

# PRESIDENTIAL™ ELECTRONIC BINGO SYSTEM OPERATOR'S MANUAL

ARROW INTERNATIONAL  
CAPITOL BINGO  
EQUIPMENT DIVISION



Thank you for choosing to purchase Arrow International's Capitol Bingo Equipment. We are confident that you will be completely satisfied with our high quality, durable bingo equipment. Our Capitol Bingo Equipment has the most technologically advanced electronics and is designed for easy and reliable operations and trouble-free maintenance by the operator.

Arrow manufactures the highest furniture quality, hand crafted equipment consoles in the industry. Our metal fabricated steel products are constructed of the finest, heavy duty materials available and guaranteed to withstand many years of use. The Designer Series consoles offer durable Formica® top and bottom and interchangeable front panels.

This bingo equipment manual introduces you to the Presidential™ system. It will take you step by step through unpacking your system and the simple procedures for installation, setup and operation. Easy to follow instructions and illustrations also guide you through routine service and maintenance.

Arrow's hard work and dedication enable us to offer you a breadth of product line that continues to grow. We are proud to offer you the most extensive charitable fundraising product line including Popp-Opens™ pull tabs, bingo markers and bingo paper. This dedication to providing an extensive line of high quality products is accompanied by our commitment to satisfying your product needs with fast and trouble-free service. Please visit us online at [www.arrowinternational.com](http://www.arrowinternational.com) for the latest in all of our product lines.

We value you as a customer and always welcome and appreciate your comments and suggestions to help improve our products. Our best suggestions always come from our game operators and distributors. We want you to always be a satisfied customer and we will continue to design and improve our products through the valuable feedback received from you and our outstanding network of Arrow distributors.

Once again, thank you for choosing Arrow International/Capitol for your charitable fundraising needs.

Arrow International



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## Introduction

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Your new CAPITOL PRESIDENTIAL™ Bingo System console was designed using state-of-the-art technology. Its modern design, wooden console and exceptional user convenience have set it apart from the competition.

Digital communication from the console to the flashboard eliminates bulky, complicated cabling between the components. The Presidential™ Bingo System was specially designed with the operator in mind. For example, all system controls are placed on a single control panel. The Presidential™ will provide years of trouble-free service. However, if a problem should arise, our service personnel will provide timely response on repairs, spare parts and technical support.

This manual will guide you through unpacking, installation, programming, running games and sessions with easy-to-follow instructions.

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## STANDARD FEATURES OF THE PRESIDENTIAL™ SYSTEM INCLUDE:

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### Console:

- Red Oak Veneered, Hand Sanded, Stained and Varnished Console
- Brass Trim and Locks
- Bingo and Special Game Indicators
- Single Handed Ball Release Tray
- Extra Wide Ball Release Gate
- Non-Marking Casters
- 100 User-Programmable Game Patterns
- Manual Game Pattern Entry with Visual Indicator Switches
- Countdown LED Timer on Panel
- Constant or Ball Activated Timer
- Timer Reset
- Total Number of Balls Called or Last Number Called Display
- Test Mode for Flashboards
- Reverse Mode
- Illuminated Ball Chamber with Large Wrap Around Acrylic Window
- Slide Out Blower Tray Assembly
- Ball Mixer Arm
- One Set of Samson Balls
- Replaceable Air Filter
- Easily Accessible Printed Circuit Boards (PCB)
- Service Light in Left Hand Compartment
- Spare Power Outlets
- 3 Wire and 6 Wire Telephone Style Data Cable Connections

### Flashboard:

- One Brown Metal Fabricated 4" Number and Game Indicator Style Flashboard with Total Number of Balls Called or Game Number Display
- Flashing Last Number Called
- Self Test
- Daisy Chainable
- Sliding Acrylic Panels
- Hinged Game Indicator Section for Easy Servicing of PCB\*\* and Electronics
- Field Replaceable Components
- Electronic Control
- Ribbon Cable Assembly
- Low Voltage Lamps (28 VDC)
- 100 ft. of 3 Wire Data Cable with QD's

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## Damage Action Process

Your Capitol Bingo Equipment contains delicate electronic equipment. It is imperative that you thoroughly inspect the contents of the package before accepting product delivery from the carrier.

In case of severe damage, refuse the equipment from the carrier. Contact your local Arrow International Distributor for immediate replacement.

If the product is damaged but acceptable, make a note on the bill of lading before accepting. Take a photo of the damage before and after unpacking as a record of claim against the carrier. Contact the carrier's agent immediately for inspection. Be sure to obtain a copy of the inspection report for your records.

If these precautions are not taken, we cannot assist you in recovering the amount of the claim against the carrier.

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The laws that determine the legality of this product change constantly. It is the responsibility of the buyer to determine which products are legal in any given area.

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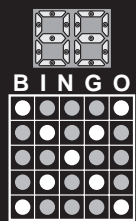


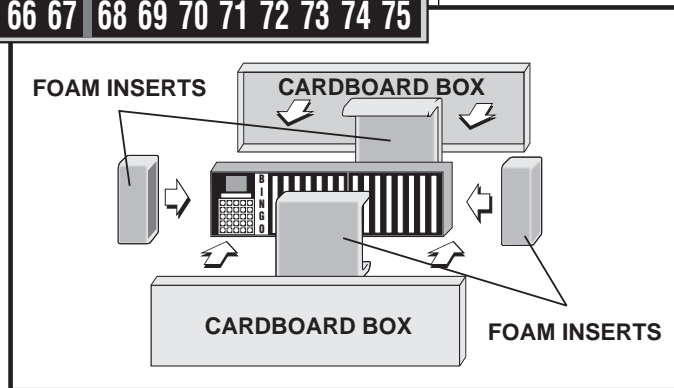
# I. Getting Started

## A. Unpacking

Arrow International designed your Presidential™ Bingo System to have a distinctively attractive appearance, and we used careful manufacturing and assembly techniques to preserve this appearance. Each Presidential™ system is inspected for scratches, bumps or abrasions during packing, and is warranted to be free from defects.

**Caution:** This flashboard weighs approximately 125 pounds. Use care and get assistance before unpacking and lifting. A minimum of two individuals is required for unpacking.

	<b>B</b>	1	2	3	4	5	6	7	<b>8</b>	9	10	11	12	13	14	15
	<b>I</b>	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
	<b>N</b>	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
	<b>G</b>	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
	<b>O</b>	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75



### 1. Flashboard

The flashboard is banded into a heavy cardboard enclosure with foam inserts at each end and in the middle. This carton is marked with various warning labels and stampings. Lay the carton flat, observing that the outside overlapping cover of the flashboard is on the top side.

Before opening, closely inspect the carton for evidence of shipping damage such as puncture holes, tears, and crushed edges or corners. Damage to the carton may mean damage to the flashboard. If damage is detected refer to the Damage Action Process section (p. 3) for procedures.

Use scissors to cut all straps. Carefully lift off the carton top. Cut the tape on the four corners of the carton bottom and the retaining tape on the center foam insert then lay the carton flaps down flat. Slide both ends and the top center foam pieces off to allow access to the flashboard. To prevent scratches, make sure the flashboard remains on the cardboard prior to actual installation. Obtain assistance in setting the flashboard upright.

Do not destroy or discard carton materials until after final inspection and testing.

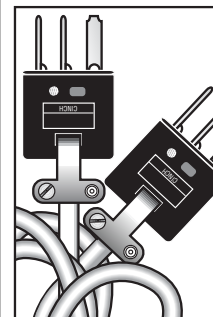
**Note:** Included with the flashboard is a 100 ft. data cable, flashboard mounting brackets, and a customer parts kit consisting of:

4- #1820 Light bulbs

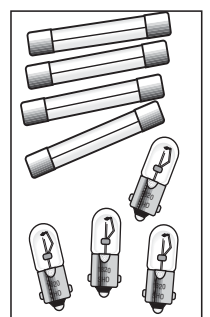
2- 4 AMP Slo Blo 250V fuses

2- 3.2 AMP Slo Blo 250V fuses

100 FT.  
DATA CABLE



PARTS KIT



Caution: This console weighs approximately 170 pounds - get assistance before lifting. A minimum of two individuals is required for unpacking.

Inspect the flashboard to insure that all acrylic panels are in place and free of cracks or heavy scratches. Inspect the masonite panels for damage. If damage to your equipment is evident, or if you have problems in any of the above areas, contact your area distributor immediately for advice and refer to the Damage Action Process section (p. 3) for procedures.

## 2. Console

The Presidential™ console is packed with foam protectors in a cardboard carton and is skid-mounted. Once again, check the carton for possible signs of damage. If damage is detected refer to the Damage Action Process section (p. 3) for procedures.

Use scissors to cut the straps from the skid only, taking care not to cut the straps protecting the console. With the help of at least one assistant, carefully lift the console from the skid and place it on solid flooring. Cut the remaining four straps from the console and remove the cardboard top.

Remove the two foam protectors inside the top and slide the cardboard tube up and off the console. A minimum of two people are required to safely unpack the console. With one person lifting from the top of the ball-blower end and another individual grasping the two handles on the opposite end, raise the console up and out from the carton and foam inserts. Check that all casters are in place. Set unpacked console on solid flooring. Do not destroy or discard carton material until after final inspection and testing.

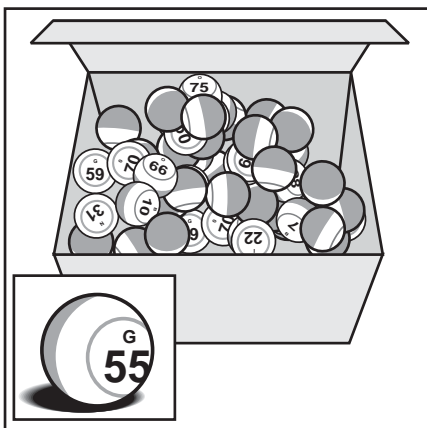
At this point you should inspect the console for shipping damage. All acrylic panels should be in place. Metal panels and their associated switches and parts should be operational. If problems are found in any of these areas, immediately contact your distributor for advice and refer to the Damage Action Process section (p. 3) for procedures.

The following can be found inside the left door of the console:

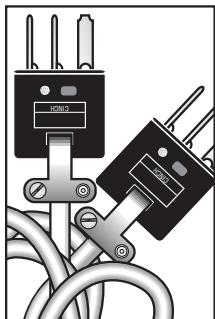
- (1) Set of superior quality Samson™ balls
- (1) Standard 25 ft. data cable (other lengths optional)
- (1) Customer parts kit, which includes:
  - (4) Low-voltage ball switches
  - (4) #1820 28V light bulbs
  - (2) .3 AMP MDL 250V fuses
  - (2) 6 AMP AGC /3AG 250V fuses

Note: Do not destroy or discard carton materials until after final inspection and testing.

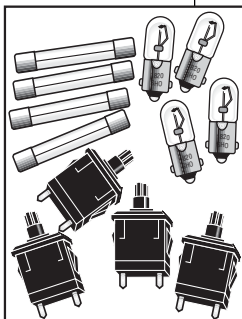
### SAMSON™ BALLS



### 25 FT. DATA CABLE



### PARTS KITS



Open the box of Samson™ balls, check each ball for damage and insert each ball into its corresponding slot in the console ball tray. If a ball has a flat spot, immerse it in hot water. Usually the flat area will pop out. If it does not, contact your distributor for a replacement.

### B. Warranty Assurance

You must keep a copy of your receipt or invoice for proof of purchase. Please review the warranty information on page 56 of this manual.

If there are any questions, contact your distributor or call Arrow Technical Assistance at:

**800-277-6214**



**Arrow Technical Assistance Center**  
*Protecting Your Investment Through  
Innovative Solutions and Support*

Phone Support Hours: 8:00 AM to 12:00 AM  
**800-277-6214**  
[www.arrowinternational.com](http://www.arrowinternational.com)

**You must keep your receipt or invoice for proof of purchase in order to insure proper warranty coverage.**

### C. Console Compatibility

The Presidential console is fully compatible with the following:

- Capitol Statesman™ Verifier and NCR® PC-6 Securifier Systems.
- All Capitol flashboards except the 600LV3, Senator, and Ambassador.
- BK Series A flashboards with game pattern & all BK game pattern style flashboards prior to January, 1987.

Note: Be sure to allow adequate air flow for the blower on carpeted surfaces. If necessary, elevate the console on planks or other rigid forms.

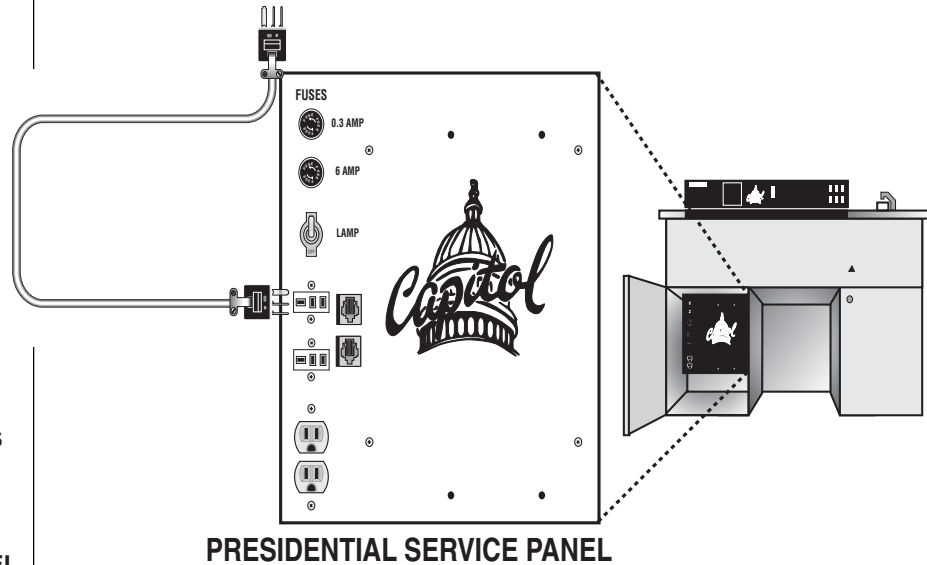
## II. Installation

### A. Electrical Installation

1. Plug the bingo console and flashboard(s) into any 110/120 VAC 60HZ grounded power outlet.
2. Once the system has been completely setup, turn the "POWER" switches on. Use the other controls as needed.

### B. Flashboard Installation

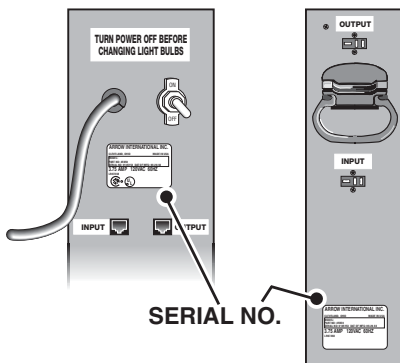
1. Data connections for the Bingo flashboards are made with the console data cable output connectors, located on the Presidential™ Input/Output panel, in left hand compartment of the console. Permanent installations use the 3"x1" access hole under the I/O panel to run the cables. Temporary installations utilize the gap between the bottom of the left hand console door and the bottom of the console to run the cables.



### FLASHBOARD DATA CONNECTIONS

ALUMINUM  
EXTRUDED  
FLASHBOARD  
UPPER LEFT  
SIDE PANEL

METAL  
FABRICATED  
FLASHBOARD  
LEFT SIDE PANEL



2. Install the flashboard data cable. When possible, we recommend using a one-piece cable avoiding splices, adapters and other mating devices. Wiring to the flashboard may be permanently installed using a wire mold. Where a permanent installation is not possible, install the flashboard data cable through the walls and/or ceiling to where the console can be rolled in and easily connected with all data and power cables. Avoid running the flashboard cable next to high-current lines such as smoke eaters, air conditioners, etc.
3. For metal fabricated style flashboards, plug the 3-pin male data connector into the lower connector labeled "INPUT." For aluminum extruded-style flashboards, utilize the telephone style data cable provided with the aluminum extruded flashboard and plug the data cable into the Presidential™ input/output panel and then the rear telephone jack on the left side of the flashboard labeled "INPUT."

