM 1/4W 5%
		DIODES
CR901 & CR902	51498	Diode 1N4148
LED #12 & LED #13	52759	Hi-Intensity LED (Red)
		MISCELLANEOUS
DD901	52388	4 Digit Display
	52677	Caplug – Tapered
	52307	Numeric Display Holder
	ST-7248	Mach. Screw #4-40 x 1/2
	ST-10469	Hex Nut #4-40


POWER INTERFACE BOARD
(MECH)
52245-A
BLK
RED-WHT
WHT
GRY
RED
BLU-YEL
BLK-ORN
ORN-GRN
RED-BLU
BLU-YEL
GRN-WHT
PUR-WHT
RED-BLK
YEL-BLK
BLK
BLK
RED-BLK
BLK-ORN
P303
P302
P301
S301
CR301
CR302
CR303
CR304
CR305
CR306
CR307
CR308
CR309
CR310
R301
R302
R303
R304
R305
R306
R307
R309
R310
R311
R312
R313
R314
R315
R316
C301
C302
C303
Q301
Q302
Q303
Q304
Q305
Q306
W1
W2
W3
W4
W5
W6
W7
W8
W9
W10
W11
REV. REL. K302
PE-C301

POWER P.C. BOARD ASSEMBLY NO. 52245-A

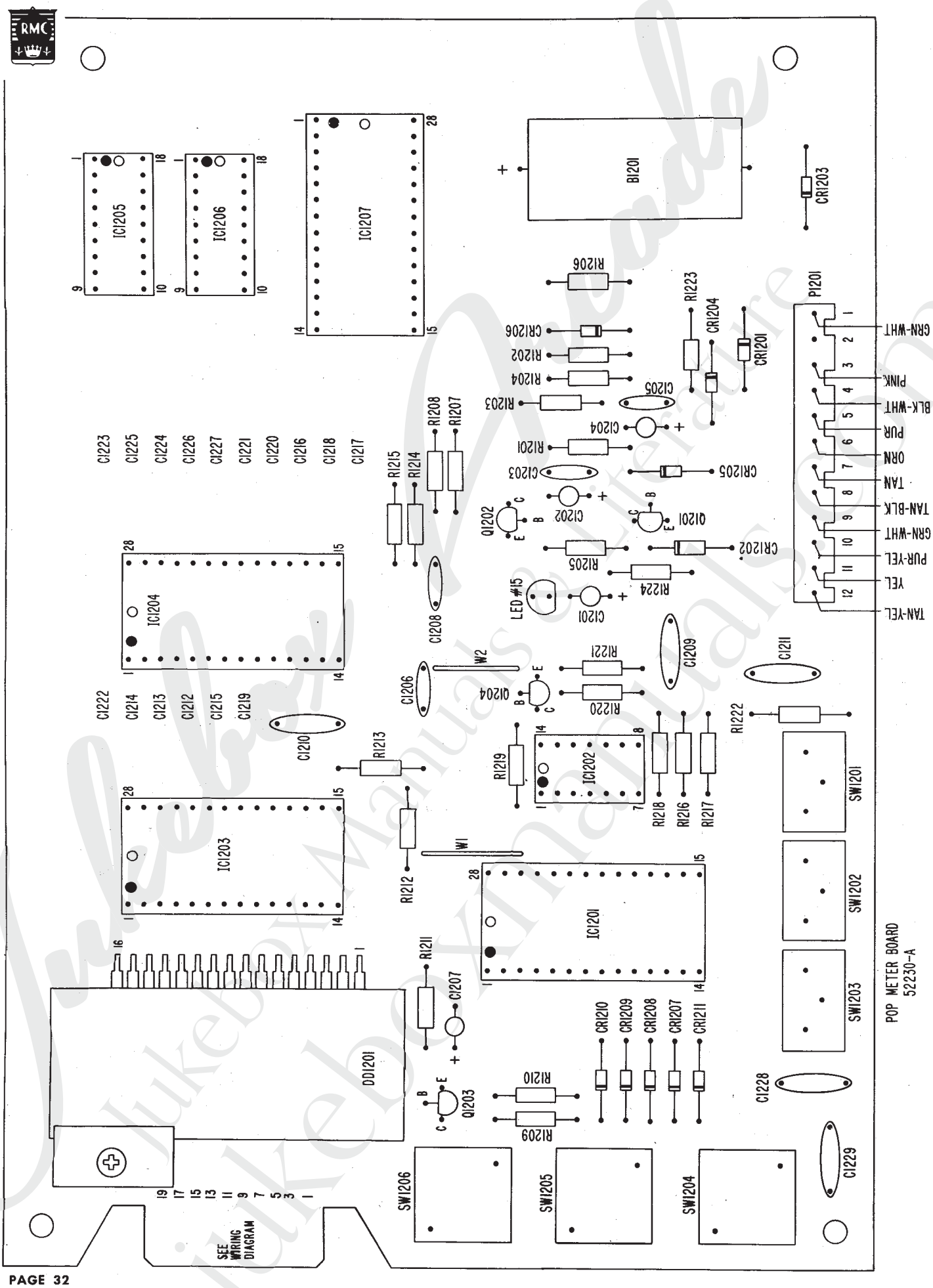
Item	Part No.	Description
		RESISTORS
R301	51293	10K OHM 1/4W 5%
R302	53008	100 OHM 1W 5% FP
R303	43207	5 OHM 5W 10%
R304	53008	100 OHM 1W 5% FP
R305	43207	5 OHM 5W 10%
R306	51293	10K OHM 1/4W 5%
R307	35328	1.5K OHM 1W 5%
R308	53008	100 OHM 1W 5% FP
R309	53009	150 OHM 1W 5% FP
R310	51566	1.5 OHM 1/4W 5%
R311	51293	10K OHM 1/4W 5%
R312	48043	4.7K OHM 1/4W 10%
R313	51293	10K OHM 1/4W 5%
R314	51384	2.7K OHM 1/4W 5%
R315	51566	1.5K OHM 1/4W 5%
R316	53009	150 OHM 1W 5% FP
		CAPACITORS
C301 & C302	52361	47 MFD +50—10% 50V
C303	52558	22 MFD 10% 10V
		TRANSISTORS
Q301	52549	Power (NPN) TIP 3055
	ST-6577	Mach. Screw #4-40 x 1/4
	ST-10469	Hex Nut #4-40
Q302	47831	(PNP) MPS-A56
Q303	52549	Power (NPN) TIP 3055
	ST-6577	Mach. Screw #4-40 x 1/4
	ST-10469	Hex Nut #4-40
Q304 thru Q306	47831	(PNP) MPS-A56

Item	Part No.	Description
		DIODES AND RECTIFIERS
CR301 & CR302	52552	Transient Voltage Suppressor 51V
CR303	46497	Rectifier 100PRV 1A 1N4002
CR304	50714	Fast Recovery Diode 1N4934
CR305 & CR306	46497	Rectifier 100PRV 1A 1N4002
CR307	50714	Fast Recovery Diode 1N4934
CR308 & CR309	46497	Rectifier 100PRV 1A 1N4002
CR310	50714	Fast Recovery Diode 1N4934
CR311	46497	Rectifier 100PRV 1A 1N4002
		RELAYS
K301	52547	Latch Relay 24V
	52548	Relay Socket — 10 Pin
	47472	Relay Hold Down Spring
K302	52321	24V — 2 PDT Relay
	52320	Relay Socket — 8 Pin
	52322	Relay Retainer Spring
		MISCELLANEOUS
F301	ST-4330	Fuse Slo-Blo 0.25A 250V
	51984	P.C. Fuse Clip
PEC301	52356	P.E.C. Delay Circuit
P301	ST-10612	3 Ckt. Right Angle Post Connector
P302	ST-10594	7 Ckt. C.I.S. Right Angle Pin Header
P303	ST-10593	10 Ckt. Right Angle Post Connector
S301	52551	Metal Oxide Varistor


LOGIC BOARD
52240-A
P401
P402
P403
SW. #1
SW. #2
SW. #3
LED #4
LED #5
LED #6
LED #7
9.3V.D.C.
TIMER
INDEX
MUSIC
IC401
IC402
IC403
IC404
K401
K402
K403
IX401
W1
PUR-WHT
PINK
BLK-WHT
TAN-GRY
YEL-RED
WHT-ORN
BRN
ORN-RED
WHT-BLU
ORN-BLU
TAN
PUR
ORN
TAN-BLK
GRY-BLK
GRY-WHT
BLU
BLK-WHT
PINK
GRN-WHT
RED-BLK
YEL-BLK
BLU-YEL
BLK
PUR-WHT

