

## 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

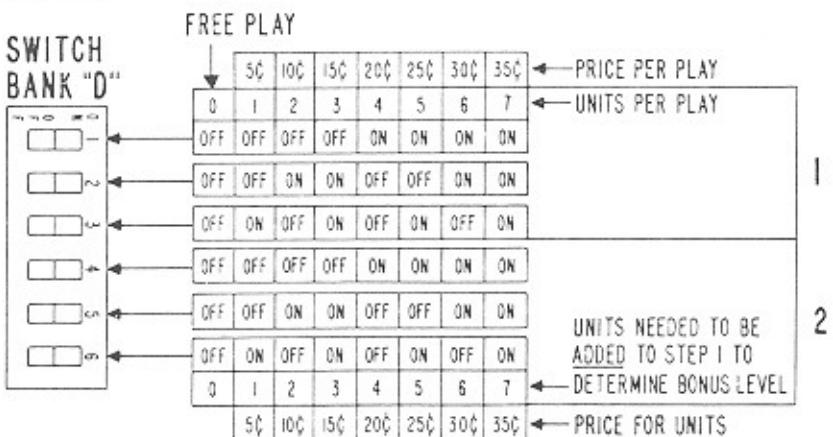
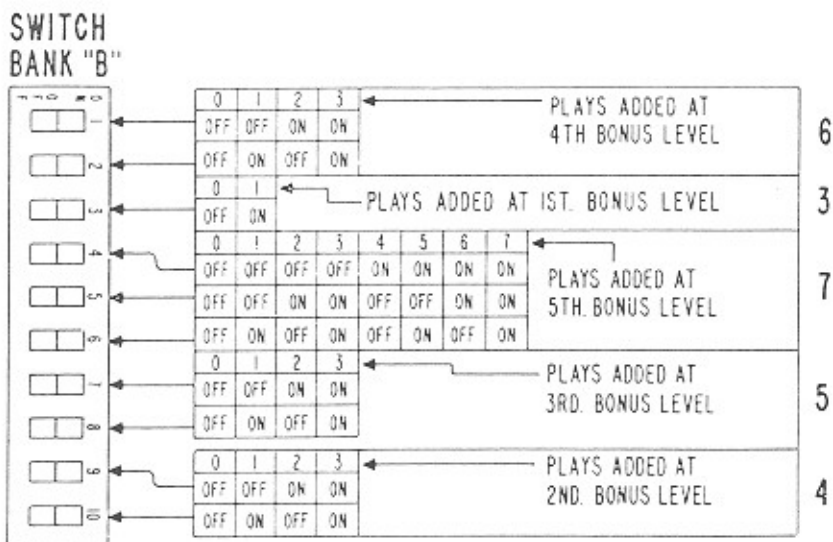
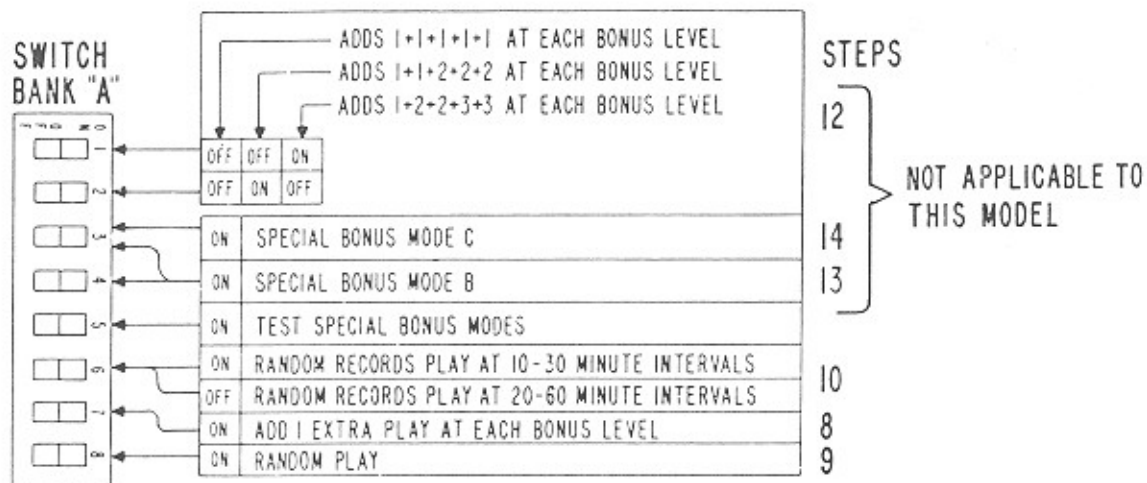
25¢	.....	1 PLAY
50¢	.....	3 PLAYS
75¢	.....	6 PLAYS
\$1.00	.....	9 PLAYS
\$1.25	.....	12 PLAYS

#### 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 D6 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.

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.