4. You may have an installation that requires hook up of more than one flashboard. In such an instance, the second and subsequent flashboards may be daisy chained by connecting the data cable to the "OUTPUT" connection on the first flashboard to the "INPUT" connection on the second flashboard, and so on. This allows virtually an unlimited number of Capitol Bingo flashboards to be added. A 3 pin Jones-style to a 6 pin telephone style data cable adapter is supplied with the aluminum extruded flashboards for use when daisy chaining aluminum extruded flashboards with metal fabricated flashboards. We recommend utilizing two console outputs if using three or more flashboards.

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**Caution: Before attempting any installation, have a qualified, licensed and bonded rigger and electrician verify the type of installation. In many cases, the local building inspector may require a permit as well as an inspection of the site for structural stability.**

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**C. Video Installation (optional)**

1. If utilizing Capitol Bingo Equipment Video components, please refer at this time to the Capitol Bingo Equipment Video Components Manual for further instructions.

**D. Suggested Number of Flashboard Mounting Assemblies**

	<b>ARROW PART NO.</b>	<b>NUMBERS ONLY</b>	<b>NO. &amp; GAME INDICATOR</b>	<b>NO., GAME INDICATOR &amp; DOLLAR VALUE</b>
2" Wall Mounts	45253	2	2	3
J Brackets	415805	2	2	3
EyeBolt Assemblies	46515	2	2	3
4" Wall Mounts	45254	3	3	4
J Brackets	415805	3	3	5
EyeBolt Assemblies	46515	3	3	4

**E. Wall Mounting Preparation for Flashboard(s)**

Before attempting to mount any flashboard to the wall, you must first determine the type of wall construction. For hollow walls, we recommend that the flashboard mounting brackets be fastened directly into wall studs. For concrete, brick and cinder-block construction, the mounting brackets should be fastened using a bolt and anchor method (moly bolt). If other methods of wall construction are used, consider ceiling mounting or consult the Capitol Bingo Equipment Service department for advice. Place flashboards to offer maximum player visibility with minimal effort.

Before drilling any holes, check for possible electrical or plumbing interference behind the mounting holes and make sure that the flashboard is level from side to side.

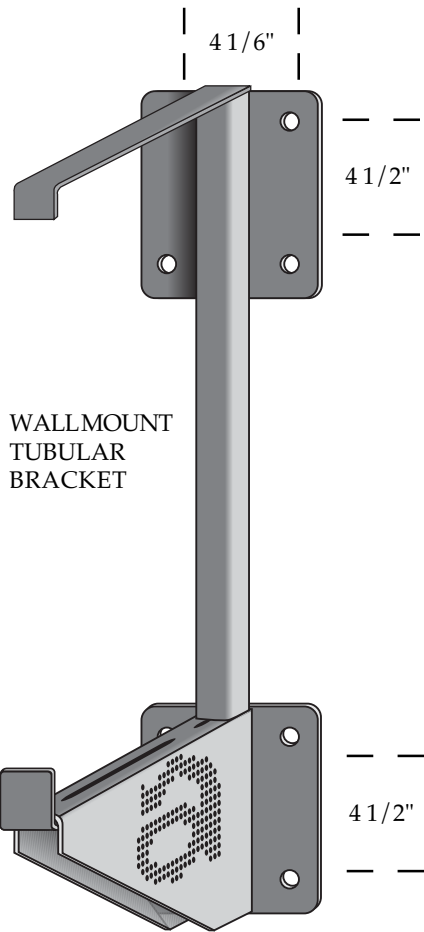
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**Caution: Do not suspend the flashboards using the handles. The handles are to be used for handling purposes only.**

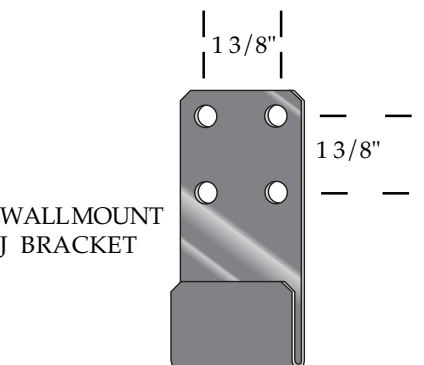
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Note: When choosing the location for mounting your flashboard(s), consider not only visibility but protection against tampering, vandalism and pedestrian traffic. We suggest that your flashboard be mounted at least 7' above the floor.



WALLMOUNT TUBULAR BRACKET



WALLMOUNT J BRACKET

## F. Wall Mounting Instructions

For hollow-wall construction use  $\frac{3}{8}$ " x  $3\frac{1}{2}$ " lag bolts. Fasten brackets directly into wall studs. For masonry construction, use a  $\frac{3}{8}$ " or larger lag-screw expansion shield with suitable-length lag screw.

### 1. Tubular Bracket (optional)

(2" and 4" aluminum extruded and 4" fabricated flashboards)

Choose the proper height for easy viewing and mark the location on the wall. This mounting bracket supports the flashboard from the bottom and may be used to mark the mounting holes. Locate brackets 9" from each end; make sure the brackets are level; and check for possible electrical or plumbing interference behind the mounting holes. Equally space the remaining brackets between the end brackets insuring that all supporting surfaces are level. Drill the proper clearance holes for the mounting method appropriate for your wall.

### 2. Wall-Mount J Bracket

(2" & 4" aluminum extruded flashboards)

Supplied with the 4" aluminum extruded Game Indicator Style flashboard are four J-shaped wall brackets (other flashboards may vary). Each bracket has four mounting holes for  $\frac{3}{8}$ " bolts. Choose a height that allows for easy viewing and mark the location on the wall. Then, measure in  $8\frac{1}{2}$ " and  $9\frac{7}{8}$ " from each end of the flashboard and mark the vertical center lines. Next, from the top of the flashboard, measure up 2" and  $3\frac{3}{8}$ " from the horizontal center lines.

Next, space any additional brackets equally between the previous brackets and locate the mounting holes, again checking for level. Drill the proper clearance holes for the method of mounting appropriate for your wall as described above.

## G. Ceiling-Mounted Flashboards

For any ceiling-mount application, the chain or wire must be attached to the steel building frame or girder. Before attempting any installation, have a qualified, licensed and bonded rigger and electrician verify the type of installation. In many cases, the local building inspector may require a permit as well as an inspection of the site for structural stability.

Eyebolts are optional on 2" and 4" flashboards and are available upon request. If you choose to add your own eyebolts, refer to the chart below for proper location and weight distribution. Always check for possible interference before drilling and vacuum out the inside of the flashboard(s) to remove all metal shavings after drilling.

Note: See Capitol Bingo Equipment 8" & 12" Aluminum Extruded Flashboard Manual for additional information on these products.

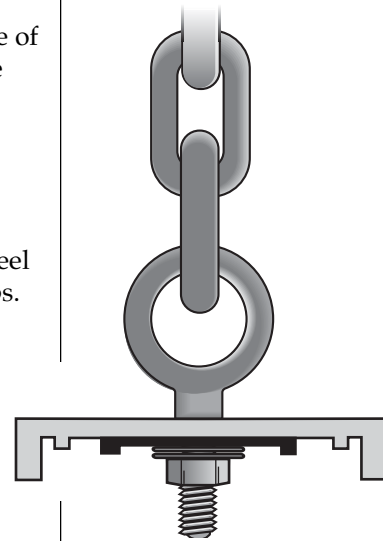
There are two methods for suspending these flashboards from the ceiling.

**1. Chain**

Use a high-quality  $\frac{3}{8}$ " minimum-diameter chain link made of high-strength alloy steel grade 80 or its equivalent. Bolt the chain together with a  $\frac{3}{8}$ " 18 NC  $1\frac{3}{4}$ " bolt with two flat washers, a lock washer and a hex nut.

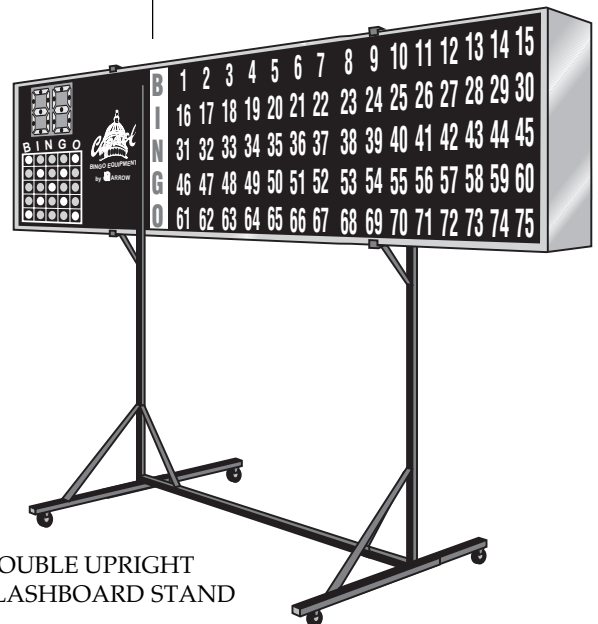
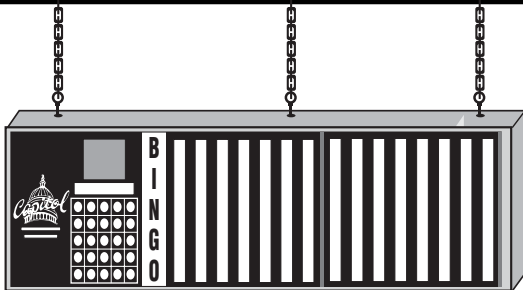
**2. Cable**

Use a high-strength  $\frac{1}{8}$ " minimum-diameter 7x19 strand steel aircraft cable or its equivalent and appropriate cable clamps.



EYEBOLT FOR CHAINMOUNT (ARROW PART #46515)

FLASHBOARDS	EYEBOLT LOCATIONS MEASURED FROM LEFT END			
4" Dollar Value	22"	46"	94"	118"
4" Game Indicator	22"	38 $\frac{3}{4}$ "	55 $\frac{1}{2}$ "	90"
4" Numbers Only	17"	49"	76"	
2" Dollar Value	18"	36"	48"	
2" Game Indicator	18"	47"		
2" Numbers Only	12"	44"		



DOUBLE UPRIGHT FLASHBOARD STAND

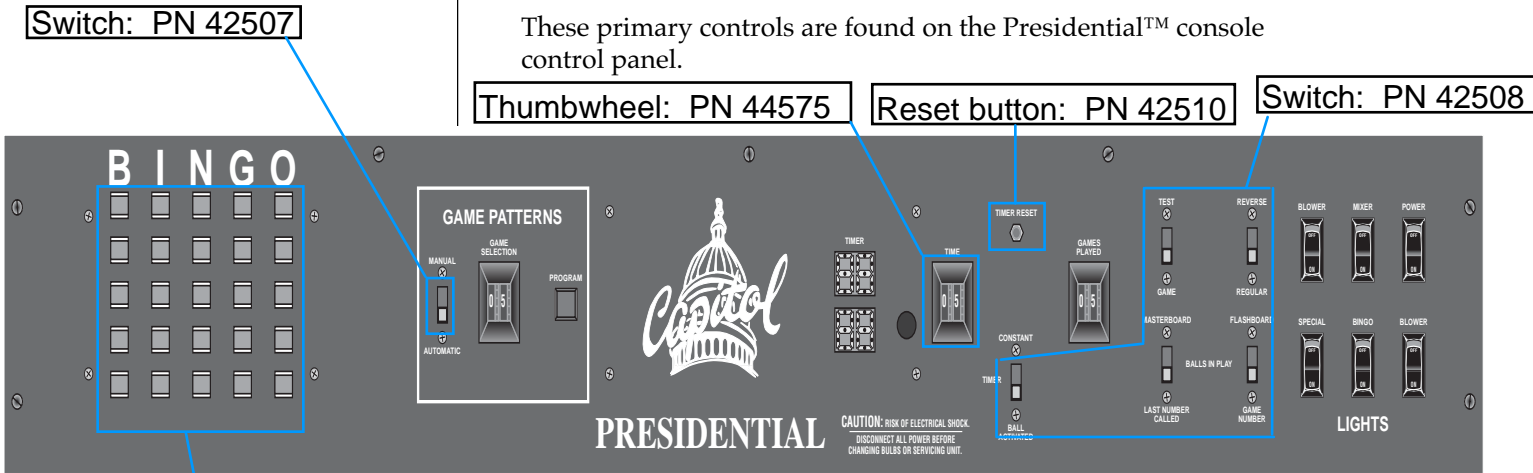
**H. Flashboard Stand (optional)**

A flashboard stand allows for easy mobility and storage of your flashboard. Capitol offers a triple upright flashboard stand for the 4" dollar-value-style flashboards and a double upright flashboard stand for all other 4" and 2" flashboards. These stands may be ordered through your distributor.

Please refer to the Arrow International Inc./Capitol Bingo Equipment catalog for other optional equipment and accessories.

### III. Controls

These primary controls are found on the Presidential™ console control panel.



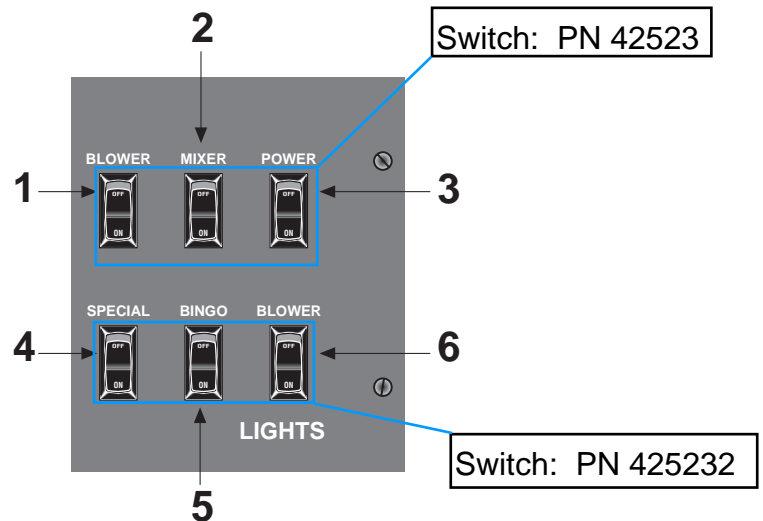
Switch: PN 42525

Cap: PN 42526

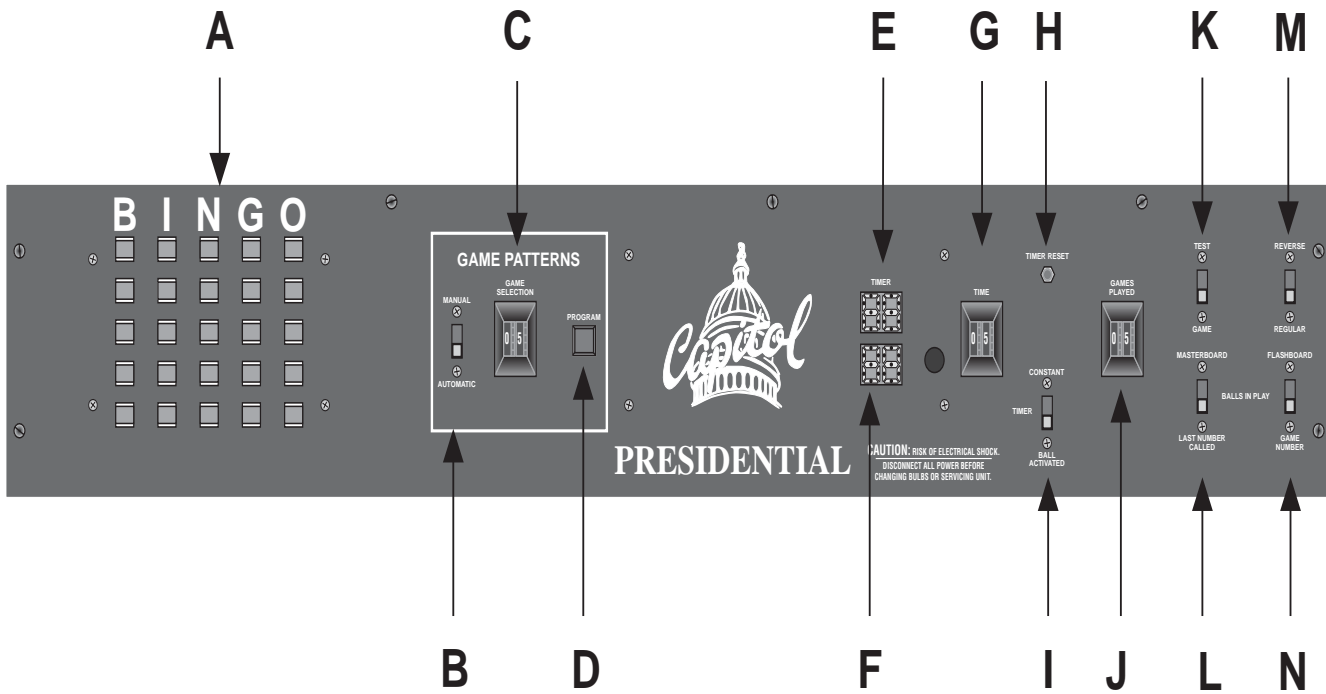
#### A. Basic Controls

1. Blower—On/Off control for the ball blower motor.
2. Mixer—On/Off control for the ball mixing arm.
3. Power—Power switch for system controls.
4. Special—Switch illuminates the Special light on the front of the console.
5. Bingo Light—Switch illuminates the Bingo light on the front of the console.
6. Blower Lamp—On/Off control for the blower chamber lamp.