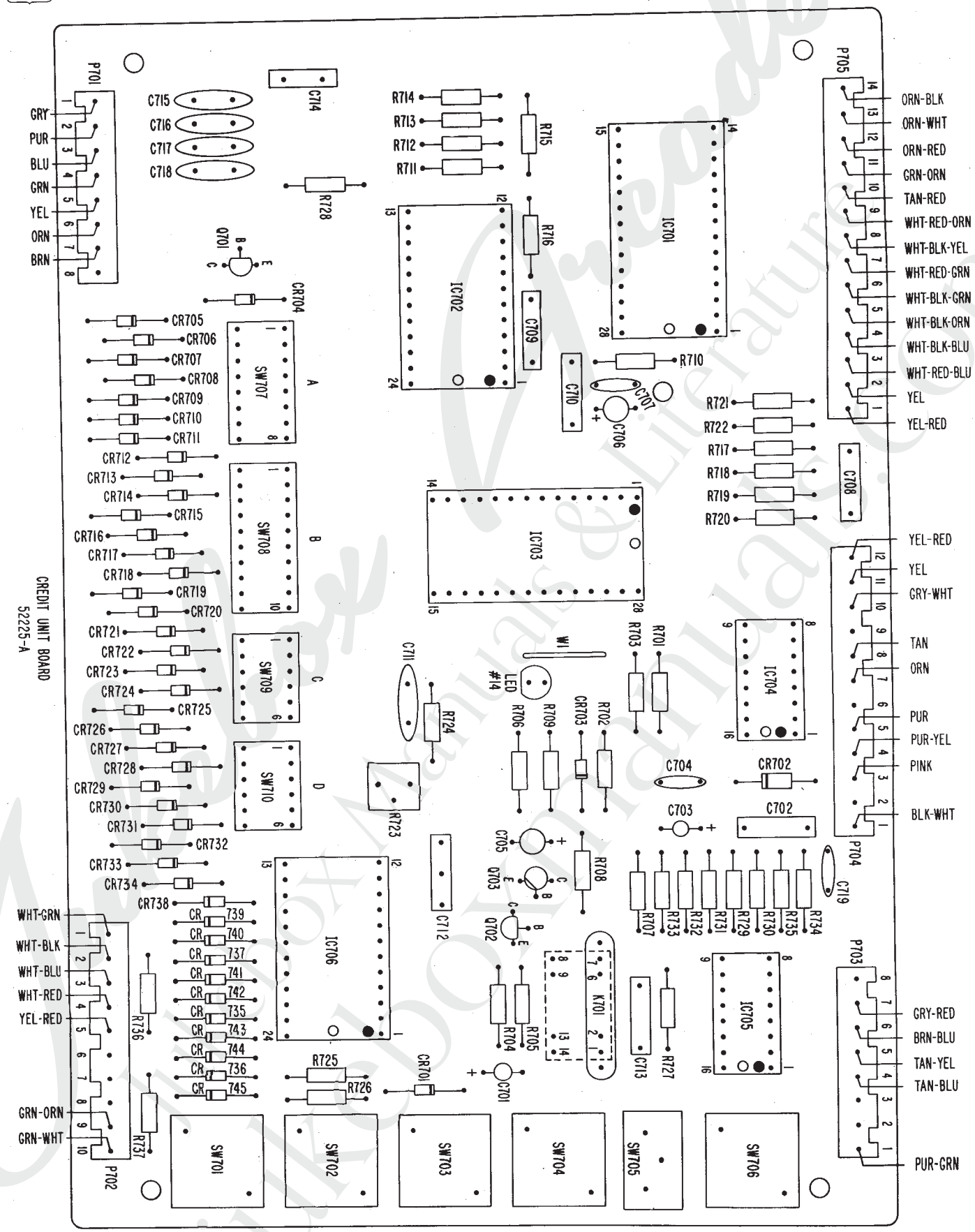
LOGIC P.C. BOARD ASSEMBLY NO. 52240-A

Item	Part No.	Description
		RESISTORS
R401	51292	4.7K OHM 1/4W 5%
R402	51293	10K OHM 1/4W 5%
R403	49268	33K OHM 1/4W 5%
R404	49264	470 OHM 1/4W 5%
R405	52358	2.2K OHM 1/4W 5%
R406	52757	TRIM CONTROL 50K OHM
R407	51294	47K OHM 1/4W 5%
R408	52358	2.2K OHM 1/4W 5%
R409	51291	22K OHM 1/4W 5%
R410	52733	62K OHM 1/4W 5%
R411	51291	22K OHM 1/4W 5%
R412	49268	33K OHM 1/4W 5%
R413	52563	560 OHM 1/4W 5%
R414	52621	68K OHM 1/4W 5%
R415	51564	1K OHM 1/4W 5%
R416	51291	22K OHM 1/4W 5%
R417	51293	10K OHM 1/4W 5%
R418	51291	22K OHM 1/4W 5%
R419 &		
R420	51293	10K OHM 1/4W 5%
R421	51292	4.7K OHM 1/4W 5%
R422	51293	10K OHM 1/4W 5%
R423	51294	47K OHM 1/4W 5%
R424	51293	10K OHM 1/4W 5%
R425	51292	4.7K OHM 1/4W 5%
R426	51293	10K OHM 1/4W 5%
R427	51291	22K OHM 1/4W 5%
R428	51292	4.7K OHM 1/4W 5%
R429	51293	10K OHM 1/4W 5%
R430	51291	22K OHM 1/4W 5%
R431&		
R432	51293	10K OHM 1/4W 5%
R433	51291	22K OHM 1/4W 5%
R434	52358	2.2K OHM 1/4W 5%
R435&		
R436	51566	1.5K OHM 1/4W 5%
R437	46943	820 OHM 1/2W 5%
R438	51293	10K OHM 1/4W 5%
R439&		
R440	52734	1 MEG OHM 1/4W 5%
R441	49264	470 OHM 1/4W 5%
		CAPACITORS
C401	49146	2.2 MFD 20% 25V
C402	45790	.001 MFD 10% 500V
C403	48949	.027 MFD 10% 250V
C404	50104	.0022 MFD 10% 250V
C405	48941	.22 MFD 20% 100V
C406	48951	.47 MFD 20% 100V
C407&		
C408	48947	.015 MFD 10% 250V
C409	48949	.027 MFD 10% 250V
C410	48947	.015 MFD 10% 250V
C411	48941	.22 MFD 20% 100V
C412		Not Used
C413	45789	150 MMFD 10% 500V
C414	52359	1.0 MFD 10% 35V
C415	49146	2.2 MFD 20% 25V
C416	47421	.1 MFD 20% 250V
C417&		
C418	45790	.001 MFD 10% 500V
C419	47421	.1 MFD 20% 250V
C420	52736	33 MFD 10% 25V
C421	52735	20 MMFD 10% 100V
		TRANSISTORS
Q401 thru		
Q406	45747	(NPN) 2N4424
		DIODES AND RECTIFIERS
CR401 thru		
CR406	51498	DIODE 1N4148
CR407	46497	RECTIFIER 100PRV 1A 1N4002
CR408	52719	ZENER 1W 8.2V 5% 1N4738A
CR409	46497	RECTIFIER 100PRV 1A 1N4002
CR410 thru		
CR420	51498	DIODE 1N4148
LED #4 thru		
LED #7	51994	(1/4 DIA) LED (RED)
		INTEGRATED CIRCUITS
IC401	51726	Mechanism Controller MM5799NAX /N
	52721	28 Contact Solder Dip Socket
IC402	52560	556 Dual Timer
	52720	14 Contact Solder Dip Socket
IC403	52546	Tri-State Buffer-Hex MM80C97N
	52724	16 Contact Solder Dip Socket
IC404	51993	4069 Hex Inverter
	52720	14 Contact Solder Dip Socket
		RELAYS AND SWITCHES
K401&		
K402	52739	Reed Relay 12V
K403	52738	Reed Relay 24V
SW #1	52727	Miniature Slide Switch S.P.D.T.
SW #2	52725-06	Key Switch One Contact (Blue)
SW #3	52725-02	Key Switch One Contact (Red)
		MISCELLANEOUS
IX	52737	Resonator LX1
P401	ST-10607	12 Ckt. Right Angle Post Connector
P402	ST-10573	6 Ckt. Right Angle Post Connector
P403	ST-10593	10 Ckt. Right Angle Post Connector


IC1205
IC1206
IC1207
BI201
CR1203
R1206
R1223
CR1204
CR1201
P1201
CR1206
R1202
R1204
R1203
C1205
C1204
R1201
CR1205
C1203
C1202
Q1202
Q1201
CR1202
R1205
R1224
LED #15
C1201
C1223
C1225
C1224
C1226
C1227
C1221
C1220
C1216
C1218
C1217
R1215
R1214
R1208
R1207
C1208
IC1204
C1222
C1214
C1213
C1212
C1215
C1219
C1206
W2
Q1204
R1221
R1220
C1209
C1211
C1210
R1213
R1222
IC1202
R1219
R1218
R1216
R1217
SW1201
IC1203
W1
R1212
IC1201
SW1202
R1211
C1207
CR1210
CR1209
CR1208
CR1207
CR1211
SW1203
DD1201
Q1203
R1210
R1209
C1228
C1229
SW1206
SW1205
SW1204
SEE WIRING DIAGRAM
GRN-WHT
PINK
BLK-WHT
PUR
ORN
TAN
TAN-BLK
GRN-WHT
PUR-YEL
YEL
TAN-YEL
POP METER BOARD
52230-A

HIT TRACKER (POP METER) P.C. BOARD ASSEMBLY NO. 52230-A

Item	Part No.	Description
		RESISTORS
R1201 & R1202	48043	4.7K OHM 1/4W 10%
R1203	48046	22K OHM 1/4W 10%
R1204	51571	6.8K OHM 1/4W 5%
R1205	52358	2.2K OHM 1/4W 5%
R1206	48044	10K OHM 1/4W 10%
R1207	47427	1K OHM 1/4W 10%
R1208	48044	10K OHM 1/4W 10%
R1209	50966	100K OHM 1/4W 5%
R1210	48044	10K OHM 1/4W 10%
R1211	48046	22K OHM 1/4W 10%
R1212 thru R1220	48044	10K OHM 1/4W 10%
R1221	48046	22K OHM 1/4W 10%
R1222	53003	10 OHM 1W 5% FP
R1223	52563	560 OHM 1/4W 5%
R1224	52373	10 OHM 1/4W 5%
		CAPACITORS
C1201	52561	10 MFD 10% 15V
C1202	49146	2.2 MFD 20% 25V
C1203	45790	.001 MFD 10% 500V
C1204	49146	2.2 MFD 20% 25V
C1205 & C1206	45790	.001 MFD 10% 500V
C1207	49146	2.2 MFD 20% 25V
C1208	45790	.001 MFD 10% 500V
C1209 thru C1211	47421	.1 MFD 20% 250V
C1212 thru C1227		Not Used
C1228 & C1229	52675	.1 MFD 20% 50V
		TRANSISTORS
Q1201 & Q1202	49415	(NPN) MPS-A06
Q1203	45747	(NPN) 2N4424
Q1204	47831	(PNP) MPS-A56
		DIODES
CR1201	51498	Diode 1N4148
CR1202	52718	Zener 1W 6.2V 5% 1N4735A
CR1203 thru CR1211	51498	Diode 1N4148
LED #15	51994	(1/4 Dia.) LED (Red)
		INTEGRATED CIRCUITS
IC1201	52133	Popularity Meter Controller MM5799NCZ/N
	52721	28 Contact Solder Dip Socket
IC1202	51993	4069 Hex Inverter
	52720	14 Contact Solder Dip Socket
IC1203 & IC1204	52524	Display Controller MM57163N
	52721	28 Contact Solder Dip Socket
IC1205 & IC1206	52134	1024 x 1 C-MOS Ram M3-6518-9
	52723	18 Contact Solder Dip Socket
IC1207	52537	C-MOS Ram Interface MM5785N
	52721	28 Contact Solder Dip Socket
		SWITCHES
SW1201 thru SW1203	52727	Miniature Slide Switch S.P.D.T.
SW1204	52725-06	Key Switch One Contact (Blue)
SW1205	52725-08	Key Switch One Contact (Gray)
SW1206	52725-02	Key Switch One Contact (Red)
		MISCELLANEOUS
B1201	52726	Lithium Battery (PCB)
DD1201	52556	5 Digit Display
	52307	Numeric Display Holder
	ST-7248	Mach. Screw #4-40 x 1/2
	ST-10469	Hex Nut #4-40
P1201	ST-10654	12 Circuit Post Connector


CREDIT UNIT BOARD
52225-A
P701
GRY
PUR
BLU
GRN
YEL
ORN
BRN
P705
ORN-BLK
ORN-WHT
ORN-RED
GRN-ORN
TAN-RED
WHT-RED-ORN
WHT-BLK-YEL
WHT-RED-GRN
WHT-BLK-GRN
WHT-BLK-ORN
WHT-BLK-BLU
WHT-RED-BLU
YEL
YEL-RED
P704
YEL-RED
YEL
GRY-WHT
TAN
ORN
PUR
PUR-YEL
PINK
BLK-WHT
P703
GRY-RED
BRN-BLU
TAN-YEL
TAN-BLU
PUR-GRN
P702
WHT-GRN
WHT-BLK
WHT-BLU
WHT-RED
YEL-RED
GRN-ORN
GRN-WHT
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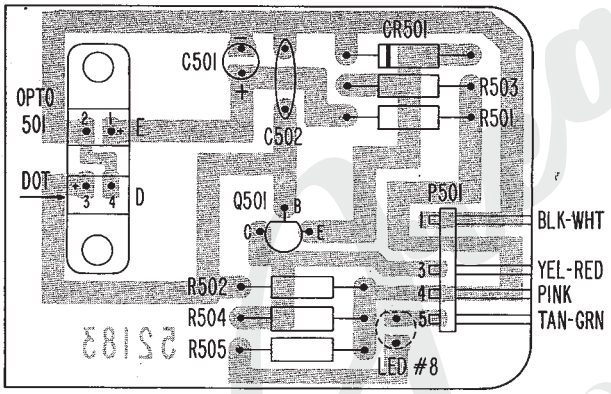
R734
R735
R736
R737