## RANDOM PLAY

9. To stimulate phonograph play, switches A8 and A6 can be set to allow random selections

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

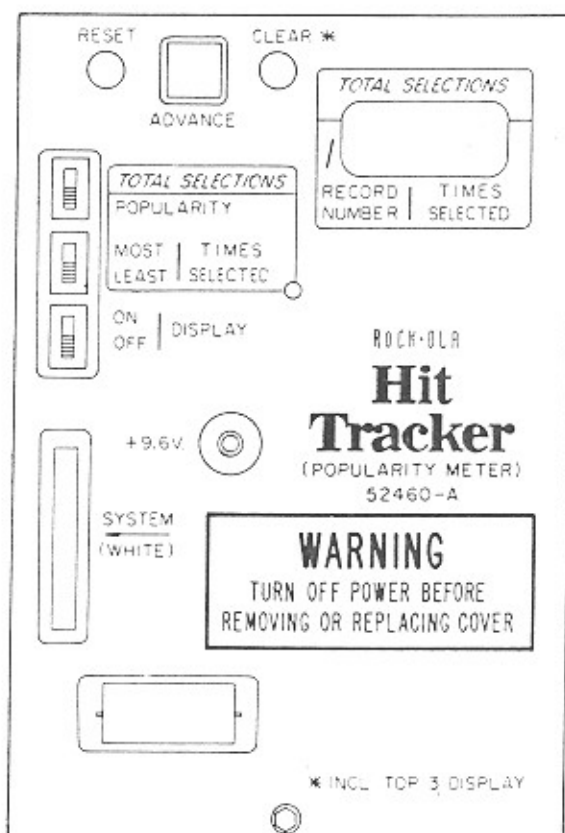
(C) Set all B switches on. Then set D2, D3 and D5 on. Press CLEAR button.

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.



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.

## 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.

## 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
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 , 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:
 

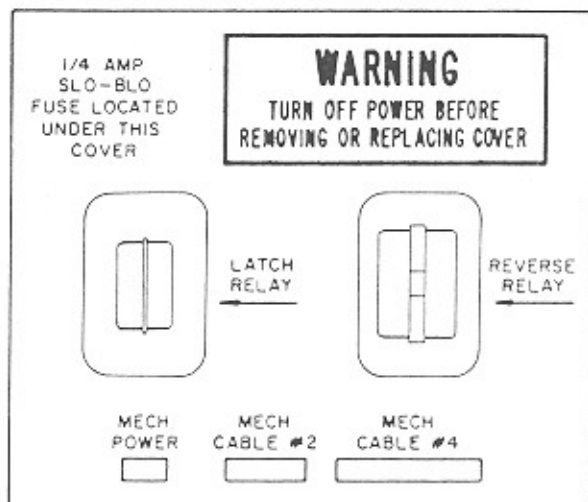
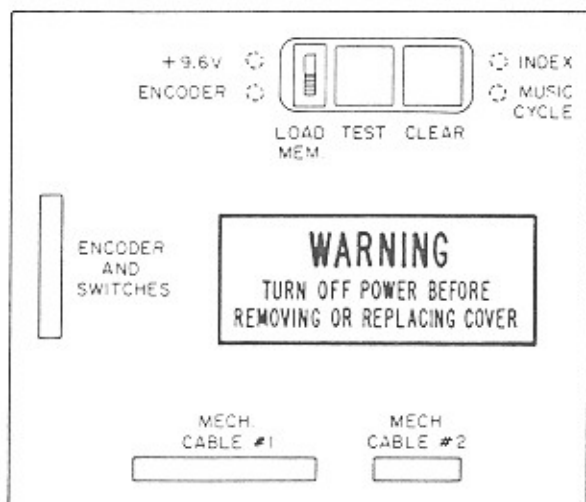
MOST	TIMES	LEAST	SELECTED
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 , down to LEAST popular position.
 