BLOWER AND POWER CONTROLS FOR THE PRESIDENTIAL™



- A. Manual Game pattern switches
- B. Automatic/Manual mode selector switch
- C. Game Pattern Select Thumbwheel
- D. Game Pattern Program switch
- E. Ball Timing Interval display
- F. Last Ball/Number of Balls Called display
- G. Ball Timer Interval Thumbwheel
- H. Ball Timer Reset
- I. Ball Activate/Constant Timer switch
- J. Game Number Selector Thumbwheel
- K. Game/Test Function switch
- L. Balls In Play/Last Number display switch
- M. Regular/Reverse mode switch
- N. Balls in Play/Game Number display switch



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## **B. Game Pattern Controls**

1. Manual Game Pattern Switches—(A). These 25 pushbutton switches control the game pattern lights on the flashboard when switch (B) is set in the manual position. These switches are also used to set programmable game patterns.
2. Automatic/Manual Mode Selector Switch—(B). In the Automatic mode, the operator can recall and display previously user-programmed game patterns on the flashboard. In the Manual mode, the game pattern lights are under control of the Manual Game Pattern switches (A). This switch must be in the manual mode to program game patterns.
3. Game Selection Thumbwheel—(C). There are 100 possible user-programmable game patterns selectable by the 2-digit thumbwheel (0-99).
4. Game Program Switch—(D). By pressing this button, you will enter into memory the game pattern you've created with the Manual Game Pattern switches (A). (Refer to Game Pattern Programmable and Recalling, P.16).

## **C. Console Display Controls**

1. Ball Timing Indicator Display—(E) This L.E.D. displays the time interval before the next ball is to be called and counts down to zero from the time set on the Ball Timer Interval Thumbwheel. (G) The beeper will indicate when it is time for the next call.
2. Masterboard—Last Ball/Number of Balls Called Display—(F) This L.E.D. display is controlled by switch (L) and displays either the Last Number Called or Total Number of Balls in play.
3. Ball Timer Interval Thumbwheel—(G) This thumbwheel sets the time interval the operator chooses between ball calls.
4. Ball Timer Reset Switch—(H) This button restarts the timing sequence at the Timer Interval set on the Ball Timer Interval Thumbwheel. (G)
5. Masterboard—Balls in Play/Last Number Called Display Switch—(L) This switch controls the L.E.D. display on the masterboard (F). In the Balls In Play position, the display shows the caller the total number for balls called in the current game. In the Last Number Called position, the display shows the caller which ball was called last.



- 
6. Timer Selector—(I) Ball Activated / Constant—This switch controls the timer and allows the operator to select one of the two functions. The first is the Constant function. In this mode, the timer will count down from its preset timer interval to zero, signal with a beep to indicate to the operator that it is time to call the next ball and start its count down again. In the Ball Activated Timer mode, the timer will also count down from its preset timer interval to zero and give an audible signal; but, it will not reset until the next ball is inserted into the ball tray.

#### **D. Flashboard Controls**

1. Game / Test Function Switch—(K) In Game position, all lights in the flashboard are under control of the game features in the console. In test mode, all lights in the flashboard should illuminate to check proper operation.
2. Regular / Reverse Mode Switch—(M) In the Regular position, the flashboard will light the number(s) called while numbers not yet called remain dark. In the reverse position, all numbers will light and as each number is called, it will go out. An interesting variation to use for coveralls and call backs.
3. Ball in Play / Game Number Display Switch—(N) In the Game Number position, the seven segment number display on the flashboard will show the number of the current game and is under control of the Thumbwheel (J). In the Balls in Play position, the flashboard numeric display show how many balls have been called in the current game.
4. Game Number Selector Thumbwheel—(J) These thumbwheels set the number of the game currently in play.

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In the Test mode, the Numeric Display on the flashboard may show "80" instead of "88" which is acceptable

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Game Pattern Programming will be retained in memory for a period of three to four years, depending on the frequency of use.

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## IV. Game Pattern Programming and Recall

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### A. Programming—Current Model

1. Set the Automatic/Manual switch (B) to Manual.
2. Use the Game Pattern Selection Thumbwheel switch (C) to establish in chronological order your game pattern numbers (0-99).
3. Use the 25 Manual Game Pattern Switches to design your game pattern. (A)
4. Push the square Program switch (D) to enter the pattern in memory.
5. Repeat steps 2-4.

---

Note: Any game pattern may be altered at any given time by simply following the above procedures.

---

### B. Recall—Current Model

1. Slide or switch the Manual/Automatic switch (B) to automatic.
2. Rotate the Game Pattern Selection Thumbwheel switch (C) to select the appropriate pattern you would like to recall.

### C. Game Pattern Programming and Recall for Previous Models (pre 1988)

The Game Selection Thumbwheel on the older version systems is used. Memory banks contain a total of 96 pre-programmed patterns; a total of thirty-two in each bank. The fourth memory bank is for the user-programmable game patterns. Patterns are selected by setting this thumbwheel and by setting the bank select switch.

---

Note: The thirty-two patterns open for programming are not permanently saved unless the battery back up option is installed. Consult your local distributor for upgrade options.

---

Refer to the Game Pattern Chart at the end of the section, p.19, for a complete list of all preprogrammed game patterns.

The older versions of the Presidential™ have the following additional switches:

- A. High/Low—Each memory bank has 16 game patterns stored in a high register and 16 stored in a low register (32 per bank). Set this switch to the register which holds the game pattern you want.
- B. Game Pattern Bank—This switch calls any of the three memory banks holding preprogrammed (permanent) game patterns shown in the Game Pattern Chart. The last position (programmable) gives you access to a temporary memory bank that may be programmed with the game patterns of your choice.

---

## **1. Programming (previous model)**

1. Set the Manual / Auto switch to manual.
2. Set the bank select switch to the Programmable position.
3. Set the Hi/Lo switch to Lo.
4. Set thumbwheel to position 0.
5. Create the game pattern with 25 game pattern switches.
6. Push the Program switch to save the current game pattern.
7. Set thumbwheel to next position (1) and repeat steps 5-6.
8. After first 16 patterns have been programmed, set Hi/Lo switch to Hi position to begin programming the remaining 16 game patterns of the total 32 allowed.
9. Repeat steps 5-7 for the next 16 patterns or as needed.

## **2. Recalling (previous model)**

1. Set the Manual / Auto switch to auto
2. Set the Bank Select switch to desired bank.
3. Set the Hi/Lo switch to desired selection.
4. Set the Thumbwheel to the desired pattern.
5. Begin playing.

D. USER PROGRAMMED GAME PATTERNS

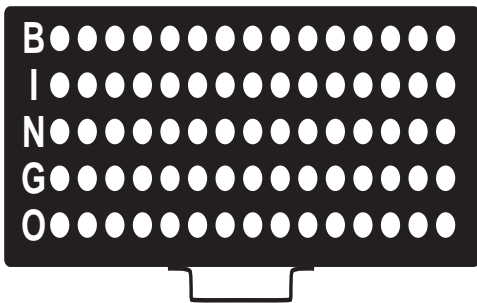
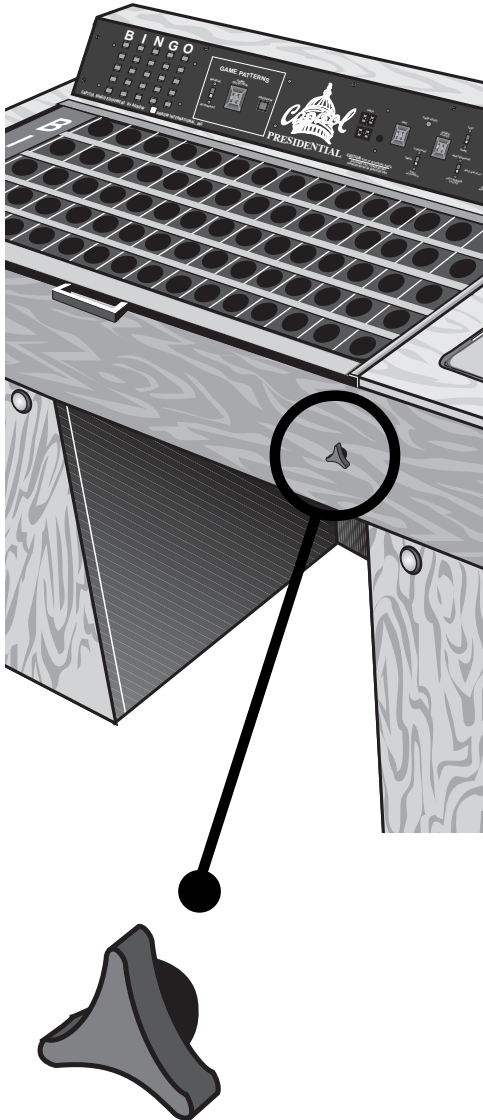
THUMBWHEEL SETTINGS									
<b>00</b>	<b>01</b>	<b>02</b>	<b>03</b>	<b>04</b>	<b>05</b>	<b>06</b>	<b>07</b>	<b>08</b>	<b>09</b>
<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>
<b>20</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>24</b>	<b>25</b>	<b>26</b>	<b>27</b>	<b>28</b>	<b>29</b>
<b>30</b>	<b>31</b>	<b>32</b>	<b>33</b>	<b>34</b>	<b>35</b>	<b>36</b>	<b>37</b>	<b>38</b>	<b>39</b>
<b>40</b>	<b>41</b>	<b>42</b>	<b>43</b>	<b>44</b>	<b>45</b>	<b>46</b>	<b>47</b>	<b>48</b>	<b>49</b>
<b>50</b>	<b>51</b>	<b>52</b>	<b>53</b>	<b>54</b>	<b>55</b>	<b>56</b>	<b>57</b>	<b>58</b>	<b>59</b>
<b>60</b>	<b>61</b>	<b>62</b>	<b>63</b>	<b>64</b>	<b>65</b>	<b>66</b>	<b>67</b>	<b>68</b>	<b>69</b>
<b>70</b>	<b>71</b>	<b>72</b>	<b>73</b>	<b>74</b>	<b>75</b>	<b>76</b>	<b>77</b>	<b>78</b>	<b>79</b>
<b>80</b>	<b>81</b>	<b>82</b>	<b>83</b>	<b>84</b>	<b>85</b>	<b>86</b>	<b>87</b>	<b>88</b>	<b>89</b>
<b>90</b>	<b>91</b>	<b>92</b>	<b>93</b>	<b>94</b>	<b>95</b>	<b>96</b>	<b>97</b>	<b>98</b>	<b>99</b>

E. PREPROGRAMMED GAME PATTERNS (Model prior to 1988)

THUMBWHEEL SETTINGS																
SW	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LOW																
HIGH																
LOW																
HIGH																
LOW																
HIGH																
LOW																
HIGH																
LOW																
HIGH																
LOW																
HIGH																
LOW																
HIGH																
LOW																
HIGH																
SWITCH 0	 PROGRAMMABLE		 PROGRAMMABLE		 PROGRAMMABLE		 PROGRAMMABLE		 PROGRAMMABLE		 PROGRAMMABLE		 PROGRAMMABLE		 PROGRAMMABLE	



## V. Operation



Note: to clear ball tray, pull handle towards you, turn the blower motor switch off, and open ball gate.

To begin a bingo session, turn on the console power switch, the blower lamp switch, mixer motor switch, and blower motor switch on the Presidential™ console. You will notice that then the balls are immediately go up the ball tube and held in the ball catcher available for play.

Next, turn on the power switches to any additional flashboards connected to your flashboard. By setting the Game/Test switch to Test, all lights on the flashboards will light up, to check for any light bulbs out before the play of bingo.

The Regular/Reverse switch is most often used in the regular mode; however, you may add variety to your session by using the reverse mode for coveralls, or for expediting callbacks. Select Game Pattern and Game Number.

The timer will evenly pace your ball calling, adjust the pace of the game and build player confidence to play additional bingo faces, thus increasing revenues. Until you find a time that's most comfortable for you and your players, a good calling time might be every 14 to 20 seconds. When the beeper sounds, it is time to call the next ball.

When a contestant yells "BINGO," audience participation and excitement can be heightened by flashing the lights on the flashboards with the Test mode on the Game/Test switch.

At this time, verify all the bingos that have been called. It is usually best if the floor worker calls out the serial number of the bingo paper to verify purchase from your hall. Then have the floor worker call out each number in the bingo pattern from the bingo card with caller confirming each call.

At the end of the game, firmly pull the handle at the bottom of the ball tray towards you against the stops to clear the ball tray and reset the flashboard to game ready status. The ball release gate knob must be turned counterclockwise to dump the balls back into the ball blower chamber. This gate acts as a security barrier in order to prevent accidentally dropped ball from re-entering the blower during the game. Air pressure in the ball chamber may occasionally prevent the cleared balls from dumping normally. If this happens, briefly turn off the blower, allow the balls to drop, and then turn the blower back on. Be sure to visually check the ball return to verify that all the ball have returned to the blower.

With a little time and practice, you will be operating your Presidential™ system with ease and really come to appreciate the outstanding features, convenience and quality designed into the Presidential™ bingo system.

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## VI. Periodic Customer Servicing

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### A. Cleaning Your Presidential™ Bingo System

Periodic servicing of your Presidential™ Bingo System should include cleaning, polishing and light bulb replacement. Recommended cleaning agents for the console and flashboard are as follows:

#### Console, Wood Surface

Use any high-quality wood and furniture polish. Liberally apply with a clean soft cloth. Polish frequently.

#### Console, Painted Metal Surface

Use a mild soap solution or mild cleanser. Harsh cleansers or solvents may damage the paint or lettering. Follow with an automotive-style polish for additional protection.