PROFIT SETTER (CREDIT UNIT) P.C. BOARD ASSEMBLY NO. 52225-A

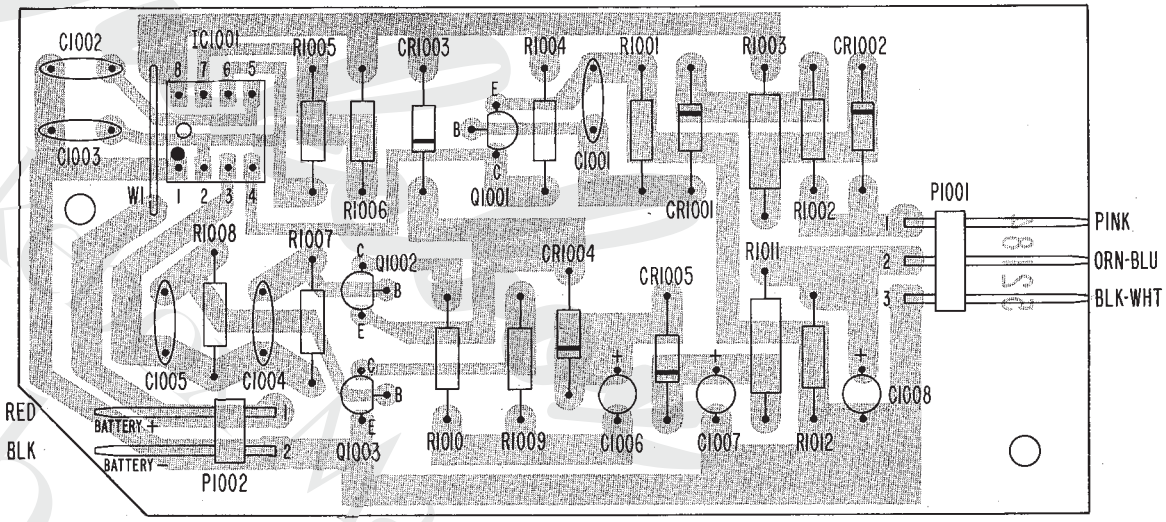
Item	Part No.	Description
		RESISTORS
R701	52563	560 OHM 1/4W 5%
R702&		
R703	48044	10K OHM 1/4W 10%
R704	48046	22K OHM 1/4W 10%
R705	50966	100K OHM 1/4W 5%
R706&		
R707	48044	10K OHM 1/4W 10%
R708	50966	100K OHM 1/4W 5%
R709	48046	22K OHM 1/4W 10%
R710	48044	10K OHM 1/4W 10%
R711 thru		
R714	51292	4.7K OHM 1/4W 5%
R715	48044	10K OHM 1/4W 10%
R716	48046	22K OHM 1/4W 10%
R717 thru		
R720	48046	22K OHM 1/4W 10%
R721&		
R722	48044	10K OHM 1/4W 10%
R723&		
R724	Omitted	
R725	51292	4.7K OHM 1/4W 5%
R726	48044	10K OHM 1/4W 10%
R727	52358	2.2K OHM 1/4W 5%
R728	48044	10K OHM 1/4W 10%
R729 thru		
R734	Omitted	
R735	48044	10K OHM 1/4W 10%
R736&		
R737	52374	47 OHM 1/4W 10%
		CAPACITORS
C701	52708	10 MFD 20% 35V
C702	47421	.1 MFD 20% 250V
C703	52561	10 MFD 10% 15V
C704	45790	.001 MFD 10% 500V
C705	52561	10 MFD 10% 15V
C706	52708	10 MFD 20% 35V
C707	45790	.001 MFD 10% 500V
C708 thru		
C710	47421	.1 MFD 20% 250V
C711	Omitted	
C712	47421	.1 MFD 20% 250V
C713	51989	.01 MFD 5% 250V
C714 thru		
C718	Omitted	
C719	45790	.001 MFD 10% 500V
		TRANSISTORS
Q701	49415	(NPN) MPS-A06
Q702	47831	(PNP) MPS-A56
Q703	48063	Darlington (NPN) 2N5307
		DIODES AND RECTIFIERS
CR701	51498	Diode 1N4148
CR702	46497	Rectifier 100 PRV 1A 1N4002
CR703 thru		
CR722	51498	Diode 1N4148
CR723 thru		
CR728	Omitted	
CR729 thru		
CR745	51498	Diode 1N4148
LED #14	51994	(1/4 DIA) LED (RED)
		INTEGRATED CIRCUITS
IC701	52524	Display Controller MM57163N
	52721	28 Contact Solder Dip Socket
IC702	52150	Credit ROM MM5781NCY/N
	52722	24 Contact Solder Dip Socket
IC703	52151	Credit Controller MM5782N
	52721	28 Contact Solder Dip Socket
IC704	52546	Tri-State Buffer-Hex MM80C97N
	52724	16 Contact Solder Dip Socket
IC705	52539	Shift Register DS3654N
	52724	16 Contact Solder Dip Socket
IC706	52544	Decoder DS8664N
	52722	24 Contact Solder Dip Socket
		SWITCHES
SW701	52725-06	Key Switch — One Contact — Blue
SW702	52725-09	Key Switch — One Contact — White
SW703	52725-00	Key Switch — One Contact — Black
SW704	52725-08	Key Switch — One Contact — Gray
SW705	52727	Miniature Slideswitch S.P.D.T.
SW706	52725-02	Key Switch — One Position — Red
SW707	51304	Dip Switch SPST 8 Position
SW708	52606	Dip Switch SPST 10 Position
SW709	Omitted	
SW710	51303	Dip Switch SPST 6 Position
		MISCELLANEOUS
K701	52739	Reed Relay 12V
P701	49275	8 Circuit Post Connector
P702	49276	10 Circuit Post Connector
P703	49275	8 Circuit Post Connector
P704	ST-10654	12 Circuit Post Connector
P705	ST-10577	14 Circuit Post Connector



OPTO BOARD
52250-A

OPTO P.C. BOARD ASSEMBLY NO. 52250-A

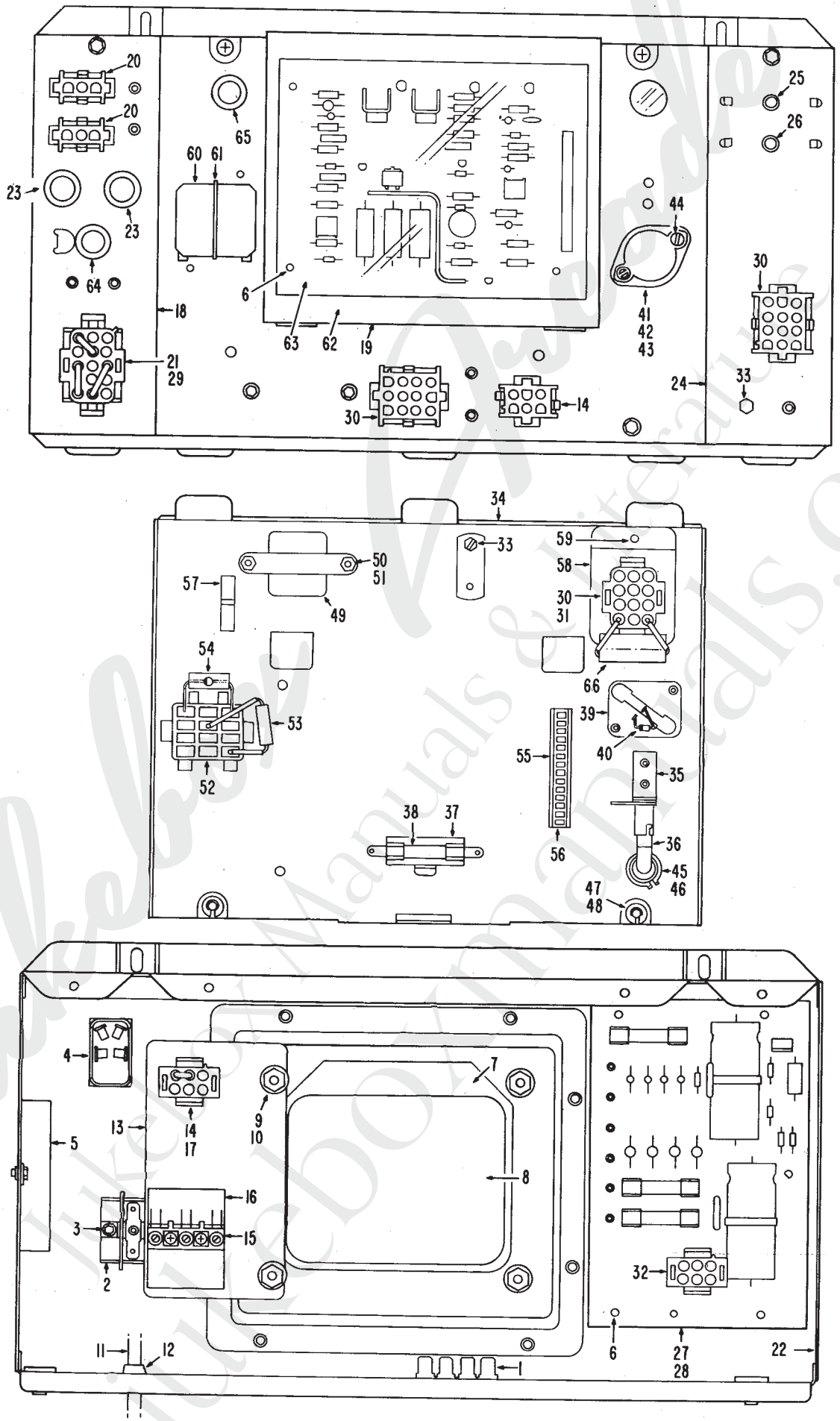
Item	Part No.	Description
		RESISTORS
R501	52377	390 OHM 1/4W 5%
R502	49269	27K OHM 1/4W 5%
R503	51293	10K OHM 1/4W 5%
R504	51292	4.7K OHM 1/4W 5%
R505	52563	560 OHM 1/4W 5%
		CAPACITORS
C501	52561	10 MFD 10% 15V
C502	33762	470 MMFD 10% 1000V
		DIODES AND TRANSISTORS
CR501	51498	Diode 1N4148
LED #8	51994	(1/4 Dia.) LED (Red)
Q501	45747	Transistor (NPN) 2N4424
		MISCELLANEOUS
OPTO 501	52562	Opto-Interruptor
P501	ST-10572	4 Ckt. CIS Right Angle Pin Header