(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.

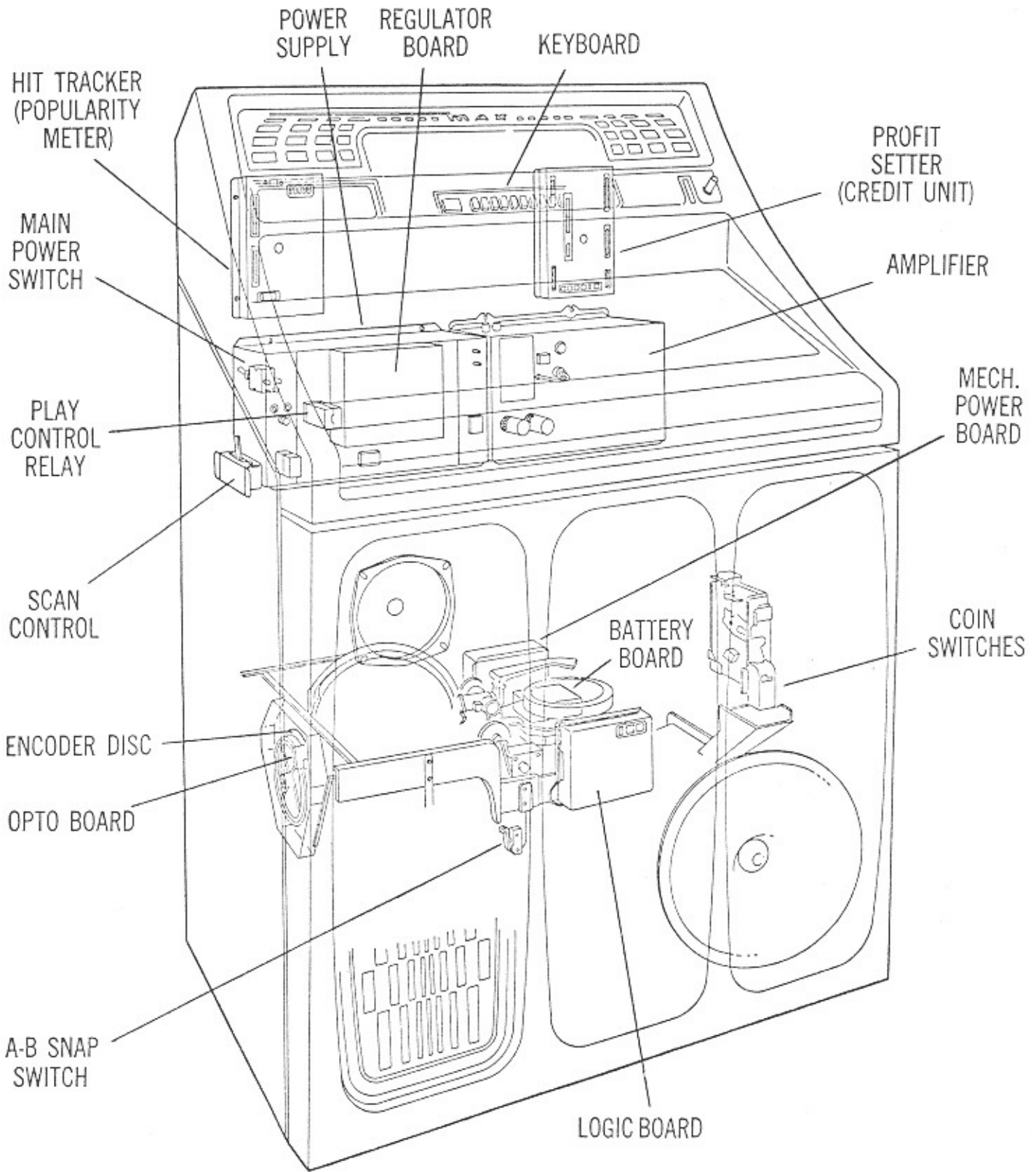
(E) With credits on PROFIT SETTER (credit unit), make the following selections, #100, #184, #187, #197, #200, #282, #297, #145, #255, #222, #111. Observe that the proper record selections have been made.