#### Console and Flashboard, Acrylic Surfaces

Use only a mild soap solution such as liquid detergent with a clean soft cloth for best results and protection of the surfaces. Ammonia based cleaners may dull the acrylic.

#### Flashboard, Brass Anodized Aluminum Extruded and Painted Metal Surfaces

Use a mild soap solution or mild cleanser. Harsh cleansers or solvents may damage the paint or lettering. Follow with an automotive-style polish for additional protection.

#### Bingo Balls

Clean with a mild soap solution such as a liquid detergent. Harsh cleansers or solvents may damage finish or lettering. Dry the balls thoroughly using a towel. Insert towel-dried balls into a paper bag with a small amount of talcum powder, agitate the balls and shake off the excess powder.

#### Static Treatment

Lightly spray anti-static aerosol compound over the blower base pan foam and inside the blower chamber windows to eliminate static. **(Caution: Be sure not to apply anti-static compound to the ball-catcher acrylic tube – this may cause the ball tube to shatter.)** Perform this treatment every few months or when you notice balls sticking together or to the windows.

Inspect the anti-static tinsel surrounding the two sides of the blower base pan assembly. If torn or worn, replace with Arrow part #41208 Anti-Static Tinsel.

Use vacuum with wand attachment to clean ball chute and inside both cabinet doors.

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**Caution: Always unplug the Presidential console and flashboard before performing any type of maintenance.**

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Note: Old English® brand furniture polish may be used to cover or hide any minor wood surface imperfection.

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Caution: The front of the flashboard acrylic is a painted surface.

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Note: Replace any cracked or missing balls immediately using balls of only the same make and style.

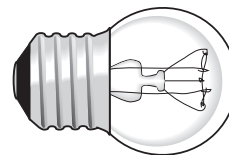
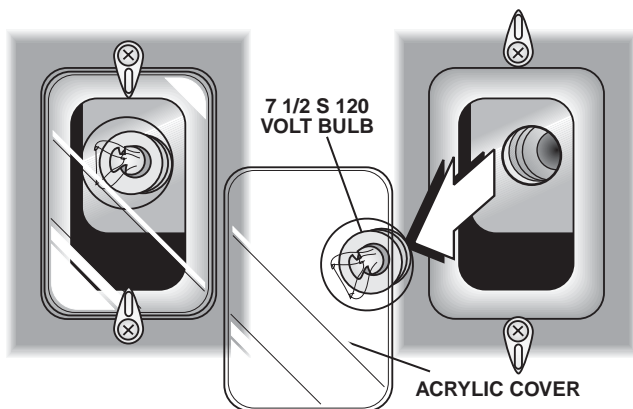
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**Caution: Always unplug the Presidential console and flash-board before performing any type of maintenance.**

**Caution: Always turn the power off when changing light bulbs.**

## B. Changing the Mixing Chamber Light bulb

1. Unlock and open the right hand side blower compartment door.
2. Remove the acrylic panel covering the lamp by turning the two plastic retaining tabs 180° for clearance.
3. Unscrew the light bulb counter-clockwise to remove it.
4. Insert the new 7 1/2 S clear 120 volt light bulb and turn it clockwise until it is snug. Do not over-tighten the light bulb.
5. Replace the acrylic cover and lock it into position with the two plastic retaining tabs.
6. Close and lock the blower compartment door.



7 1/2 S 120 VOLT LIGHT BULB

PN 41302

## C. Changing Light Bulbs in the Flashboard

### 1. Metal Fabricated Style Flashboards (Hinged Flashboard Style)

#### a. Low Side Light Bulbs(B-7):

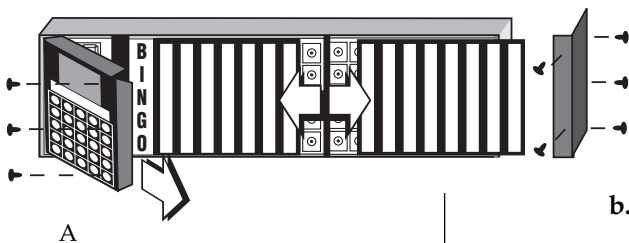
Remove three Phillips screws from the front of the power pack panel, swing the hinged panel open to the left and slide out the acrylic panel approximately 6 inches. Firmly grasp the acrylic panel in the center of both ends and gently bow out of the metal frame. (Refer to drawing A.) Change the light bulb(s) as necessary. (Refer to Section C-3 p. 24).

#### b. High Side Light Bulbs (8-15):

Remove the metal trim from the right end of the flashboard by removing the five Phillips screws. Gently slide the acrylic panel to the right. (Refer to drawing A.) Change the light bulb(s) necessary. (Refer to section C-3 p. 24).

#### c. Game Pattern Indicator:

Remove three Phillips screws from the front of the power pack panel and swing the hinged panel to the left. Gently slide the acrylic panel out to the right. (Refer to drawing A.) Change the light bulb(s) as necessary. (Refer to Section C-3 - Changing Light Bulbs p.24).



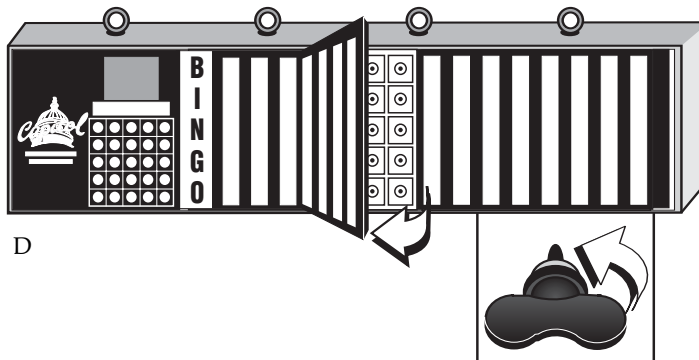
## 2. Brass Anodized Aluminum Extruded Style Flashboards

### a. 2" and 4" large numbered flashboards:

1. Remove the retaining strip next to the vertical bingo lamps. This is accomplished by gently pushing in the low side acrylic panel while grasping the retaining strip and gently pulling it out and to the right. (Refer to drawing B.) Once the strip is removed, slide the acrylic panels to gain access to the light bulbs needing replaced. (Refer to drawing C).
2. Change the light bulb(s) as necessary. (Refer to Section C-3 - Changing Flashboard Light Bulbs, p. 24).
3. Slide the acrylic panels to their home position.
4. Re-insert the retaining strip.

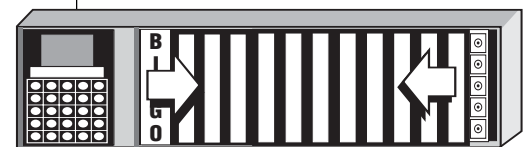
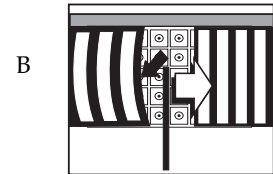
### b. 8" and 12" large numbered flashboards:

1. Open individual acrylic panels by locating the two  $\frac{1}{4}$  turn fasteners for each panel and twisting each a  $\frac{1}{4}$  turn counter-clockwise while gently pushing in. Note: Power Pack/Game Indicator sections require the use of a Phillips screwdriver. (Refer to drawing D.)
2. Gently open the acrylic panels allowing the velcro tabs to release.
3. Change the light bulb(s) as necessary. (Refer to section C-3 - Changing Flashboard Light Bulbs p. 24)
4. Close the acrylic panels and apply gentle pressure to lock the velcro tabs.
5. Lock the acrylic panels in place by gently pushing in the  $\frac{1}{4}$  turn fastener, compressing the spring and twisting  $\frac{1}{4}$  -turn clockwise.



**Caution: Always unplug the Presidential console and flashboard before performing any type of maintenance.**

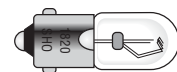
**Caution: Always turn the power off when changing light bulbs.**



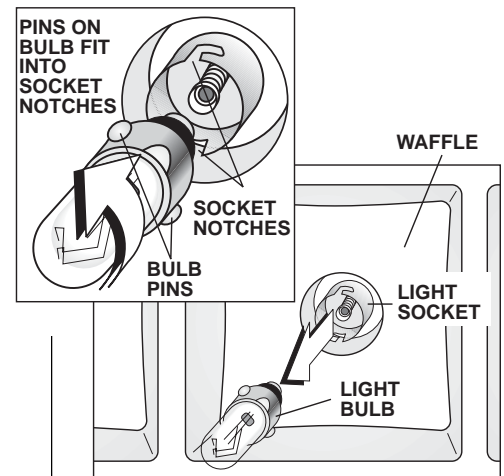
C

2" flashboards use 1829 bulbs  
PN: 41305

4", 8", & 12" flashboards 1820 bulbs  
PN: 41303



28-VOLT  
MINIATURE BAYONET  
LIGHT BULB



**Caution: Always unplug the Presidential™ console and flashboard before performing any type of maintenance.**

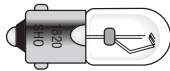
**Caution: Always turn the power off when changing light bulbs.**

### 3. Changing Flashboard Light Bulbs

1. Gently push light bulb in while turning counter-clockwise. Socket is spring loaded and only requires a  $1/4$  turn to release the light bulb from the socket.
2. Remove the light bulb from the socket.
3. Insert the new light bulb by aligning light bulb pins with the light socket notches and gently pushing in and turning clockwise. Twist a  $1/4$  turn to secure the light bulb in place.
4. Additional light bulbs may be purchased from your Arrow distributor or a local electrical or electronics supply house. We recommend using only high quality replacement light bulbs for extended life and to minimize the chance of printed circuit board failures

When ordering replacement light bulbs for 2" high number-style flashboards, ask for #1829 28-volt miniature bayonet light bulbs.

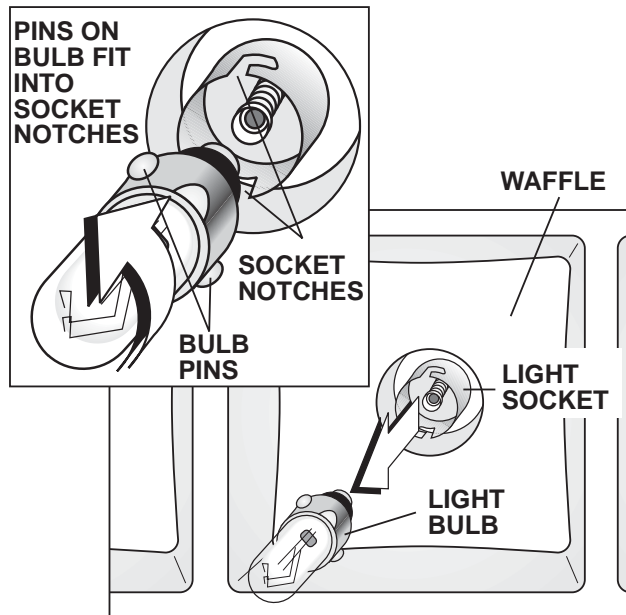
When ordering replacement light bulbs for all other electronic flashboards, ask for #1820 28-volt miniature bayonet light bulbs.



28 VOLT  
MINIATURE BAYONET  
LIGHT BULB

2" flashboards use 1829 bulbs  
PN: 41305

4", 8", & 12" flashboards  
use 1820 bulbs  
PN: 41303





**D. Servicing the Blower and Mixer Base Pan Assembly:**

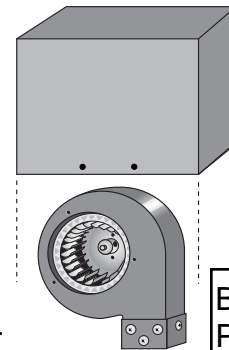
The blower motor and mixer motor should be serviced every four months or every 200 operating hours.

1. Unplug the console power cord from the wall outlet.
2. Unlock and open the right-hand-side blower compartment door. Remove any balls that may be on the blower base pan assembly.
3. Disconnect the power plug located below the blower base pan and pull the assembly out of the console.
4. Lay the removed blower base pan assembly upside down on a flat surface, remove the four Phillips screws (two from each side) from the protective guard, and lay the protective guard on its side.
5. Put a few drops of 20W oil into the two oiling ports located on the top side at each end of the blower motor. (Refer to illustration.)
6. Oil the mixer motor by removing the two 1/4" bolts from the rear plate of the mixer motor. Oil the felt pad with 20W oil, replace plate and reinsert the bolts, being careful not to overtighten them.
7. Check the blower motor squirrel cage blades for debris. If dirty, loosen the cage from the shaft with an 1/8" Allen wrench and remove from the shaft. Clean the blades with a small stiff brush, using soap and water, towel dry. Reinstall the squirrel cage and check that the blades are free wheeling and not binding.
9. Re-assemble and carefully slide the base pan back into the console with the mixer arm pointing towards the front of the console.
10. Inspect the air filter and replace if necessary. If base foam worn, replace with part #40820 using 3M spray adhesive #77.
11. Make sure to re-connect the four-pin power plug. Reinsert bingo balls onto blower base pan assembly, close and lock blower compartment door.

**Caution: Always unplug the Presidential™ console and flashboard before performing any type of maintenance.**

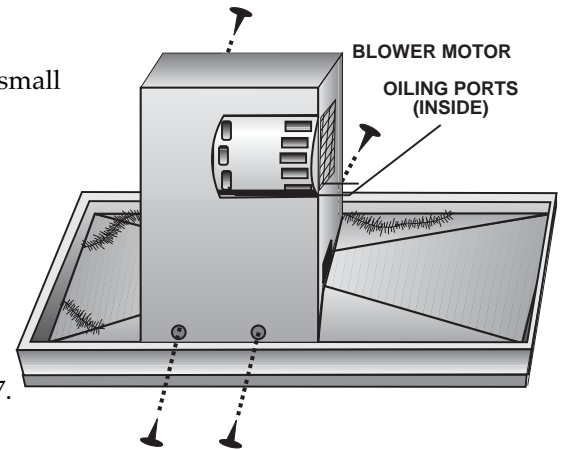
**PN: 445711**

NEW STYLE (UL®) BLOWER ASSEMBLY



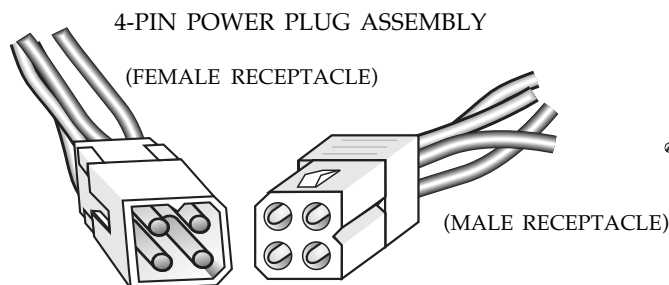
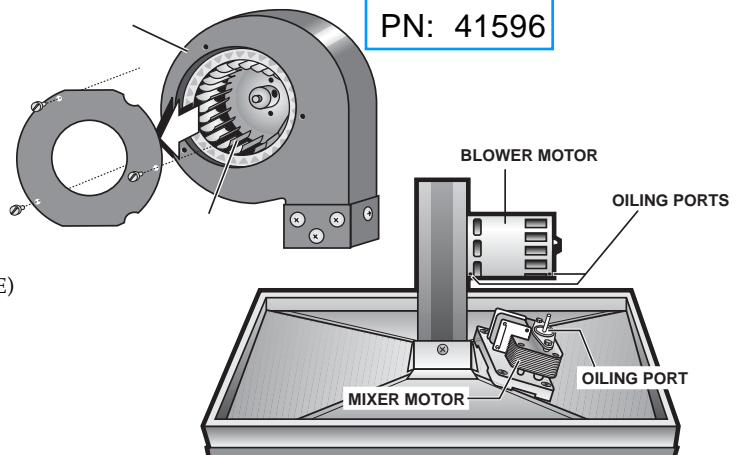
**Mixer Motor Only  
PN: 416301**

**Blower Motor Only  
PN: 41620**



OLD STYLE BLOWER ASSEMBLY

**PN: 41596**



PIN 1 (GREEN) GND      PIN 2 (WHITE) MIXER MOTOR  
PIN 3 (WHITE) BLOWER MOTOR      PIN 4 (BLACK) NEUTRAL

(Refer to p. 37 for details)

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## E. Troubleshooting

This troubleshooting section will help you, your distributor or a local electrician locate electrical problems that may arise with the Presidential™ Bingo System. Several diagrams and schematics have been included to help you trace any problems that may occur. Problems that are not covered in this section should be directed to your local distributor or directly to Arrow International as listed on p. 56. Please have the unit's serial number and distributor name readily available when calling for assistance.