BATTERY P.C. BOARD ASSEMBLY NO. 52255-A

Item	Part No.	Description
		RESISTORS
R1001	52358	2.2K OHM 1/4W 5%
R1002	49264	470 OHM 1/4W 5%
R1003	53002	27 OHM 1W 5% FP
R1004	51293	10K OHM 1/4W 5%
R1005	52621	68K OHM 1/4W 5%
R1006	52358	2.2K OHM 1/4W 5%
R1007	47832	5.6K OHM 1/4W 10%
R1008	51293	10K OHM 1/4W 5%
R1009 & R1010	53001	4.7 OHM 1W 5% FP
R1011	53003	10 OHM 1W 5% FP
R1012	51291	22K OHM 1/4W 5%
		CAPACITORS
C1001 thru C1005	45790	.001 MFD 10% 500V
C1006 thru C1008	52561	10 MFD 10% 15V

Item	Part No.	Description
		TRANSISTORS
Q1001	45747	(NPN) 2N4424
Q1002	47831	(PNP) MPS-A56
Q1003	45747	(NPN) 2N4424
		DIODES AND RECTIFIERS
CR1001	52719	Zener 1W, 8.2V 5% 1N4738A
CR1002	46497	Rectifier 100 PRV 1A 1N4002
CR1003 thru CR1005	50714	Fast Recovery Diode 1N4934
		INTEGRATED CIRCUITS
IC1001	51991	555 Timer
		MISCELLANEOUS
F1001	ST-10694	.5 Amp. 125 V Sub-Min Fuse
P1001	ST-10612	3 Ckt. Right Angle Post Connector
P1002	ST-10630	2 Ckt. Right Angle Post Connector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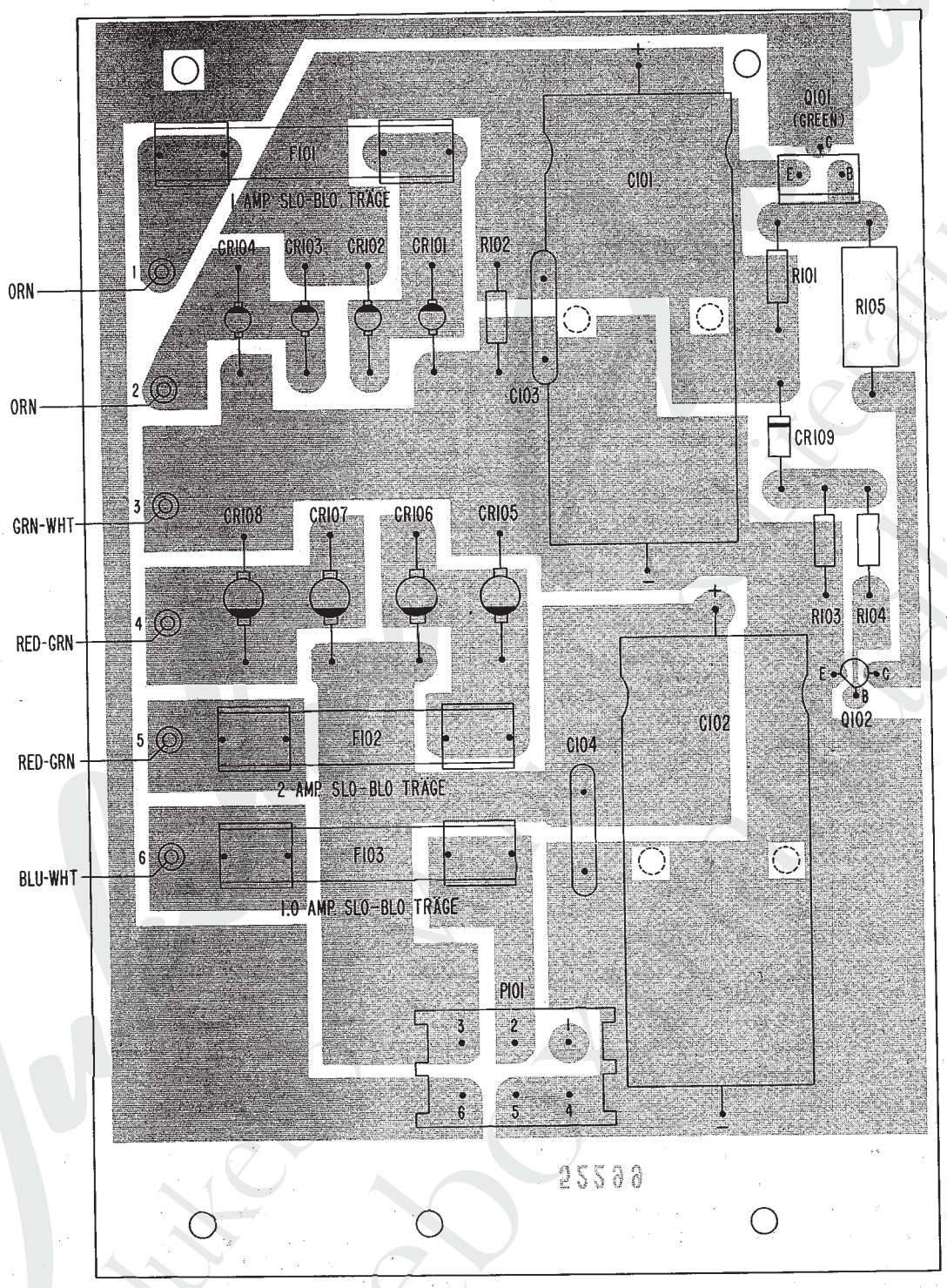
POWER DISTRIBUTION ASSEMBLY

120 Volt 60HZ USA—52390-A, 120 Volt 60HZ Canada—52395-A
100 Volt 60HZ Japan–52400-A, 220 Volt 50HZ Germany—52405-A
220 Volt 50HZ Belgium—52405-A, 240 Volt 50HZ—England—52415-A
240 Volt 50HZ Australia—52410-A

Item	Part No.	Description
1	ST-10627	Ground Terminal Strip
2	49242	Terminal Block
3	ST-2560	6-32 x 5/8 Hex Flg. Whiz Lock
	ST-8715	6-32 Hex Whiz Lock Nut
4	49313	DPST Toggle Switch
	49240	Rocker Switch — (Germany)
5	52714-A	4 Amp RFI Filter Assembly - Germany
6	ST-10538	Plastic Board Support
7	52434	Transformer Gasket
8	52693-A	Power Transformer Assembly
	52435	Power Transformer Only
	52693-CA	Power Transformer Assy. - Canada
	52435-C	Power Transformer Only - Canada
9	ST-8722	10-32 Hex Flg. Whiz Lock Nut
10	ST-9823	Tapered Caplug
11	52694-A	Line Cord Assembly - U.S.A.
	51251	3 Conductor Cord Set - (German/Belgium)
	47833	3 Conductor Cord - England
	47862	3 Conductor Cord - Australia
12	ST-6904	Strain Relief
	49241	Strain Relief - Germany
13	52447	Socket Mtg. Plate
14	ST-10568	6 Circ. Universal Socket Housing
15	47827	3 Pole Input Terminal - Germany
16	19007	Input Terminal Insulator - Germany
17	52668-A	6 Circ. Universal Pin Hsg. Assem. U.S.A. - Canada
	52669-A	6 Circ. Universal Pin Hsg. Assem. Germany - Belgium
	52670-A	6 Circ. Universal Pin Hsg. Assem. Australia - England
	52671-A	6 Circ. Universal Pin Hsg. Assem. Japan
18	52596-A	P.D. Fuse Plate Weld Assembly U.S.A. - Canada - Japan
	52596-GA	P.D. Fuse Plate Weld Assembly Germany-Belgium-England-Australia
19	52449	Front Panel Cover
20	ST-10589	3 Circ. Universal Socket Hsg. Wht.
21	ST-10500	15 Circ. Universal Socket Hsg. (Wht) U.S.A. - Canada - Japan
	ST-10500-6	15 Circ. Universal Socket Hsg. (Blue) Germany-Belgium-England-Australia
22	52691-A	P.D. Chassis Rivet Assy.
23	ST-9843	Tapered Caplug #5
24	52597-A	P.D. Circuit Breaker Plate Weld Assy.
25	52792	.93 Amp Circuit Breaker
26	49260	3 Amp Circuit Breaker
27	52408	Rectifier Board Insulator
28	52355-A	Rectifier P.C. Board Assembly
29	52666-A	15 Circuit Universal Pin Hsg. Assy. (Wht) U.S.A. - Canada - Japan
	52667-A	15 Circuit Universal Pin Hsg. Assem. (Blue) Germany-Belgium-England-Australia
30	ST-10502	12 Circ. Universal Socket Hsg.
31	ST-10503	12 Circ. Universal Pin Hsg.
32	ST-10567	6 Circ. Universal Pin Hsg.
33	ST-10062	8-36 x 5/16 Hex Hd. M.S. (Green Hd)
34	52656-A	P.D. Front Panel Rivet Assem.
35	52631	Light Socket
36	ST-10600	Type #1829 Lamp
37	49307	Fuse Holder
38	ST-4323	8/10 Amp Slo-Blo Fuse
39	52649	TO-3 Transistor Socket
40	46497	100 P.R.V. 1 Amp Rectifier
41	48098	Insulator - Power Transistor
42	52529	Adjustable Regulator
43	52651	TO-3 Insulating Cover
44	ST-10462	6 x 5/8 Pan Hd. (Type B) Sc.
45	52652	Plastic Lens
46	ST-10641	Retaining Ring
47	ST-8266	8-32 x 5/16 Pan Hd. Swageform
48	ST-9263	Retaining Ring
49	52658-A	Display Transformer Assy.
	52474	Display Filament Transformer Only
50	ST-2556	6-32 x 5/16 Hex Flg. Whiz Lock
51	ST-3453	6-32 Hex Nut
52	49258	Relay Socket
53	46769	2 OHM 2 Watt Resistor
54	47972	200 PRV 1.5 Amp Rectifier
55	ST-10628	14 Circ. Snap-In Header
56	49292	14 Circ. Post Housing
57	ST-10296	Cable Fastener
58	52448	Socket Mtg. Bracket
59	ST-8267	8 x 1/4 Hex Flg. Swageform
60	49257	Relay 3 P.D.T. 24 VDC
61	49259	Relay Hold Down Spring
62	52567	Insulator - Regulator Board
63	52350-A	Regulator P.C. Board Assem.
64	49447	Fuse Holder - U.S.A.
	ST-9631	5 Amp 250V Slo-Blo Fuse
	49250	Shock-Safe Fuseholder - Germany
	ST-3090	3 Amp 250V Slo-Blo Fuse - Germany
	52023-A	Fuse Holder Assem. - Canada
	49687	5 Amp Fusetron GMQ - Canada
65	49250	Shock-Safe Fuseholder
	ST-4330	1/4 Amp Slo-Blo Fuse
	53029 A	Fuseholder Assem. - Canada
	ST-10695	.25 Amp Slo-Blo GMQ Fuse - Canada
66	52763	.1 MFD 125 VAC Capacitor