(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.

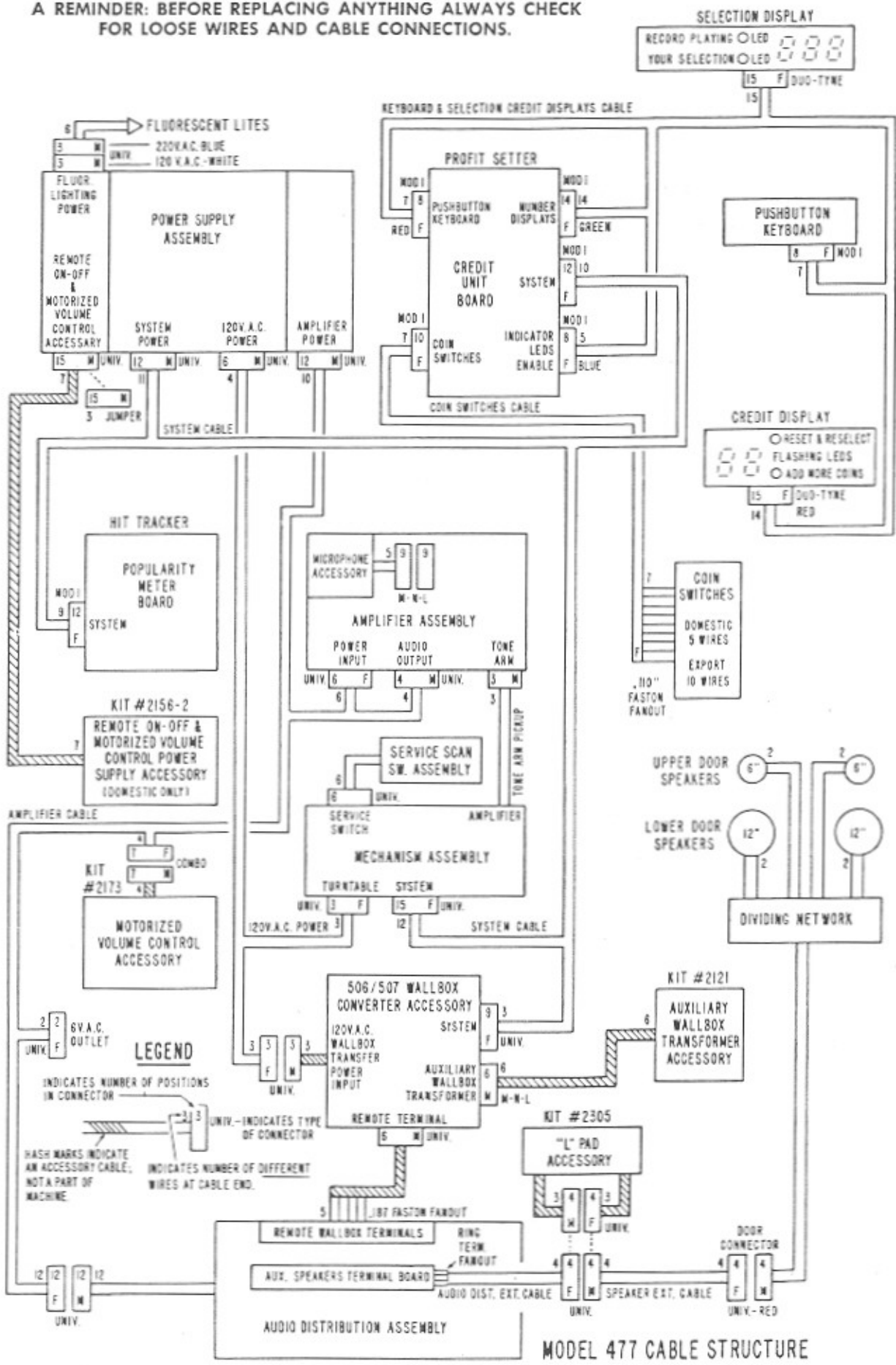
If memory is lost the battery is most probably bad or discharged. Check for proper operation of SCAN service switch.



COMPONENT PLACEMENT



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



MODEL 477 CABLE STRUCTURE