Before referring to the troubleshooting table, please check to see that the following conditions are met:

1. Check that all power and data connections to the system are properly installed. Look for loose connectors or broken wires. Do not attempt to service the control panel in the Presidential™ console. Only trained service personnel are qualified to work in this area.
2. If flashboard difficulties arise, check the power and data cable connections to the flashboard. If power is being supplied to the flashboards, either the vertical BINGO lamps or the horizontal lamps for the game number display should be on. If these lamps are not on, check the primary power to the flashboards.
3. If flashboard primary power is present, run the TEST function (refer to section D, p. 15) at the Presidential™ console. When TEST is selected, the system will illuminate all light bulbs on the flashboard. On the newest Capitol flashboards, a diagnostic self-test runs at power-up.
4. Consult the Troubleshooting Table (pp. 27-34)
5. If further difficulties arise, consult the factory service center or an authorized distributor as listed on p. 56.

The Troubleshooting Table begins on the next page.

This troubleshooting table assumes the following conditions:

1. The system is plugged into a 110/120 VAC 60Hz grounded power outlet.
2. The power switches are turned on.
3. All balls are in the ball tray.

Troubleshooting table begins on the next page.

This manual was accurate at the time of printing. Arrow International reserves the right to make changes due to changing technology and regulations. Please consult your distributor or Arrow International Inc.

**Troubleshooting Table — Console**

PROBLEM	CAUSE	CORRECTIVE ACTION
<ul style="list-style-type: none"> <li>• Cabinet lights off; blower inoperative</li> </ul>	<ul style="list-style-type: none"> <li>• Console unplugged</li> <li>• No voltage from power outlet</li> <li>• 6 AMP fuse defective</li> </ul>	<ul style="list-style-type: none"> <li>• Plug into a 120VAC grounded power outlet</li> <li>• Check outlet with good household appliance, lamp or voltmeter, reset circuit breaker at fusebox, replace defective fuse, or consult electrician.</li> <li>• Replace fuse with 6 Amp ACG/3AG.</li> </ul>
<ul style="list-style-type: none"> <li>• Blower operating; no cabinet lamp</li> </ul>	<ul style="list-style-type: none"> <li>• Bulb burned out</li> <li>• Defective cabinet lamp switch</li> </ul>	<ul style="list-style-type: none"> <li>• Change bulb with a 7 1/2 S light bulb. Refer to page 22 for Presidential™ console.</li> <li>• Replace switch with proper rated switch (22A at 125VAC) 16A at 250VAC Tungsten rated). Arrow part #425232</li> </ul>
<ul style="list-style-type: none"> <li>• Blower motor inoperative</li> </ul>	<ul style="list-style-type: none"> <li>• Blower motor switch off</li> <li>• Blower cable loose</li> <li>• Blower motor requires servicing</li> <li>• Defective blower motor</li> <li>• Defective blower motor switch</li> </ul>	<ul style="list-style-type: none"> <li>• Turn blower motor switch on.</li> <li>• Check 4 prong blower cable on all console and all wiring on blower. Refer to page 25</li> <li>• Service motor. Refer to page 25 for instructions.</li> <li>• Check wiring and connection at motor. Refer to page 25 for instructions. Replace blower motor if necessary. Part #41260</li> <li>• Replace switch with proper rated switch (16A at 125VAC 10A at 250VAC). Arrow part #42523</li> </ul>
<ul style="list-style-type: none"> <li>• Blower motor operates slowly</li> </ul>	<ul style="list-style-type: none"> <li>• Blockage of air intake</li> <li>• Blower motor requires servicing</li> </ul>	<ul style="list-style-type: none"> <li>• Check air filter in console. If blower is on carpeting, raise the unit.</li> <li>• Oil blower motor. Refer to page 25 for instructions.</li> <li>• Check for debris or excessive dirt in blower end service as necessary. Refer to page 25 for instructions.</li> </ul>

**Troubleshooting Table — Console Continued**

PROBLEM	CAUSE	CORRECTIVE ACTION
<ul style="list-style-type: none"> <li>Blower motor operates slowly</li> </ul>	<ul style="list-style-type: none"> <li>Low line voltage</li> <li>Defective blower motor</li> </ul>	<ul style="list-style-type: none"> <li>Check voltage line for minimum 108VAC. Consult electrician or local utility company. Voltage must be checked under actual game conditions.</li> <li>Replace blower motor with Arrow part #41620.</li> </ul>
<ul style="list-style-type: none"> <li>Mixer motor inoperative</li> </ul>	<ul style="list-style-type: none"> <li>Mixer motor switch off</li> <li>Blower cable loose</li> <li>Mixer motor seized</li> <li>Defective mixer motor</li> <li>Defective mixer motor switch</li> </ul>	<ul style="list-style-type: none"> <li>Turn mixer switch on.</li> <li>Check 4 prong blower cable on console and all wiring on mixer. Refer to page 25</li> <li>Oil mixer motor. Refer to page 25 for instructions. Replace with Arrow part #41630</li> <li>Replace mixer motor. Refer to page 25 for instructions.</li> </ul> <p>Note: Base foam will have to be changed. The four mounting screws for the mixer motor are located under the foam. To order a mixer motor, use Arrow part #41630. To order base foam for the console, use Arrow part #40820.</p> <ul style="list-style-type: none"> <li>Replace mixer motor switch. 16A 125VAC 10A 250VAC. Arrow part #42523</li> </ul>
<ul style="list-style-type: none"> <li>Poor ball action</li> </ul>	<ul style="list-style-type: none"> <li>Blower problem</li> <li>Mixer problem</li> <li>Static problem</li> </ul>	<ul style="list-style-type: none"> <li>Service blower. Refer to page 25 for instructions.</li> <li>Service mixer. Refer to page 25 for instructions.</li> <li>Refer to page 21 for instructions.</li> </ul>

PROBLEM	CAUSE	CORRECTIVE ACTION
<ul style="list-style-type: none"> <li>No response to any on/off switch on console</li> </ul>	<ul style="list-style-type: none"> <li>Console unplugged</li> <li>No voltage from power outlet</li> <li>Blown fuse</li> </ul>	<ul style="list-style-type: none"> <li>Plug console into 120VAC grounded outlet.</li> <li>Check outlet with a good household appliance or voltmeter. Reset circuit breaker, replace fuse, or consult electrician.</li> <li>Check fuses.</li> </ul>
<ul style="list-style-type: none"> <li>6 Amp fuse opens</li> </ul>	<ul style="list-style-type: none"> <li>Short circuit in wiring</li> </ul>	<ul style="list-style-type: none"> <li>Unplug console, open control panel and examine wiring on EMI filter and power switches.</li> </ul>

Troubleshooting Table — Console Continued

PROBLEM	CAUSE	CORRECTIVE ACTION
<ul style="list-style-type: none"> <li>• 6 Amp fuse open</li> </ul>	<ul style="list-style-type: none"> <li>• Loose or defective wiring</li> <li>• Defective fuse</li> <li>• Defective motor or lamp</li> <li>• Defective EMI filter</li> </ul>	<ul style="list-style-type: none"> <li>• Unplug console, open PCB panel in lower left compartment and examine wiring on fuseholders and outlet.</li> <li>• Replace fuse with a 6 Amp AGC/3AG.</li> <li>• Turn off all power switches. Plug console in and turn each switch on, one at a time, until fuse opens. Test and replace the item which opens fuse.</li> <li>• Unplug console and replace filter with Arrow part #42740.</li> </ul>
<ul style="list-style-type: none"> <li>• Bingo/Special light inoperable</li> </ul>	<ul style="list-style-type: none"> <li>• Defective bulb</li> <li>• Defective switch</li> </ul>	<ul style="list-style-type: none"> <li>• Replace bulb with 25T10. Arrow part #41304</li> <li>• Replace switch rated at 22A at 125VAC 16A at 250VAC. Arrow part #425232</li> </ul>
<ul style="list-style-type: none"> <li>• 0.3 Amp fuse open</li> </ul>	<ul style="list-style-type: none"> <li>• Defective fuse</li> <li>• Defective PCB</li> <li>• Defective logic transformer</li> </ul>	<ul style="list-style-type: none"> <li>• Replace fuse with a 0.3 Amp MDL/3AG.</li> <li>• Disconnect power connector from all PCBs. Replace one power connector at a time. When fuse opens, replace circuit board. (AX or AT)</li> <li>• Disconnect power connector from all PCBs and replace fuse. If continues, replace transformer Arrow part #42710.</li> </ul>
<ul style="list-style-type: none"> <li>• Ball switch will not illuminate corresponding bulb</li> </ul>	<ul style="list-style-type: none"> <li>• Ball switch defective</li> <li>• Defective ribbon cable</li> <li>• Defective console PCB</li> </ul>	<ul style="list-style-type: none"> <li>• Remove ball tray and the two screws holding the inoperative switch bar in place. Short out the two contacts on the switch. If bulb lights, replace switch with Arrow part #42504. If ball switch activates timer and effects last number and number of balls display switch is good.</li> <li>• Replace ribbon cable.</li> <li>• Swap switch bar ribbon cables on the console/MB AX PCB with one from a known good row. If row continues to malfunction, replace PCB in console.</li> </ul>

**Troubleshooting Table — Console Continued**

PROBLEM	CAUSE	CORRECTIVE ACTION
<ul style="list-style-type: none"> <li>• All console displays normal, but no flashboard response</li> </ul>	<ul style="list-style-type: none"> <li>• Defective data cable</li> <li>• Defective console PCB</li> </ul>	<ul style="list-style-type: none"> <li>• Check all data cables for loose connectors or frayed wires, replace cable.</li> <li>• Test all console functions. Replace transmitter AX PCB in console.</li> </ul>
<ul style="list-style-type: none"> <li>• One or more operator features incorrect or no response</li> </ul>	<ul style="list-style-type: none"> <li>• Defective switch</li> <li>• Defective console PCB</li> <li>• Cable loose or defective</li> </ul>	<ul style="list-style-type: none"> <li>• Refer to page 54. If closed position activates function, short switch manually or meter. If open switch position activate, remove wire from switch or meter. If action corrects problem, replace switch.</li> <li>• Change defective AX PCB in console/MB.</li> <li>• Check all cables for proper orientation and tight connection.</li> </ul>
<ul style="list-style-type: none"> <li>• Lights on flashboard flicker</li> </ul>	<ul style="list-style-type: none"> <li>• Loose connector</li> <li>• Defective test switch</li> <li>• Defective reverse switch</li> <li>• Defective console PCB</li> </ul>	<ul style="list-style-type: none"> <li>• Test output sockets for proper fit. Replace as necessary. Check data cable for frayed wires and dirty contacts.</li> <li>• Lightly tap on control panel near switch while observing flashboard(s). Change switch position and repeat process. If defective, replace switch with part #42508.</li> <li>• Lightly tap on control panel near switch while observing flashboard(s). Change switch position and repeat process. If defective, replace switch with part #42508.</li> <li>• Replace defective AX PCB.</li> </ul>
<ul style="list-style-type: none"> <li>• Incorrect last number called</li> </ul>	<ul style="list-style-type: none"> <li>• Defective ball switch</li> <li>• Defective retainer spring</li> <li>• Defective MB/console PCB</li> </ul>	<ul style="list-style-type: none"> <li>• Clean defective switch(es) with plastic safe contact cleaner. Replace any intermittent switch.</li> <li>• Replace any spring that is stretched or loose with part #42210.</li> <li>• Replace AX PCB.</li> </ul>
<ul style="list-style-type: none"> <li>• No console display</li> </ul>	<ul style="list-style-type: none"> <li>• Power wire not connected to timer</li> <li>• 0.3 Amp fuse</li> </ul>	<ul style="list-style-type: none"> <li>• Remove seven screws holding control panel. Tilt forward and check connections.</li> <li>• Replace defective fuse with 0.3 Amp MDL 250V.</li> </ul>

**Troubleshooting Table — Console Continued**

PROBLEM	CAUSE	CORRECTIVE ACTION
<ul style="list-style-type: none"> <li>• All lights on FB on</li> </ul>	<ul style="list-style-type: none"> <li>• RC4 cable loose</li> <li>• Test switch in test</li> <li>• Defective test switch</li> </ul>	<ul style="list-style-type: none"> <li>• Reconnect cable</li> <li>• Place in Game mode</li> <li>• Replace switch. Arrow part #42508</li> </ul>
<ul style="list-style-type: none"> <li>• Timer not counting down</li> </ul>	<ul style="list-style-type: none"> <li>• Check constant/ball activated and reset switch</li> <li>• Defective PCB</li> </ul>	<ul style="list-style-type: none"> <li>• Insure switch is in proper position. Insure reset switch is functioning correctly.</li> <li>• Replace defective AT PCB.</li> </ul>
<ul style="list-style-type: none"> <li>• Time not consistant</li> </ul>	<ul style="list-style-type: none"> <li>• Defective time select Thumbwheel</li> <li>• Defective timer PCB</li> <li>• Defective console PCB</li> </ul>	<ul style="list-style-type: none"> <li>• Replace defective Thumbwheel.</li> <li>• Replace defective AT PCB.</li> <li>• Replace defective AX PCB.</li> </ul>
<ul style="list-style-type: none"> <li>• Ball drop prematurely</li> </ul>	<ul style="list-style-type: none"> <li>• Defective return spring</li> <li>• Switches not centered in ball tray.</li> </ul>	<ul style="list-style-type: none"> <li>• Replace with Arrow part #42225.</li> <li>• Remove ball tray and loosen all 5 switchbars. Slide tray back into place and align bars. Remove tray and tighten bars. Replace tray.</li> </ul>

**Troubleshooting Table — Flashboard**

PROBLEM	CAUSE	CORRECTIVE ACTION
<ul style="list-style-type: none"> <li>• No flashboard power</li> </ul>	<ul style="list-style-type: none"> <li>• Power switch off</li> <li>• Unit not plugged into outlet</li> <li>• No voltage at power outlet</li> <li>• Primary fuse defective</li> <li>• Defective bridge rectifier</li> <li>• Defective power switch</li> <li>• Defective power transformer</li> </ul>	<ul style="list-style-type: none"> <li>• Turn switch on (up position).</li> <li>• Plug unit into a 120 VAC grounded outlet.</li> <li>• Check outlet with test lamp or voltmeter, reset circuit breaker, replace defective fuse, or consult electrician.</li> <li>• Replace with a 4 Amp Slo Blo ACG/3AG.</li> <li>• Test bridge rectifier with a voltmeter. There should be a reading of 28VDC between the + &amp; - terminals of bridge rectifier. Replace defective bridge rectifier with (35 Amp 800PIV) Arrow part #41940.</li> <li>• Replace switch with 6 Amp 125VAC. Arrow part #42506</li> <li>• Test transformer with a voltmeter. 28VAC should be read across the unmarked terminals of the bridge rectifier. If the voltage varies + / - 20%, replace transformer.</li> </ul>
<ul style="list-style-type: none"> <li>• Primary fuse defective</li> </ul>	<ul style="list-style-type: none"> <li>• Defective fuse</li> <li>• Defective socket in vert. or horz. bingo lights</li> <li>• Defective bridge rectifier</li> <li>• Defective power transformer</li> </ul>	<ul style="list-style-type: none"> <li>• Replace fuse with with a 4 Amp Slo Blo ACG/3AG.</li> <li>• Disconnect the + lead off bridge rectifier. If fuse quits opening, examine lamp sockets for shorted sockets or crossed wires. Will read about 22 ohms if good.</li> <li>• Remove unmarked terminals from bridge. Do not let touch. If quits, change bridge (35 Amp 800PIV).</li> <li>• Remove unmarked terminals from bridge. Do not let touch. If continues, change power transformer Arrow part #42720.</li> </ul>