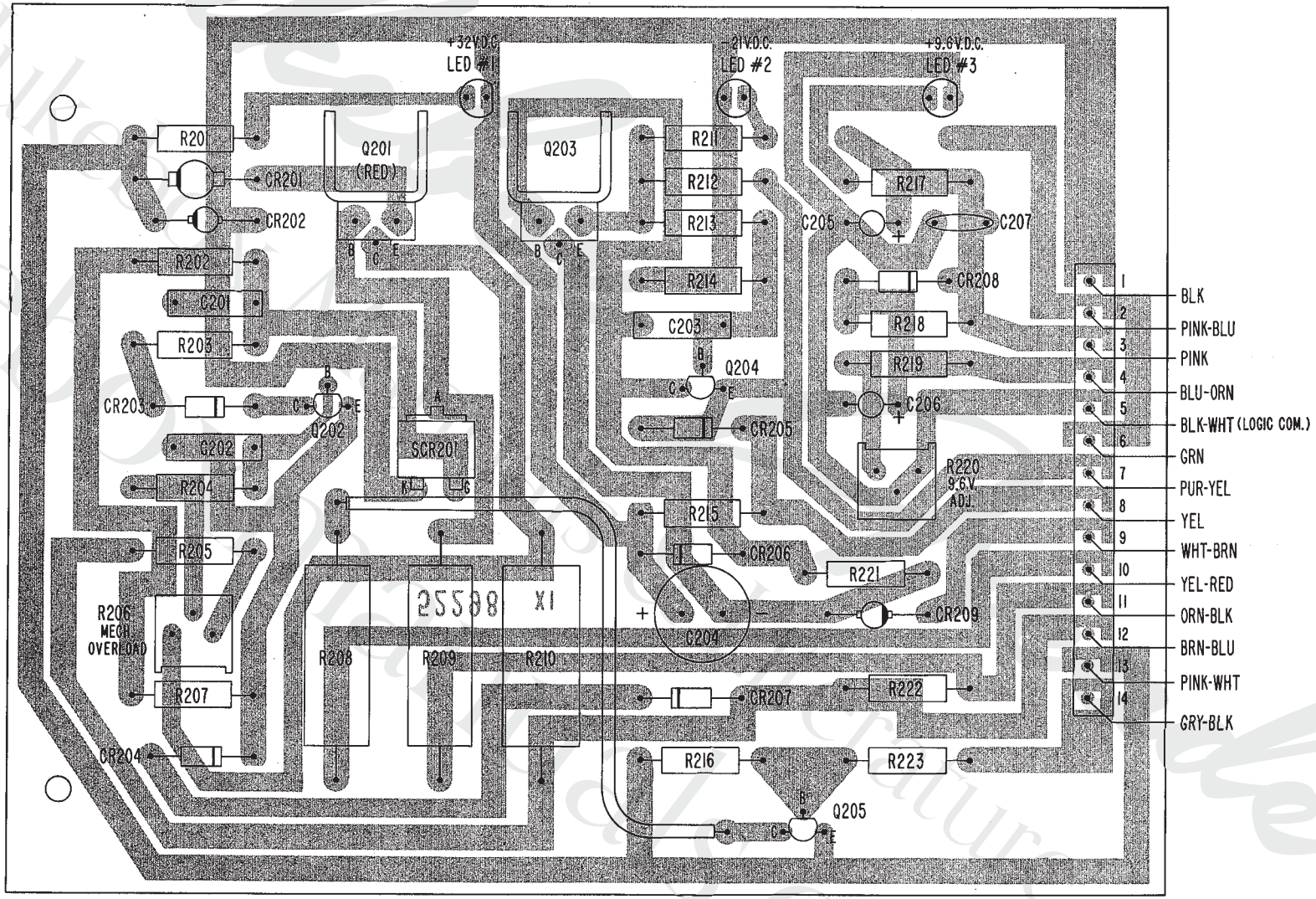


RECTIFIER BOARD
52355-A

P101
1.
2. BLU-WHT
3. BRN-BLU
4. PINK-BLU
5. BLK-WHT
6. BLK

RECTIFIER P.C. BOARD ASSEMBLY NO. 52355-A

Item	Part No.	Description
		RESISTORS
R101 thru R103	51292	4.7K OHM 1/4W 5%
R104	51293	10K OHM 1/4W 5%
R105	35446	1K OHM 1W 5%
		CAPACITORS
C101	52653	2500 MFD +50–10% 35V
C102	45734	1200 MFD +50–10% 50V
C103& C104	52382	.1 MFD 20% 100V
		TRANSISTORS
Q101	48932-2	PWR Tab (PNP) GRN
Q102	48063	Darlington (NPN) 2N5307
		DIODES AND RECTIFIERS
CR101 thru CR104	47972	Rectifier Glass 200 PRV 1.5A
CR105 thru CR108	48214	Rectifier Glass 200 PRV 3A
ZCR101 or CR109	52559	Zener 1W 11V 5% 1N4741A
		FUSES
F101	ST-4332	1 AMP Slo-Blo 250V
F102	ST-9600	2 AMP Slo-Blo 250V
F103	ST-4332	1 AMP Slo-Blo 250V
	51984	P.C. Fuse Clip
		MISCELLANEOUS
P101	ST-10585	6 Ckt. Univ. Pin Header
	44784-1	P.C. Pin .093 Dia.



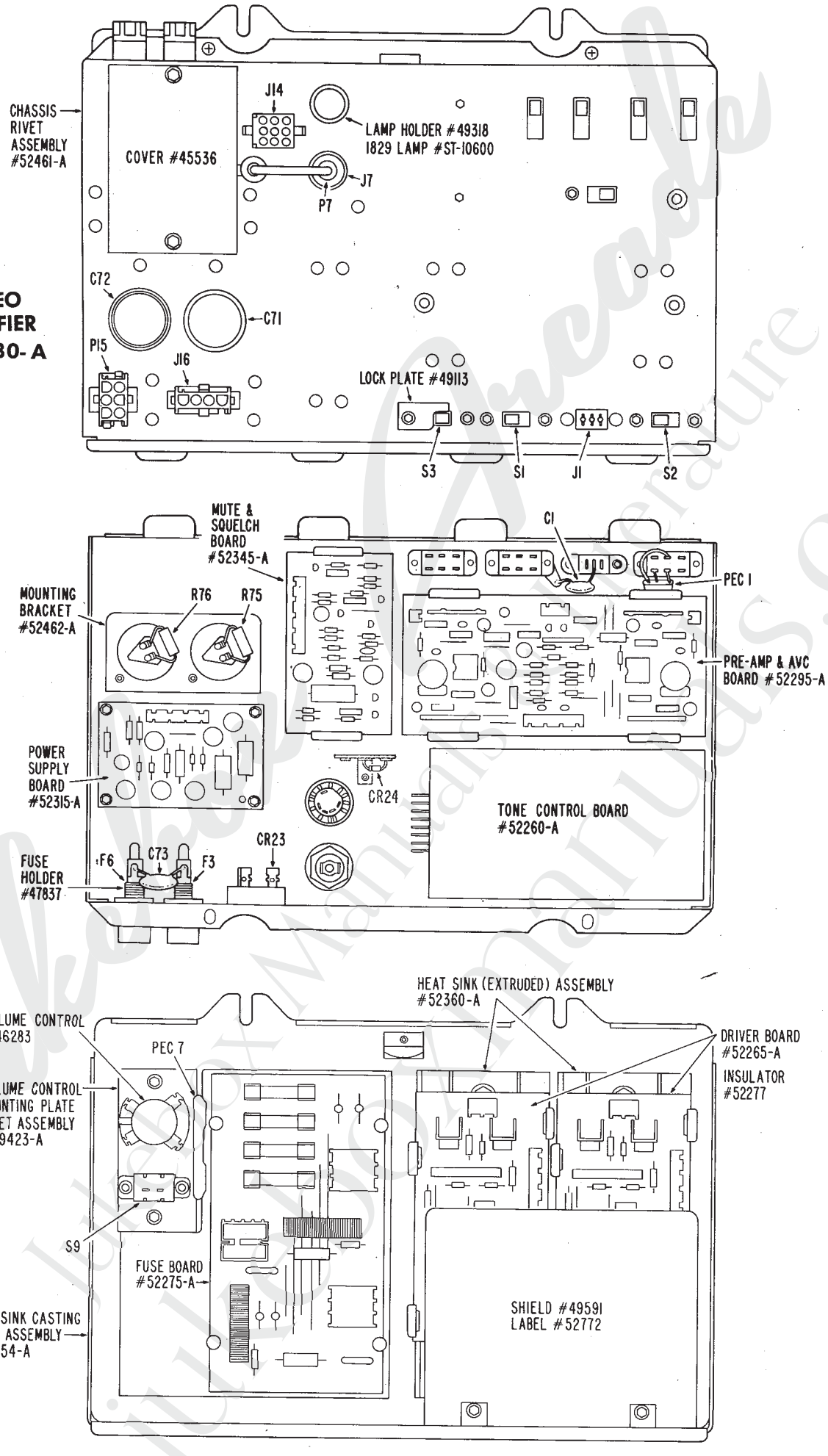
REGULATOR BOARD
52350-A

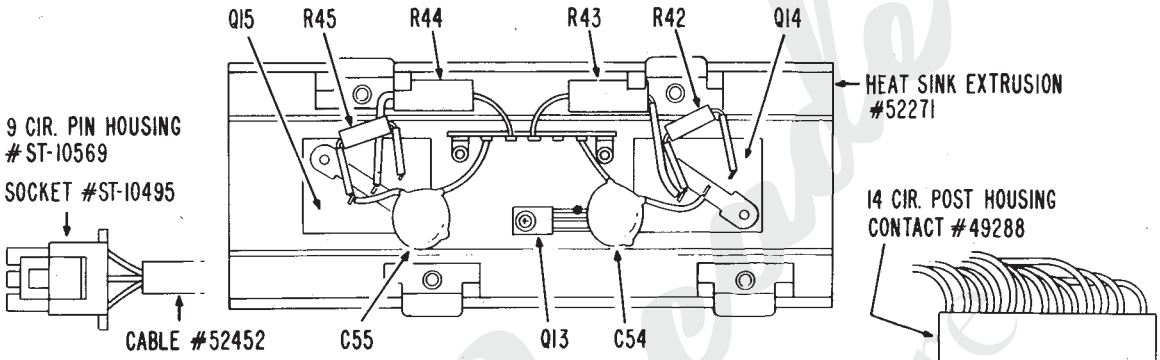
REGULATOR P.C. BOARD ASSEMBLY NO. 52350-A

Item	Part No.	Description
		RESISTORS
R201	31373	3.3K OHM 1/2W 10%
R202 & R203	16224	1K OHM 1/2W 10%
R204	31373	3.3K OHM 1/2W 10%
R205	33472	100 OHM 1/2W 5%
R206	52602	Trim Control 100 OHM
R207	16226	4.7K OHM 1/2W 10%
R208 & R209	47059	120 OHM 5W 10%
R210	43517	.56 OHM 5W 5%
R211	18659	1.8K OHM 1/2W 5%
R212	53011	15 OHM 1W 10% FP
R213	16224	1K OHM 1/2W 10%
R214	30579	15K OHM 1/2W 10%
R215	13182	2.7K OHM 1/2W 10%
R216	35331	10K OHM 1/2W 5%
R217	42908	750 OHM 1/2W 5%
R218	35696	270 OHM 1/2W 5%
R219	46249	1.2K OHM 1/2W 5%
R220	52603	Trim Control 1K OHM
R221	16225	3.9K OHM 1/2W 10%
R222	31373	3.3K OHM 1/2W 10%
R223	13182	2.7K OHM 1/2W 10%
		CAPACITORS
C201	47422	.047 MFD 20% 250V
C202 & C203	51989	.01 MFD 5% 250V
C204	52706	100 MFD +50–10% 50V
C205 & C206	49146	2.2 MFD 20% 25V
C207	50104	.0022 MFD 10% 250V

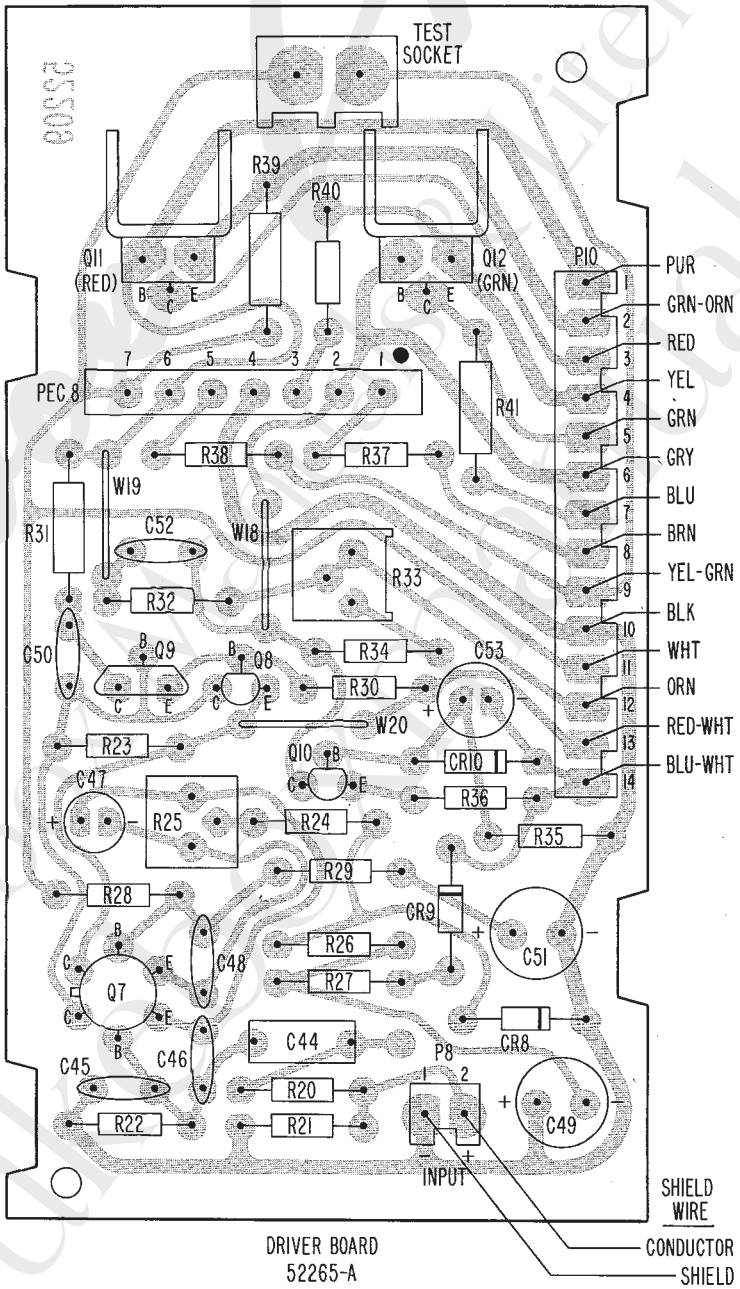
Item	Part No.	Description
		TRANSISTORS
Q201	52592	Darlington (NPN) D44E2
	51631-1	Heat Sink
	ST-10318	Mach. Screw #4-40 x 5/16
	ST-9430	Washer, Fiber
	ST-10469	Hex Nut #4-40
Q202	47831	(PNP) MPS-A56
Q203	52593	Darlington (PNP) TIP 115
	51631-1	Heat Sink
	ST-10318	Mach. Screw #4-40 x 5/16
	ST-9430	Washer, Fiber
	ST-10469	Hex Nut #4-40
Q204 & Q205	47831	(PNP) MPS-A56
		DIODES AND RECTIFIERS
CR201	48214	Rectifier Glass 200 PRV 3A
CR202	47972	Rectifier Glass 200 PRV 1.5A
CR203	48101	Zener 1W 5.6V 5% 1N4734A
CR204	46497	Rectifier 100 PRV 1A 1N4002
CR205	52601	Zener 1W 4.3V 5% 1N4731A
CR206	52594	Zener 1W 22V 5% 1N4748A
CR207 & CR208	46497	Rectifier 100 PRV 1A 1N4002
CR209	47972	Rectifier Glass 200 PRV 1.5A
SCR201	47433	Silicon Control Rectifier
LED #1 thru LED #3	52759	High-Intensity LED (Red)
		MISCELLANEOUS
	ST-10629	14 Circuit MODU Receptacle