**Troubleshooting Table — Flashboard Continued**

PROBLEM	CAUSE	CORRECTIVE ACTION
<ul style="list-style-type: none"> <li>• B-O lamps on with no response from console</li> </ul>	<ul style="list-style-type: none"> <li>• Defective data cable</li> <li>• 1 Amp logic fuse blown</li> <li>• Defective PCB</li> </ul>	<ul style="list-style-type: none"> <li>• Repair or replace data cable. Check for loose or dirty connections and frayed or broken wires.</li> <li>• Replace fuse with a 1 Amp Slo Blo ACG/3AG on ACRD PCB. Refer to page 22 for access details.</li> <li>• Replace ACRD PCB in flashboard. Refer to page 22 for access details.</li> </ul>
<ul style="list-style-type: none"> <li>• No response to ball insertion in tray</li> </ul>	<ul style="list-style-type: none"> <li>• Lamp failure</li> <li>• SCR/Darlington failure</li> <li>• Lamp socket failure</li> <li>• ACRD PCB failure</li> <li>• Defective crimp on ribbon cable</li> </ul>	<ul style="list-style-type: none"> <li>• Replace lamp in FB (use #1820 for 4" or #1829 for 2" board). Refer to page 22 for access details.</li> <li>• Refer to map corresponding to style of PCB. Change SCR/Darlington. SCR's must be desoldered to be replaced. To replace a Darlington, use an IC puller or small screw driver to gently pry the darlington out of the socket. Use #41947 for darlington.</li> <li>• Check connections on back of lamp socket. Use ohm meter to check for a shorted lamp socket. (0 ohms) Replace defective socket. If good, meter will read about 22 ohms with bulb installed.</li> <li>• Replace ACRD PCB. Refer to page 22 for access details.</li> <li>• Check both ends of ribbon cable, recrimp connection or replace ribbon cable.</li> </ul>
<ul style="list-style-type: none"> <li>• Lamp stays illuminated when ball tray is cleared</li> </ul>	<ul style="list-style-type: none"> <li>• Defective SCR/Darlington</li> <li>• Defective ACRD PCB</li> </ul>	<ul style="list-style-type: none"> <li>• Refer to appropriate map on pp. 38-44.</li> <li>• Change SCR/Darlington. Use #41947 for darlington.</li> <li>• Change ACRD PCB. Refer to page 39 for access details.</li> </ul>

**Troubleshooting Table — Flashboard Continued**

PROBLEM	CAUSE	CORRECTIVE ACTION
<ul style="list-style-type: none"> <li>• Flashboard blinks or lights flicker</li> </ul>	<ul style="list-style-type: none"> <li>• Loose data cable</li> <li>• Incorrect PCB configuration</li> <li>• Defective ACRD PCB</li> </ul>	<ul style="list-style-type: none"> <li>• Check both ends of the data cable for loose connections or frayed wires. Replace sockets or cable as necessary.</li> <li>• Refer to Darlington map for corresponding PCB configuration. Set jumpers on ACRD PCB for specific application.</li> <li>• Replace ACRD PCB. Refer to page 22 for access.</li> </ul>
<ul style="list-style-type: none"> <li>• Lights dim</li> </ul>	<ul style="list-style-type: none"> <li>• Dirty acrylic</li> <li>• Defective bridge rectifier</li> <li>• Low line voltage</li> </ul>	<ul style="list-style-type: none"> <li>• Refer to page 21 for cleaning instructions.</li> <li>• Check with meter. Should read 28VDC +/- 20% between the + and - terminal. Replace with 35A 800PIV Arrow part #41940.</li> <li>• Should read above 105VAC. Consult electrician.</li> </ul>
<ul style="list-style-type: none"> <li>• Group of 30 lights out</li> </ul>	<ul style="list-style-type: none"> <li>• Defective secondary fuse</li> </ul>	<ul style="list-style-type: none"> <li>• Refer to fuse map on page 46-49. Replace with a 3.2 Amp Slo Blo 3AGC/3AG fuse.</li> </ul>

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## VII. Electrical Requirements

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### **Presidential Console**

120VAC 3AMP MAX (No load on auxiliary power outlet)  
120VAC 12AMP MAX (Full load on auxiliary power outlet)  
Maximum auxiliary outlet rating: 6AMP, 720WATTS  
Blower fuse: 6AMP Normal Blow  
Logic Fuse: .3 Amp MDL

### **2001/3 Flashboards**

120VAC 3AMP MAX  
Primary Fuse: 4 Amp 3AG Slo blo  
Secondary fuse: 3.2 Amp 3AG Slo blo

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Presidential System: #45900

Console Only: #45925

Size: 38" x 51" x 24"

Shipping Wt.: 210 lbs.

Bingo Flashboard: #45950

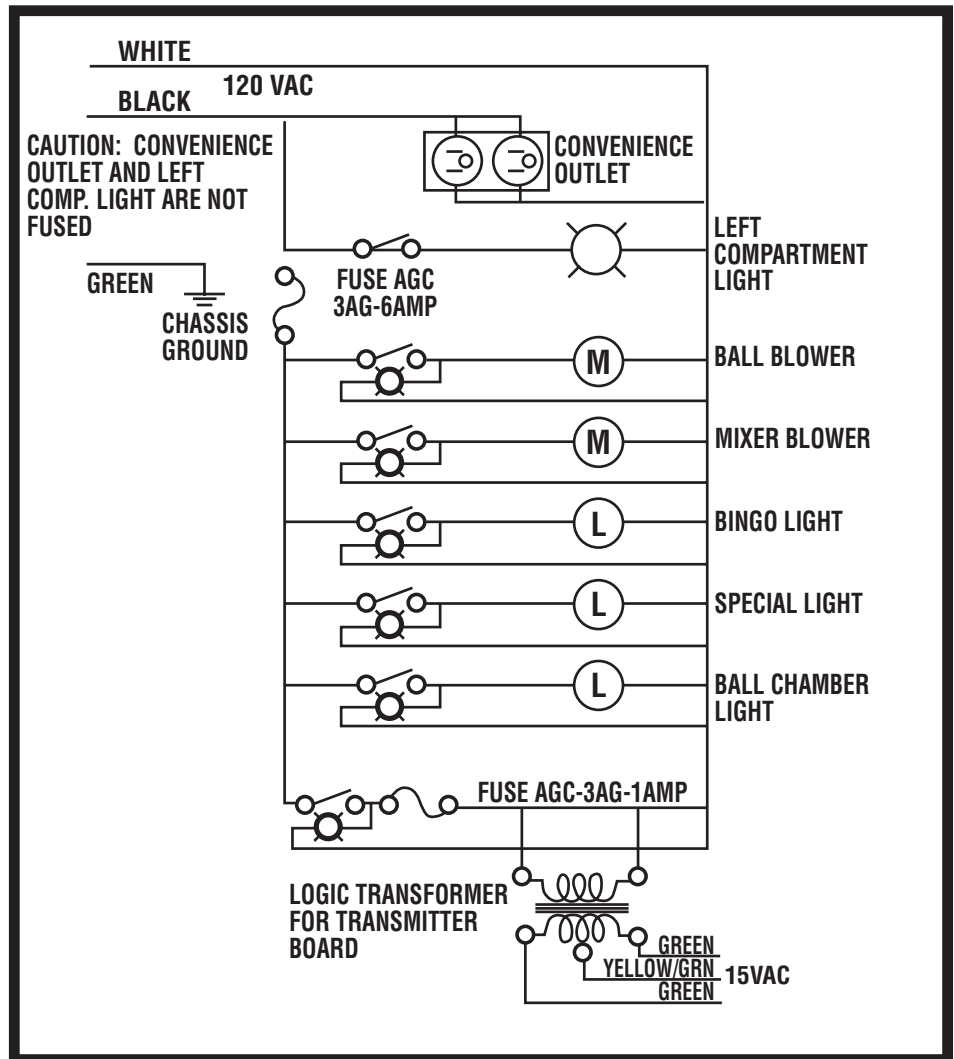
Size: 29" x 104" x 6"

Shipping Wt.: 125 lbs.

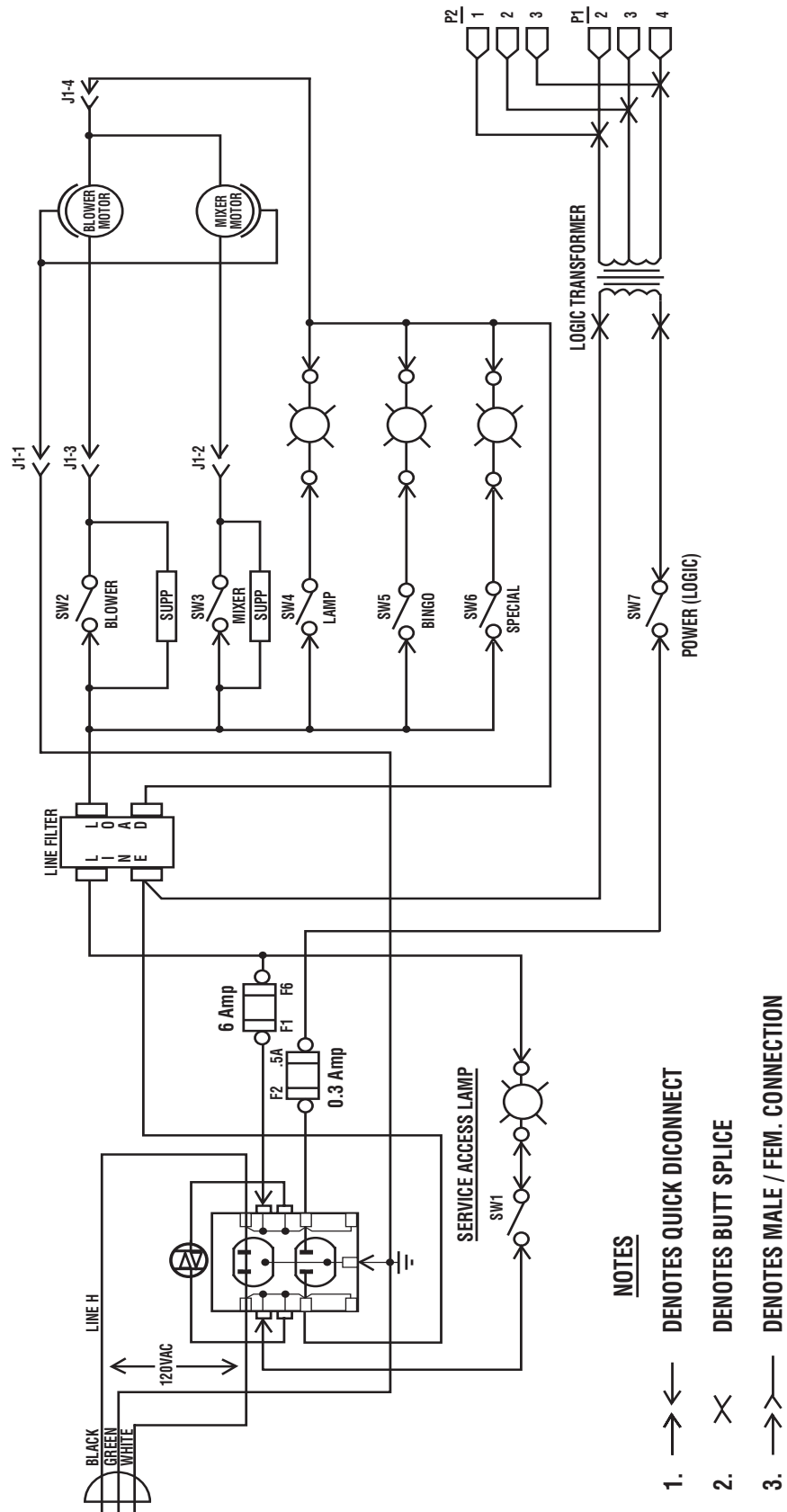
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# VIII. WIRING DIAGRAMS

## A. Electrical Schematic-Console (NON UL®)



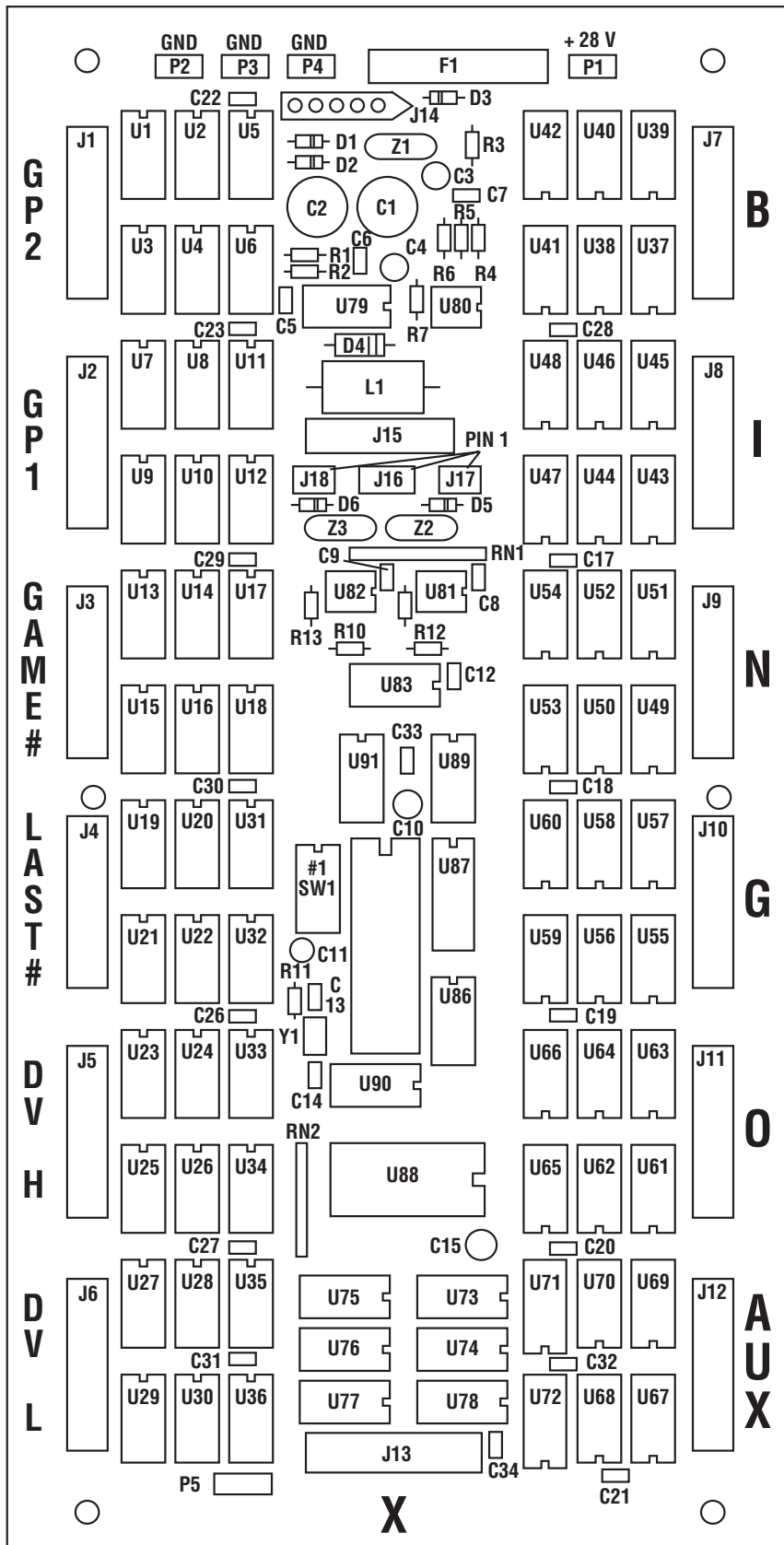
## B. Console Wiring Diagram (Current Model) UL®/CSA®



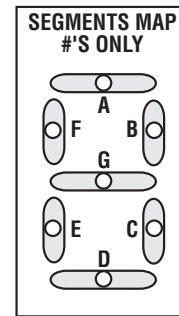
### C. ACRD Darlington Map Detail

LAMP NUMBERS	DRIVER	LAMP NUMBERS	DRIVER	LAMP NUMBERS	DRIVER	CONFIGURATION FOR ACR REV D WITH VERSION 3.4 FIRMWARE
B1	U38	X76-78	U77	<b>GAME #</b>		<b>DIP SWITCH POSITION</b>
B2-4	U37	X79	U76	1'S NO. BALLS A-C	U13	<b>CONFIGURATION</b>
B5-6	U38	X80	U77	1'S NO. BALLS D-F	U14	
B7	U37	X81-83	U76	1'S NO. BALLS G	U13	<b>SW 1</b>
B8	U38					<b>ON</b> CONTINUOUS TEST
B9-10	U40	X84	U78	10'S NO. BALLS A	U15	<b>OFF</b> STANDARD OPERATION
B11-12	U39	X85	U74	10'S NO. BALLS B-C	U16	
B13	U40	X86-87	U78	10'S NO. BALLS D-E	U15	<b>SW 2</b>
B14	U39	X88-89	U74	10'S NO. BALLS F-G	U16	<b>ON</b> LAMP SAVER DISABLED
B15	U40	X90	U78	<b>LAST #</b>		<b>OFF</b> STANDARD OPERATION
		GP1	U8	1'S LAST A-C	U19	<b>SW 3</b>
I16	U44	GP2-4	7	1'S LAST D-F	U20	<b>ON</b> SMALL SYNC PACKET
I17-19	U43	GP5-6	U8	1'S LAST G	U19	<b>OFF</b> LARGE SYNC PACKET
I20-21	U44	GP7	U7			<b>SW 4</b>
I22	U43	GP8	U8	10'S LAST A	U21	<b>XX</b> SEE
I23	U44			10'S LAST B-C	U22	<b>CONFIGURATION TABLE</b>
		GP9-10	U10	10'S LAST D-E	U21	
I24-25	U46	GP11-12	U9	10'S LAST F-G	U22	<b>SW 5</b>
I26-27	U45	GP13	U10	<b>DOLLAR H</b>		<b>XX</b> SEE
I28	U46	GP14	U9	10K'S DV A	U25	<b>CONFIGURATION TABLE</b>
I29	U45	GP15	U10	10K'S DV B-C	U26	<b>SW 6</b>
I30	U46			10K'S DV D-E	U25	<b>ON</b> TIMEOUT
		GP16	U9	10K'S DV F-G	U26	<b>OFF</b> TIMEOUT DISABLED
N31	U50	GP17	U2	1000'S DV A-C	U23	(SEE TABLE FOR OPTIONS)
N32-34	U49	GP18-20	U1	1000'S DV D-F	U24	<b>SW 7</b> NOT USED
N35-36	U50	GP21-22	U2	1000'S DV G	U23	
N37	U49	GP23	U1	<b>DOLLAR L</b>		
N38	U50			100'S DV A	U29	
		GP24	U2	100'S DV B-C	U30	
N39-40	U52	GP25	U4	100'S DV D-E	U29	
N41-42	U51	<b>AUX</b>		100'S DV F-G	U30	
N43	U52	B LMP	U67	10'S DV A-C	U27	
N44	U51	I LMP	U67	10'S DV D-F	U28	
N45	U52	N LMP	U68	10'S DV G	U27	
		G LMP	U67	<b>AUX</b>		
G46	U56	O LMP	U68	1'S DV A-D	U70	
G47-49	U55			1'S DV E-G	U69	
G50-51	U56			<b>CONFIGURATION TABLE WITHOUT LOGIC TRANSFORMER</b>		
G52	U55			(Labeled SW 1 on PCB illustration D, p. 39)		
G53	U56			SENATOR-LV3 W/TIMEOUT	SW 3 XX	SW 4 ON
		SPARES		SENATOR-LV3 W/O TIMEOUT	SW 5 OFF	SW 6 ON
G54-55	U58	U3, U77, U78			OFF	OFF
G56-57	U57			PRES-2001 W/TIMEOUT	ON	ON
G58	U58	OUTPUT - U83		PRES-2001 W/O TIMEOUT	ON	OFF
G59	U57			STATESMAN (GI) W/O TIMEOUT	OFF	OFF
G60	U58			STATESMAN (GI) W/ TIMEOUT	OFF	ON
				STATESMAN (DV) W/O TIMEOUT	OFF	OFF
O61	U62			STATESMAN (DV) W/ TIMEOUT	OFF	ON
O62-64	U61			(XX = DOES NOT MATTER)		
O65-66	U62			<b>NOTE 1 : IF USING FLASHBOARD AS TEAR OPEN, SET SW 6 TO OFF. THIS WILL DISABLE THE TIMEOUT.</b>		
O67	U61			<b>NOTE 2 : IF USING REV D IN OLDER PRESIDENTIAL 5-PIN POWER CONFIGURATION, SET SW 3 TO OFF AND SET SW 2 TO ON. THIS WILL DISABLE THE LAMP SAVER OPTION. FOR ALL OTHER APPLICATIONS SET SW 2 TO OFF.</b>		
O68	U62					
O69-70	U64					
O71-72	U63					
O73	U64	If Darlington is cracked or burnt, check associated lamp sockets before changing the darlington.				
O74	U63					
O75	U64					

### D. ACRD Darlington Map

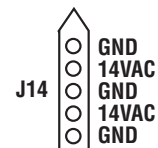


### FRONT VIEW SEGMENTS



### FRONT VIEW

B	I	N	G	O
1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
21	22	23	24	25



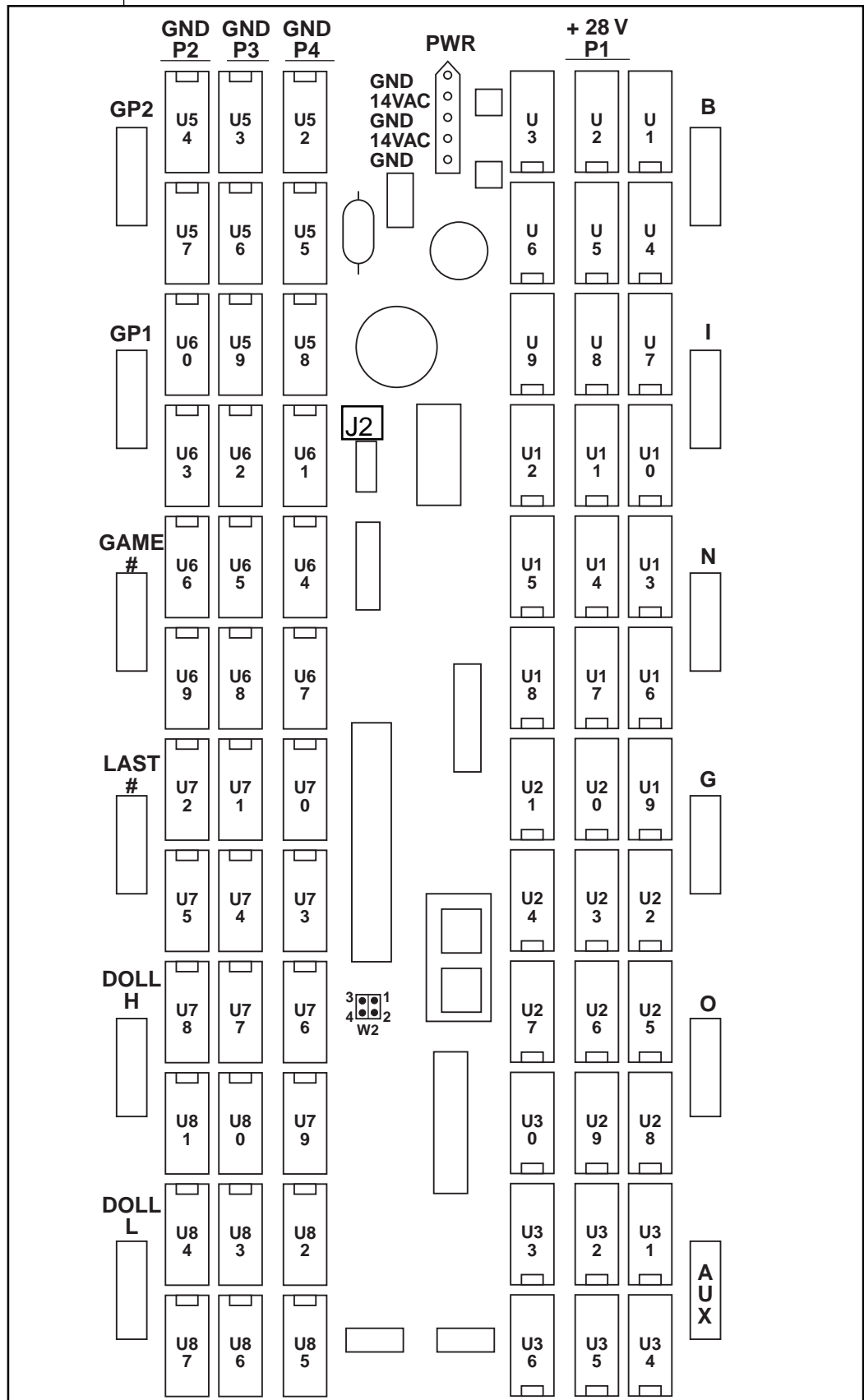
CLOSE = OFF

NOTE: FOR SENATOR AND LV3 FLASHBOARDS

INPUT = J18  
OUTPUT = J17

POWER OFF WHEN RESETTING  
ANY SWITCH ON SW1

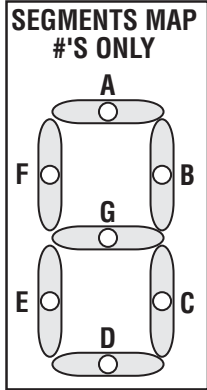
### E. ACRC Darlington Map



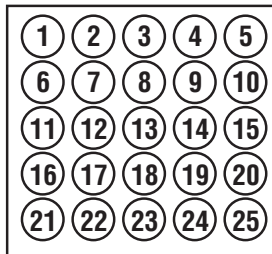
J2 Pin out	
PIN...	Signal
1...	IN
2...	IN Ground
3...	Not Used
4...	OUT Ground
5...	OUT



F. ACRC Darlington Map Detail



FRONT VIEW



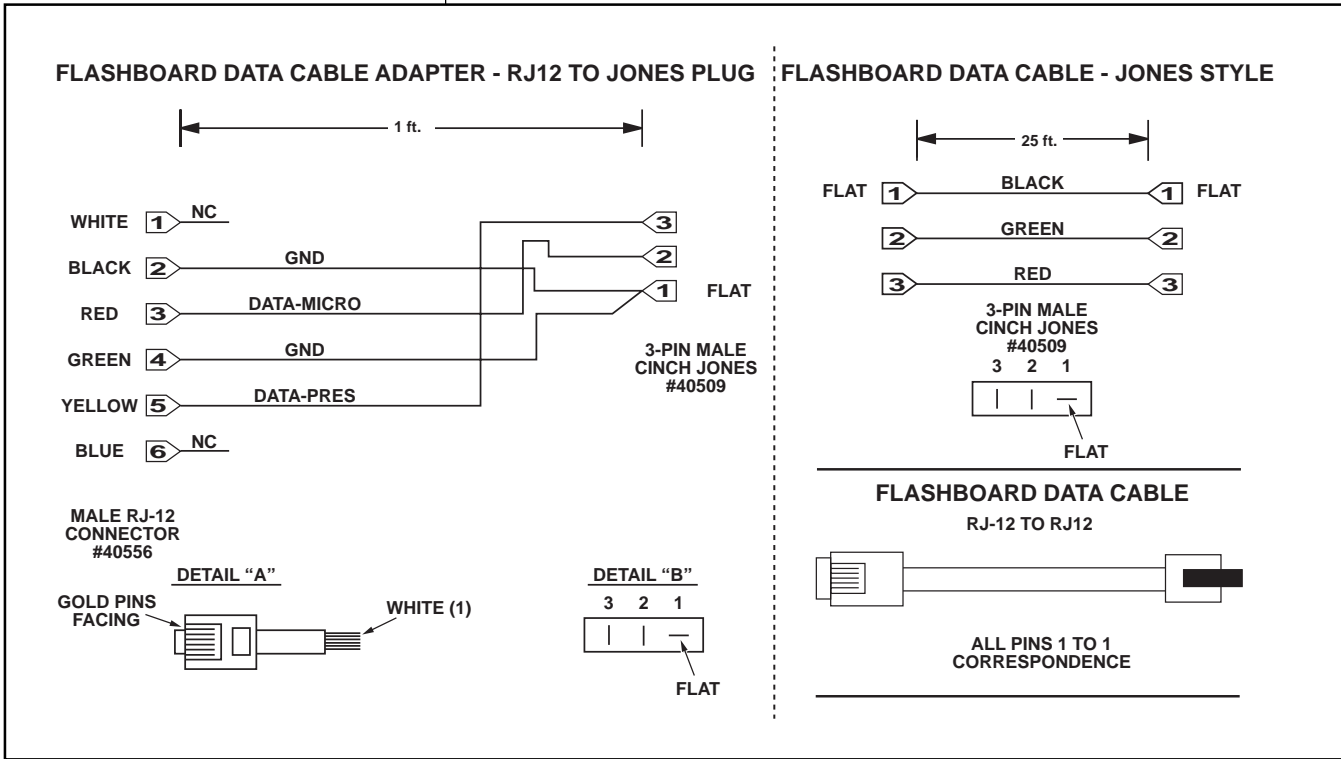
GAME PATTERN  
INDICATOR  
FRONT VIEW

LAMP NUMBERS	DRIVER (2068B)	LAMP NUMBERS	DRIVER (2068B)
<b>NUMBERS:</b>		<b>DOLLER VALUE:</b>	
B 1-4	U5	10000-B,C,E,G	U80
B 5-8	U4	10000-D,F,A	U81
B 9-12	U2	1000-B,C,E,G	U78
B 13-15	U1	1000-D,F,A	U77
I 16-19	U11	100-B,C,E,G	U86
I 20-23	U10	100-D,F,A	U87
I 24-27	U8	10-B,C,E,G	U84
I 28-30	U7	10-D,F,A	U83
N 31-34	U17	1-B,C,E,G	U32
N 35-38	U16	1-D,F,A	U31
N 39-42	U14	<b>LAST NO. CALLED:</b>	
N 43-45	U13	10'S-B,C,E,G	U74
G 46-49	U23	10'S-D,F,A	U75
G 50-53	U22	1'S-B,C,E,G	U72
G 54-57	U20	1'S-D,F,A	U71
G 58-60	U19	<b>NUMBER OF BALLS:</b>	
O 61-64	U29	10'S-B,C,E,G	U68
O 65-68	U28	10'S-D,F,A	U69
O 69-72	U26	1'S-B,C,E,G	U66
O 73-75	U25	1'S-D,F,A	U65
<b>GAME PATTERN:</b>		B-G LETTERS	U35
GP 1-4	U59	O LETTER	U34
GP 5-8	U60	<b>SPARES</b>	
GP 9-12	U62		46
GP 13-16	U63		47
GP 17-20	U53		49
GP 21-24	U54		50 & 51
GP 25	U56		
W2 1 & 2 \$ VALUE W/O SELF		REV. 2.2	JUMPER 1 & 2 FOR GAME IND.
W2 3 & 4 CONN. SELF TEST			NO JUMPER 1 & 2 FOR DOLLAR VALUE
W2 1 & 2 # & 4 \$ VALUE			JUMPER 1 & 2 FOR TIME OUT
W2 1 & 3 PRES W/O TIME OUT			NO JUMPER 3 & 4 FOR NO TIME OUT
		REV. 2.3	