STEREO AMPLIFIER No. 52280-A



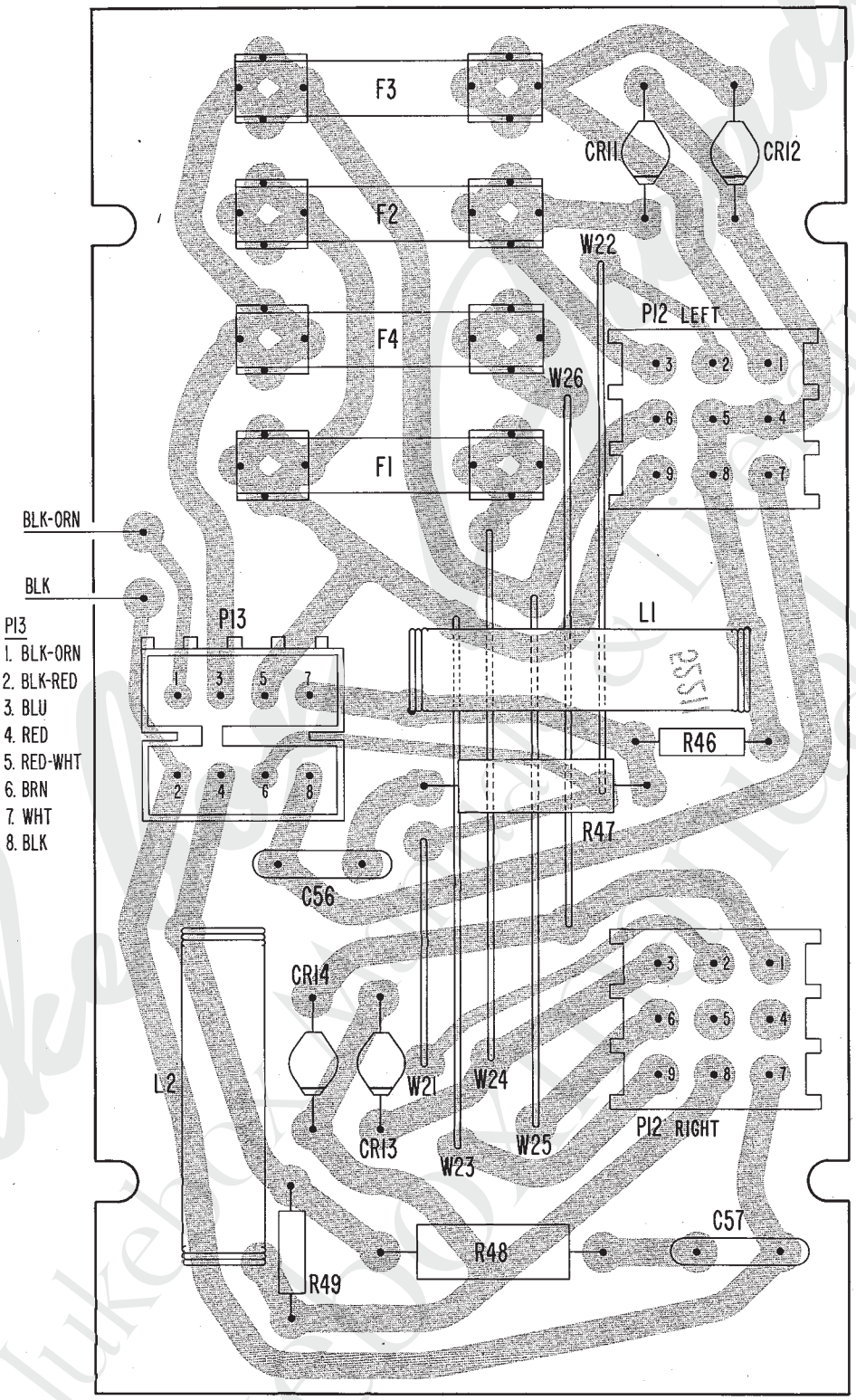


HEAT SINK ASSEMBLY 52360-A



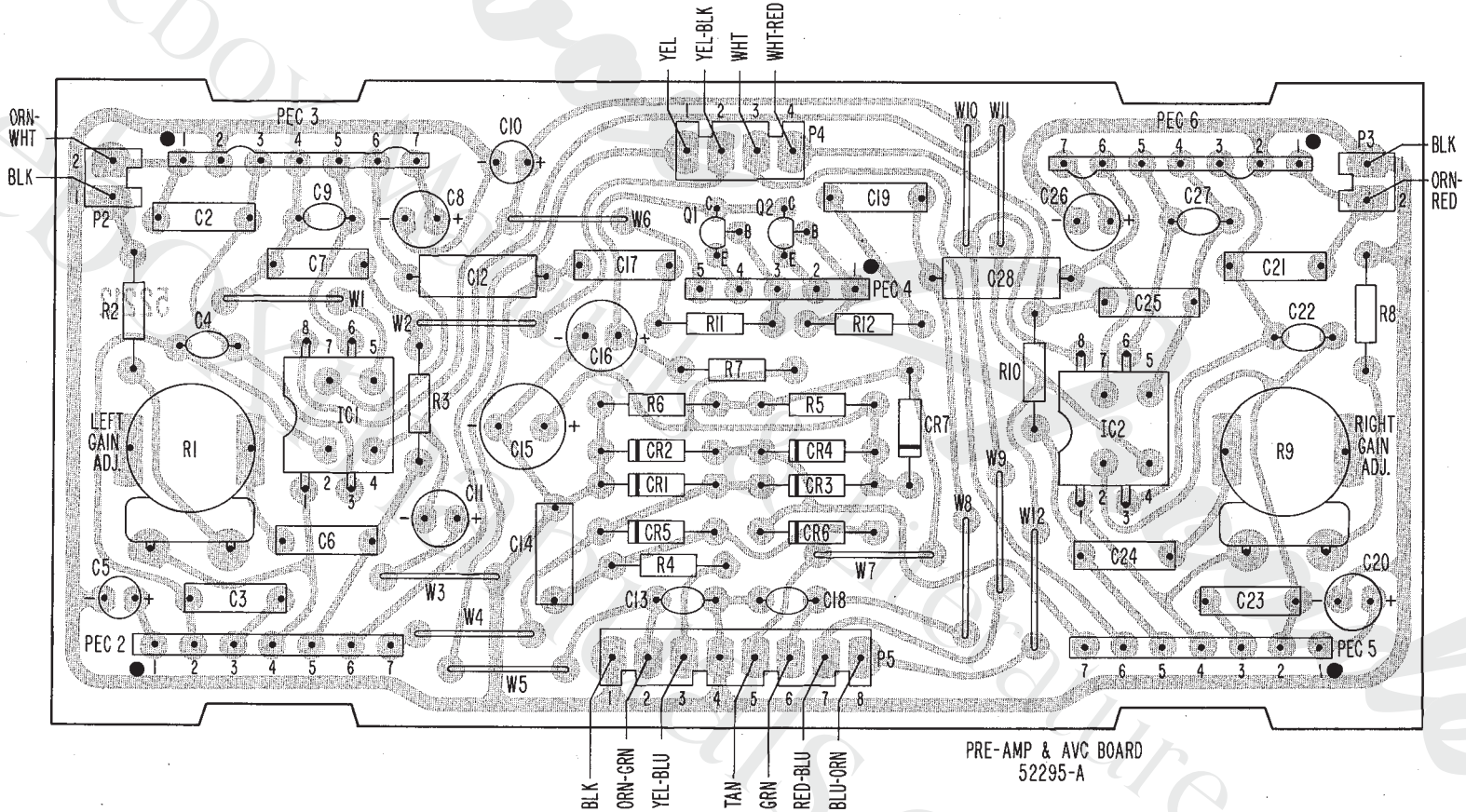
DRIVER BOARD
52265-A

PARTS LIST
PAGES 49 & 50



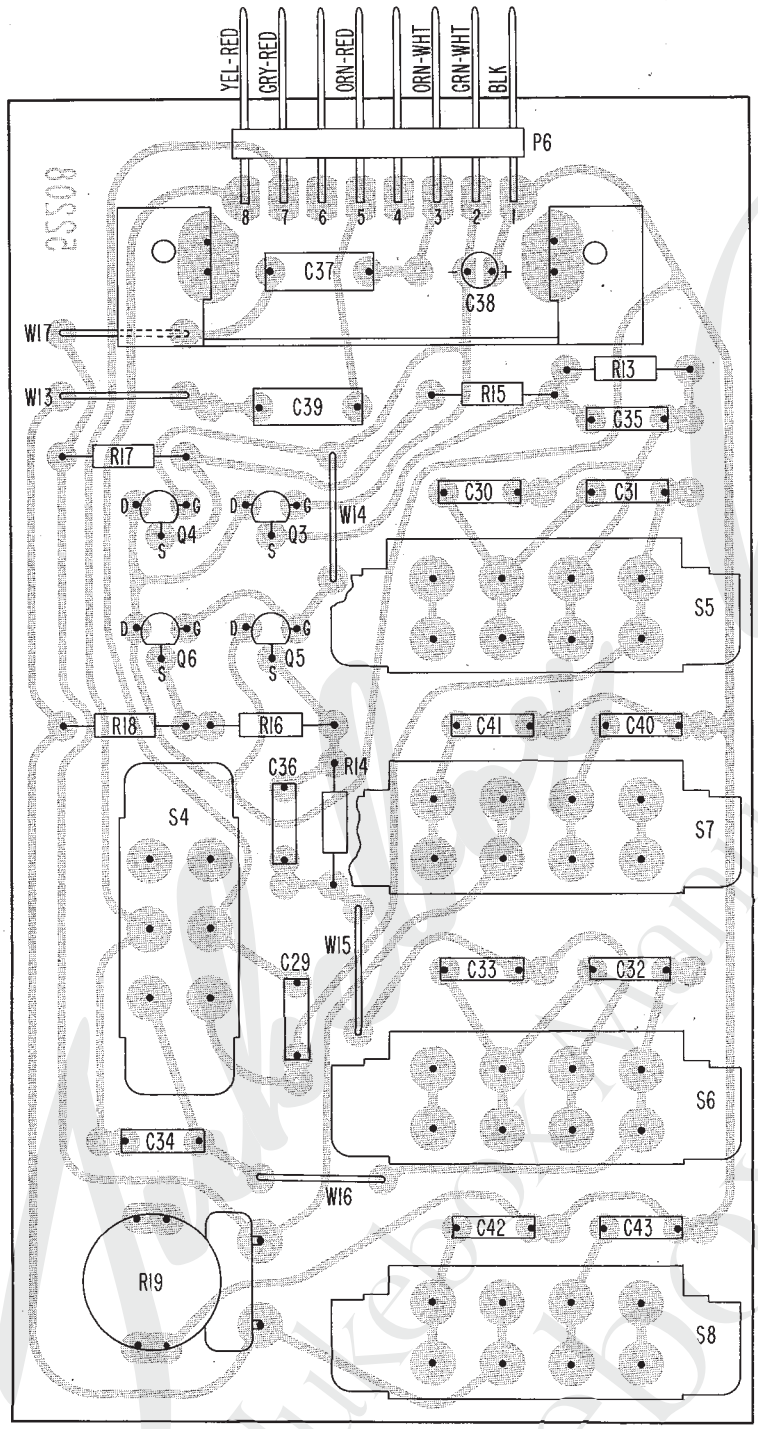
FUSE BOARD
52275-A

PARTS LIST
PAGES 49 & 50

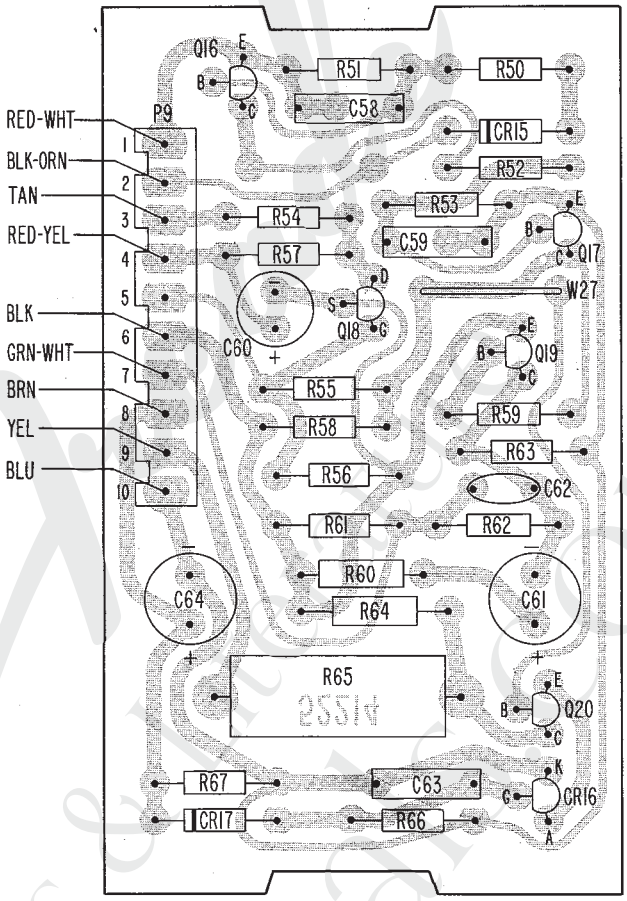


PARTS LIST-PAGES 49 & 50

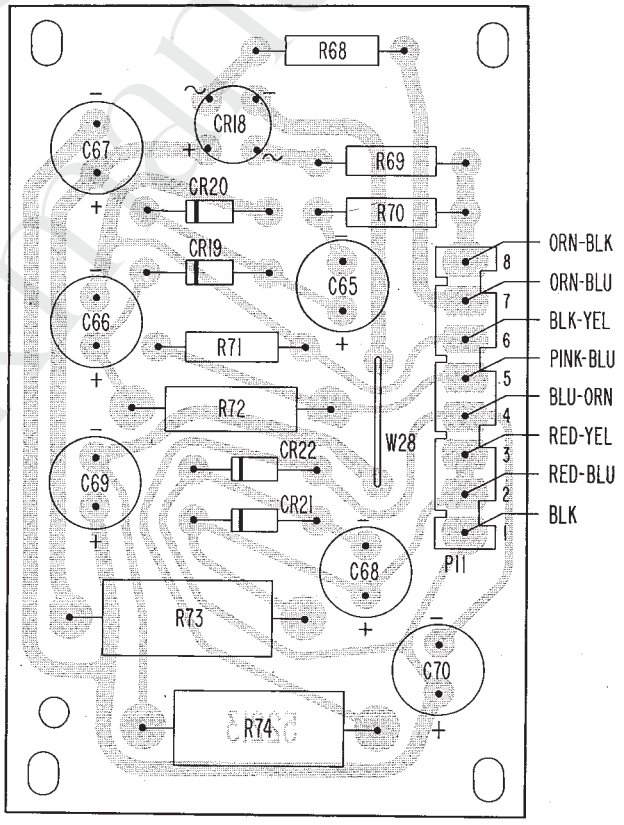
PARTS LIST - PAGES 49 & 50



TONE CONTROL BOARD
52260-A



MUTE & SQUELCH BOARD
52345-A



POWER SUPPLY BOARD
52315-A

AMPLIFIER

Item	Part No.	Description
		CAPACITORS
C1	52393	.05 MFD 20% 100V
C2	48949	.027 MFD 10% 250V
C3	48947	.015 MFD 10% 250V
C4	45789	150 MMFD 10% 500V
C5	50647	4.7 MFD 20% 35V
C6 & C7	47421	.1 MFD 20% 250V
C8	50646	10 MFD 20% 25V
C9	45789	150 MMFD 10% 500V
C10 & C11	50647	4.7 MFD 20% 35V
C12	48951	.47 MFD 20% 100V
C13	33762	470 MMFD 10% 1000V
C14	48941	.22 MFD 20% 100V
C15	49271	220 MFD –0 + 100% 10V
C16	50684	22 MFD 20% 35V
C17	47421	.1 MFD 20% 250V
C18	33762	470 MMFD 10% 1000V
C19	47421	.1 MFD 20% 250V
C20	50647	4.7 MFD 20% 35V
C21	48949	.027 MFD 10% 250V
C22	45789	150 MMFD 10% 500V
C23	48947	.015 MFD 10% 250V
C24 & C25	47421	.1 MFD 20% 250V
C26	50646	10 MFD 20% 25V
C27	45789	150 MMFD 10% 500V
C28	48951	.47 MFD 20% 100V
C29 thru C34	48949	.027 MFD 10% 250V
C35 & C36	52353	.0047 MFD 10% 250V
C37	48951	.47 MFD 20% 100V
C38	52359	1 MFD 10% 35V
C39	48951	.47 MFD 20% 100V
C40	52353	.0047 MFD 10% 250V
C41 & C42	52354	.012 MFD 5% 250V
C43	52353	.0047 MFD 10% 250V
C44	48951	.47 MFD 20% 100V
C45	33762	470 MMFD 10% 1000V
C46	44774	50 MMFD 10% 500V
C47	50646	10 MFD 20% 25V
C48	44774	50 MMFD 10% 500V
C49	52363	150 MFD 20% 40V
C50	45789	150 MMFD 10% 500V
C51	49278	22 MFD –0 + 100% 75V
C52	52369	.0056 MFD 10% 100V
C53	52364	150 MFD 20% 6.3V
C54 thru C57	52382	.1 MFD 20% 100V
C58 & C59	47422	.047 MFD 20% 250V
C60	50684	22 MFD 20% 35V
C61	52363	150 MFD 20% 40V
C62	33762	470 MMFD 10% 1000V
C63	47422	.047 MFD 20% 250V
C64	52361	47 MFD –10 +50% 50V
C65 & C66	49278	22 MFD –0 + 100% 75V
C67 thru C70	52362	100 MFD –10 + 50% 40V
C71 & C72	52352	3000 MFD –10 + 100% 50V
C73	45319	.02 MFD 20% 1000V
		RESISTORS
R1	49272	1K OHM Min. P.C. Control - Green
R2	49264	470 OHM 1/4W 5%
R3	50643	300K OHM 1/4W 5%
R4	49269	27K OHM 1/4W 5%
R5	49266	560K OHM 1/4W 5%
R6	48042	2.2K OHM 1/4W 10%
R7	49268	33K OHM 1/4W 5%
R8	49264	470 OHM 1/4W 5%
R9	49272	1K OHM Min. P.C. Control - Green
R10	50643	300K OHM 1/4W 5%
R11 & R12	49267	56K OHM 1/4W 5%
R13 & R14	51291	22K OHM 1/4W 5%
R15 & R16	52358	2.2K OHM 1/4W 5%
R17 & R18	51567	3.3K OHM 1/4W 5%
R19	52366	100K OHM Min. P.C. Control - Blue
R20	48042	2.2K OHM 1/4W 10%
R21	52514	82K OHM 1/4W 10%
R22	52380	18K OHM 1/4W 5%
R23	52378	680 OHM 1/4W 5%
R24	51568	5.1K OHM 1/4W 5%
R25	52367	50 OHM Trim Control
R26	48043	4.7K OHM 1/4W 10%
R27	53007	47 OHM 1W 10% FP
R28	52380	18K OHM 1/4W 5%
R29	52513	240 OHM 1/4W 5%
R30	52373	10 OHM 1/4W 5%
R31	53008	100 OHM 1W 5% FP
R32	52379	750 OHM 1/4W 5%
R33	52368	200 OHM Trim Control
R34	52709	360 OHM 1/4W 5%
R35	51291	22K OHM 1/4W 5%
R36	53039	120 OHM 1W 5% FP
R37	51571	6.8K OHM 1/4W 5%
R38	53008	100 OHM 1W 5% FP
R39	13182	2.7K OHM 1/2W 10%
R40	53008	100 OHM 1W 5% FP
R41	13182	2.7K OHM 1/2W 10%
R42	31719	100 OHM 1W 10%
R43 & R44	52383	0.33 OHM 5W 5%
R45	31719	100 OHM 1W 10%
R46	14234	22 OHM 1/2W 10%
R47 & R48	49298	22 OHM 2W 10%
R49	14234	22 OHM 1/2W 10%
R50	51293	10K OHM 1/4W 5%
R51	51564	1K OHM 1/4W 5%
R52	51291	22K OHM 1/4W 5%
R53	51564	1K OHM 1/4W 5%
R54	52348	15K OHM 1/4W 5%
R55	52351	120K OHM 1/4W 5%
R56	52349	39K OHM 1/4W 5%

AMPLIFIER

Item	Part No.	Description
R57	52347	9.1K OHM 1/4W 5%
R58 & R59	51293	10K OHM 1/4W 5%
R60	52344	330 OHM 1/4W 5%
R61	52349	39K OHM 1/4W 5%
R62	50966	100K OHM 1/4W 5%
R63	51291	22K OHM 1/4W 5%
R64	18660	3.3K OHM 1/2W 5%
R65	52343	120 OHM 2W 10%
R66	51567	3.3K OHM 1/4W 5%
R67	50966	100K OHM 1/4W 5%
R68 thru R70	53011	15 OHM 1W 10% F/P
R71	13888	10K OHM 1/2W 10%
R72	52988	270 OHM 2W 10%
R73 & R74	52989	470 OHM 2W 10%
R75 & R76	47423	1.5K OHM 1W 10%
	46283	Volume Control 48K OHM 20%

TRANSISTORS

Q1 & Q2	47831	(PNP) MPS-A56
Q3 thru Q6	52342	N – Channel Junction Fet
Q7	52371	Differential Amplifier
Q8	47831	(PNP) MPS-A56
Q9	52372	1 Watt (PNP)
Q10	49415	(NPN) MPS-A06
Q11	48929-2	Power Tab (NPN) Red
	51631-1	Heat Sink
	ST-10318	Screw Mach. #4-40 x 5/16
	ST-9430	Washer, Fiber
	ST-10469	Hex Nut #4-40
Q12	48932-2	Power Tab (PNP) Green
	51631-1	Heat Sink
	ST-10318	Screw Mach. #4-40 x 5/16
	ST-9430	Washer, Fiber
	ST-10469	Hex Nut #4-40
Q13	52453	25W (NPN) Special (Modified Leads - Make from #52397)
Q14 & Q15	48931-2	Power (NPN) 2N3055C
Q16	47831	(PNP) MPS-A56
Q17	49415	(NPN) MPS-A06
Q18	52342	N – Channel Junction Fet
Q19	47831	(PNP) MPS-A56
Q20	49415	(NPN) MPS-A06

DIODES AND RECTIFIERS

CR1 thru CR4	49141	A.V.C. Diode
CR5 & CR6	49140	Reference Diode
CR7	46497	Rectifier 100 PRV 1 Amp 1N4002
CR8	51982	Zener 1W 10V 5% 1N4740A
CR9	46497	Rectifier 100 PRV 1 Amp 1N4002
CR10	49140	Reference Diode
CR11 thru CR14	47972	Rectifier Glass 200 PRV 1.5A
CR15	51498	Diode 1N4148
CR16	51297	Rectifier 2N5062
CR17	48101	Zener 1W 5.6V 5% 1N4734A
CR18	52444	1 Amp Bridge Rectifier
CR19 & CR20	46497	Rectifier 100 PRV 1 Amp 1N4002
CR21 & CR22	46617	Zener 1W 15V 5% 1N4744A
CR23	52394	Bridge Rectifier 25 Amp
CR24	49497	Rectifier 100 PRV 1 Amp 1N4002

INTEGRATED AND PACKAGED ELECTRICAL CIRCUITS

IC1 & IC2	48934	Dual Integrated Circuit
	49273	IC Socket – 8 Pin
PEC 1	50651	P.E.C. Scratch Filter
PEC 2	50648	P.E.C. Pre-Amp Circuit A
PEC 3	50649	P.E.C. Pre-Amp Circuit B
PEC 4	48936	P.E.C. AVC Circuit
PEC 5	50648	P.E.C. Pre-Amp Circuit A
PEC 6	50649	P.E.C. Pre-Amp Circuit B
PEC 7	44715	P.E.C. Volume Control
PEC 8	52357	P.E.C. Protection Circuit

SWITCHES

S1 thru S3	49302	Slide Switch D.P.D.T.
S4	49281	PC Slide Switch D.P.D.T.
S5 thru S8	49280	PC Slide Switch DP3T
S9	44772	Momentary Push Switch

MISCELLANEOUS

F1 thru F4	ST-4333	Fuse 3 Amp 250V Fast Acting
	51984	P.C. Fuse Clip
F5 & F6	ST-10674	Fuse 5 Amp 125 V Slo-Blo
J1	44927	3 Pin Socket
J7	18634	6 Prong Min. Socket
J14	V-7013	9 Circuit M-N-L Socket Housing
J16	ST-10588	4 Circuit Universal M-N-L Socket Hsg.
L1 & L2	52386	Choke Coil 10 MHY
P2 & P3	49274	2 Circuit Post Connector
P4	ST-10574	4 Circuit Post Connector
P5	49275	8 Circuit Post Connector
P7	52384	6 Pin Plug & Cable (19")
P8	49274	2 Circuit Post Connector
P9	49276	10 Circuit Post Connector
P10	ST-10577	14 Circuit Post Connector
P11	49275	8 Circuit Post Connector
P12 LEFT & RIGHT	ST-10584	9 Circuit Universal Pin Header
P13	ST-10576	8 Circuit M-N-L P.C. Board Header
P15	ST-10568	6 Circuit Universal M-N-L Socket Hsg.

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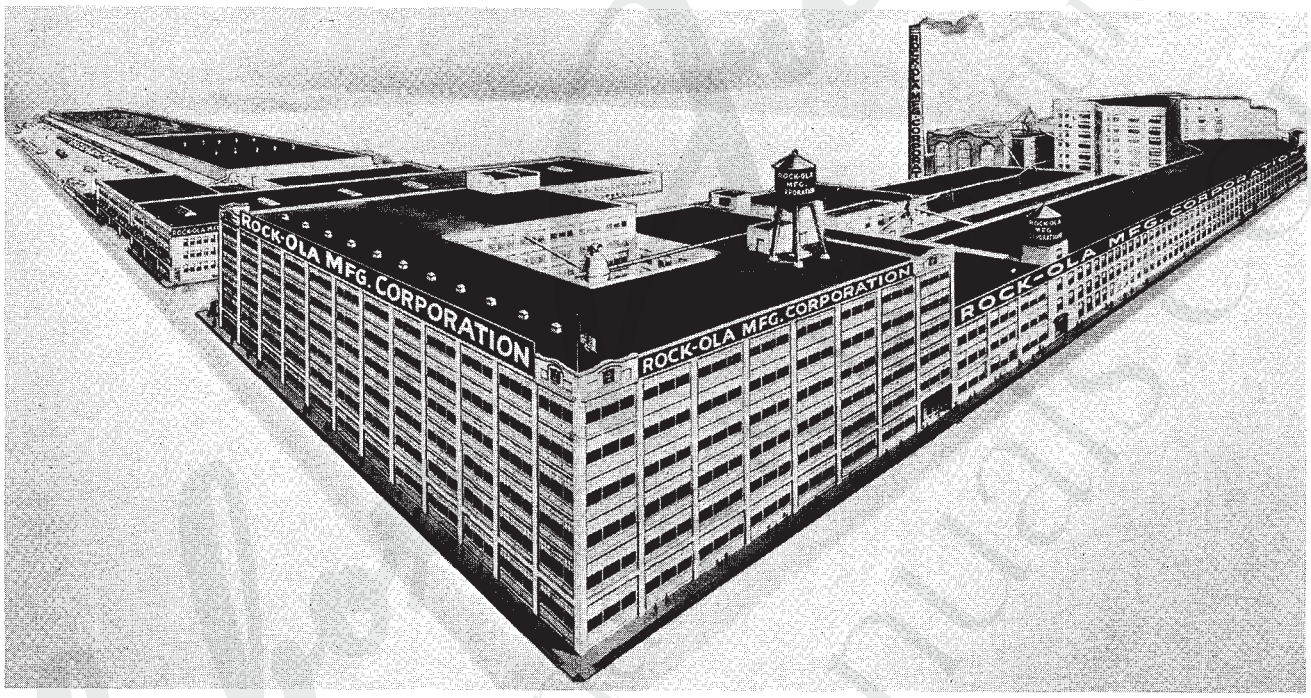

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