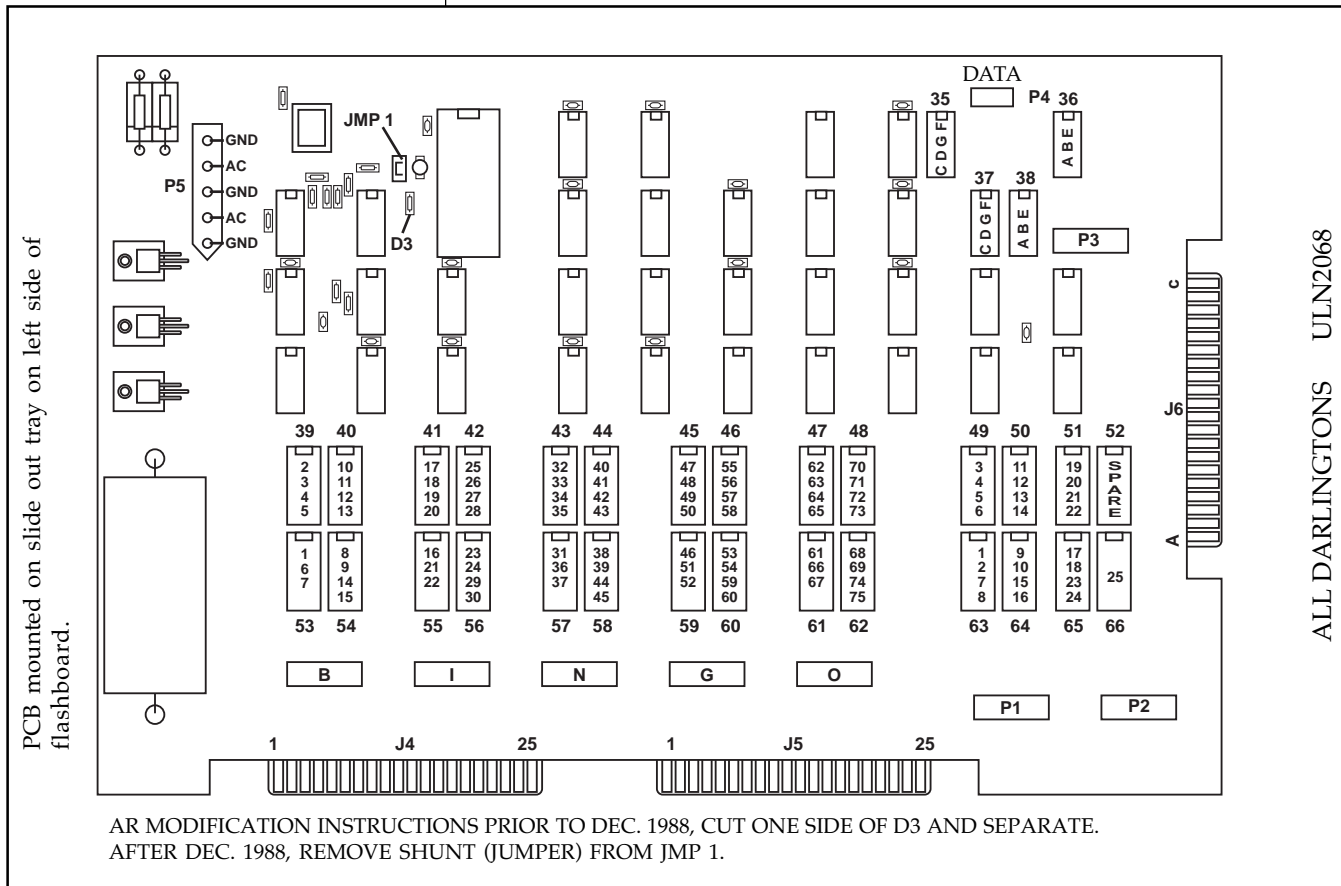
ALLDARLINGTONS ULN2068

If Darlington is cracked or burnt, check the associate lamp sockets before changing the darlington.

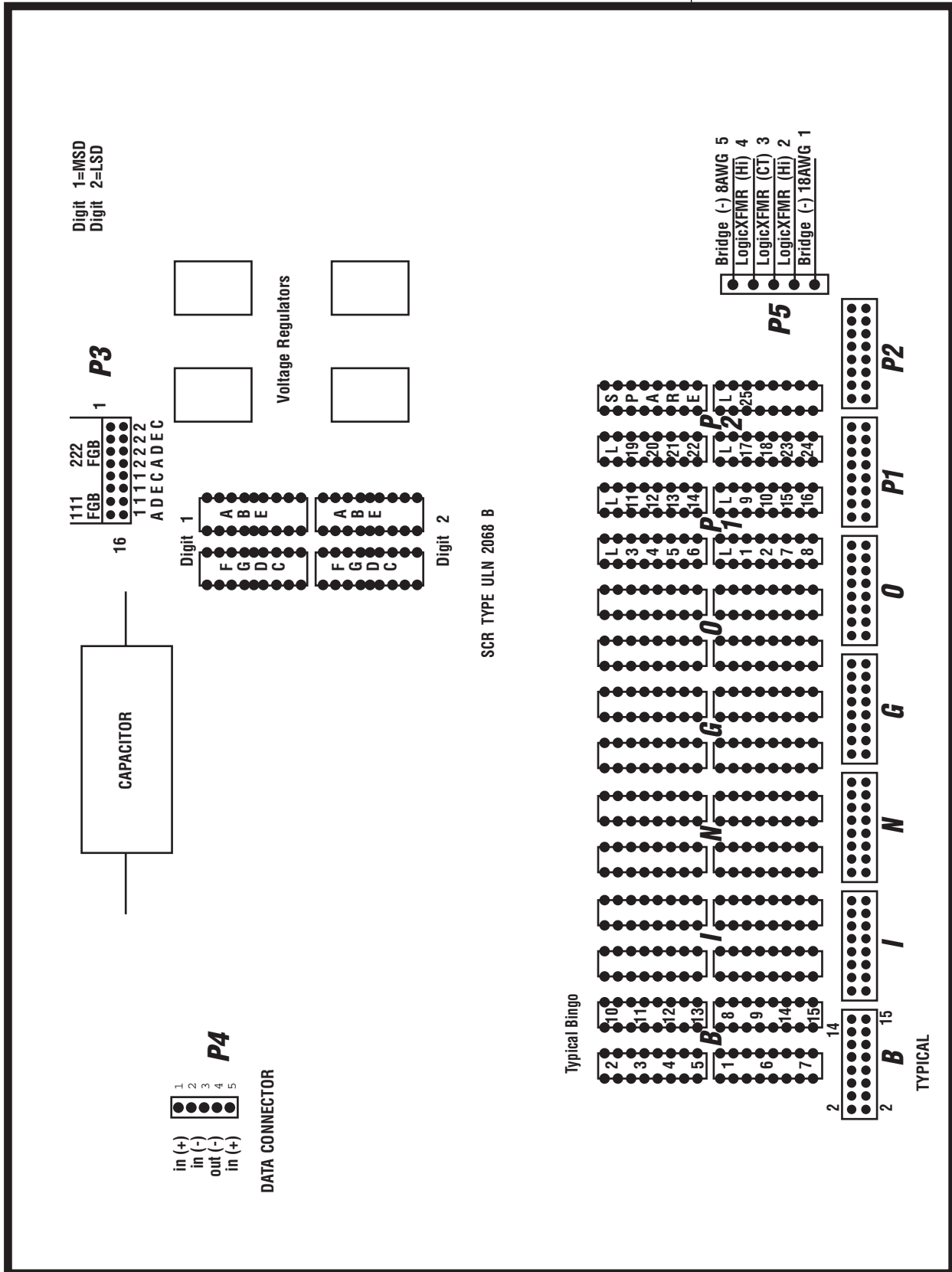
## G. Flashboard Data Cable Diagrams



## H. AR Darlington Map



# I. ARRC Darlingon Map



PCB mounted on slide out tray on left side of flashboard.

# AR - SCR BOARD

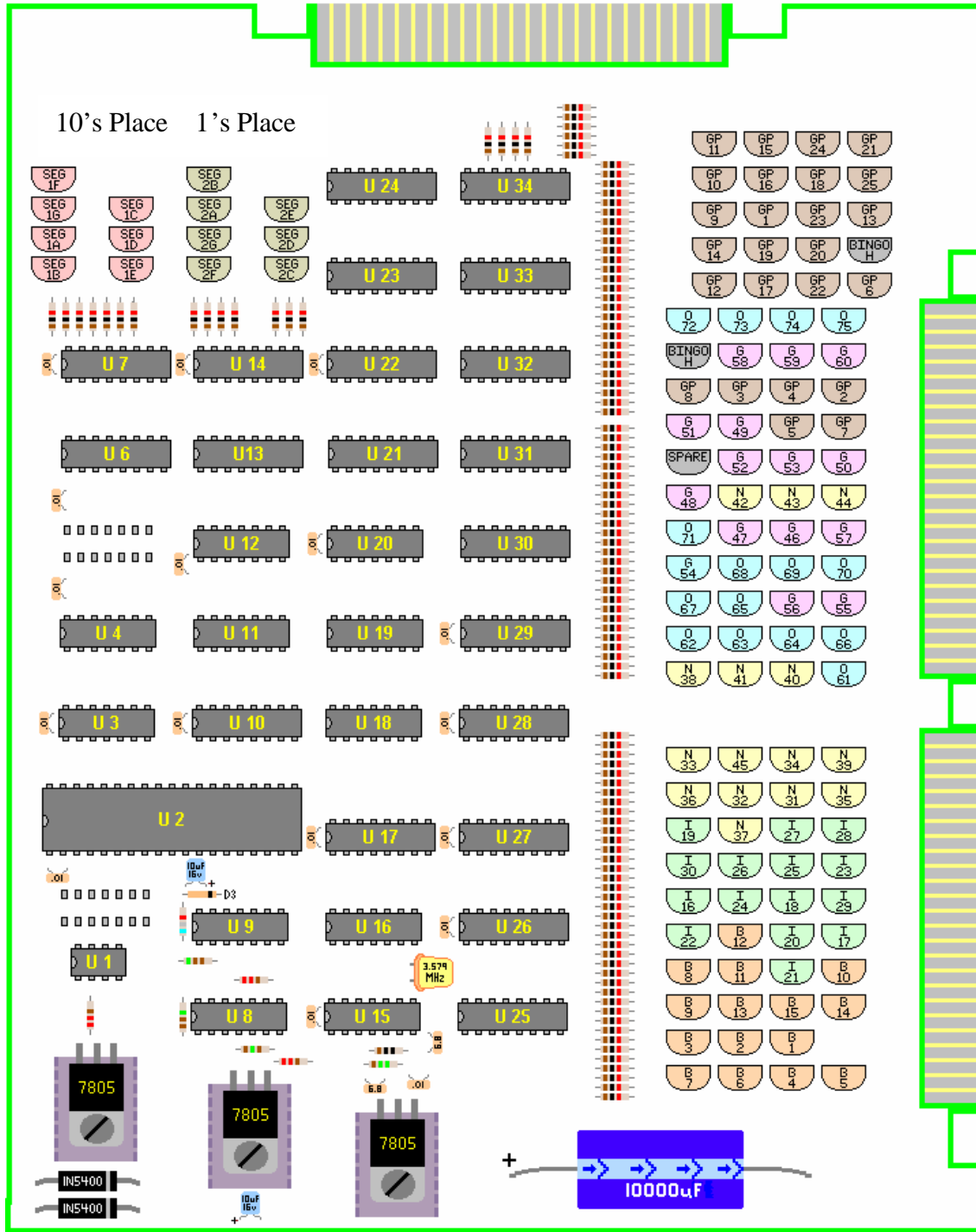
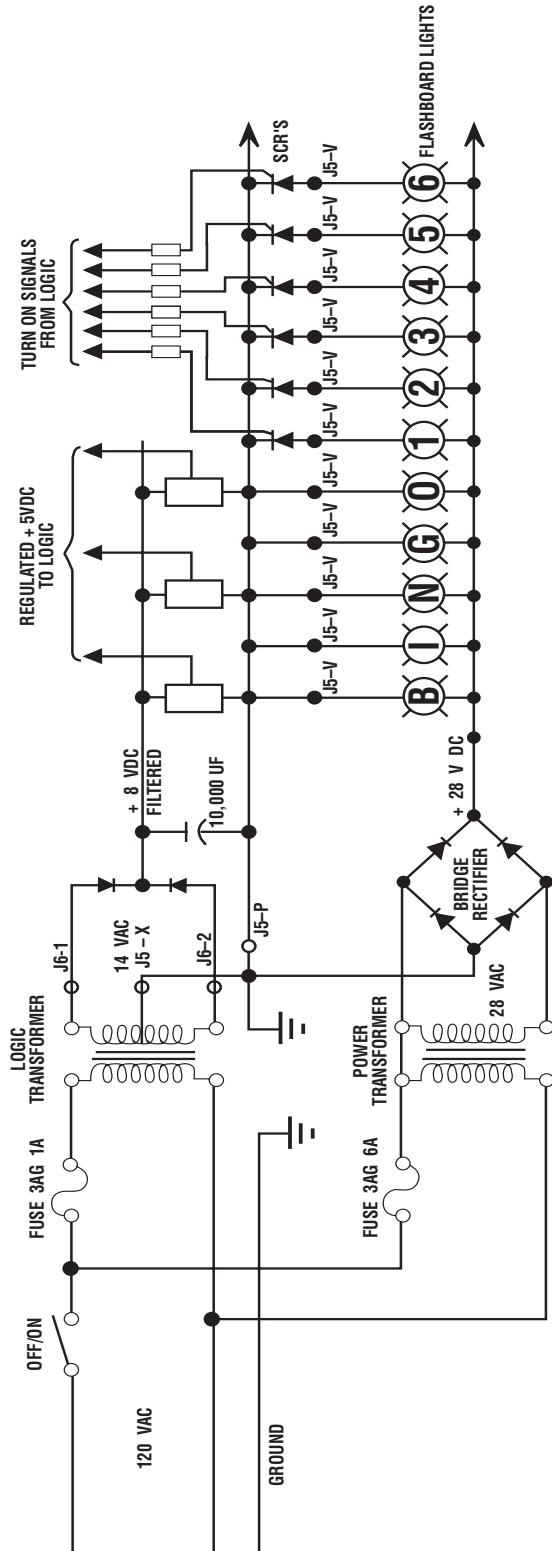


FIG. 9

Customer serviceable SCR's. If SCR tests defective, use one marked spare to replace. Do not overheat. See "TROUBLESHOOTING".

K. Connector Numbers — Flashboard

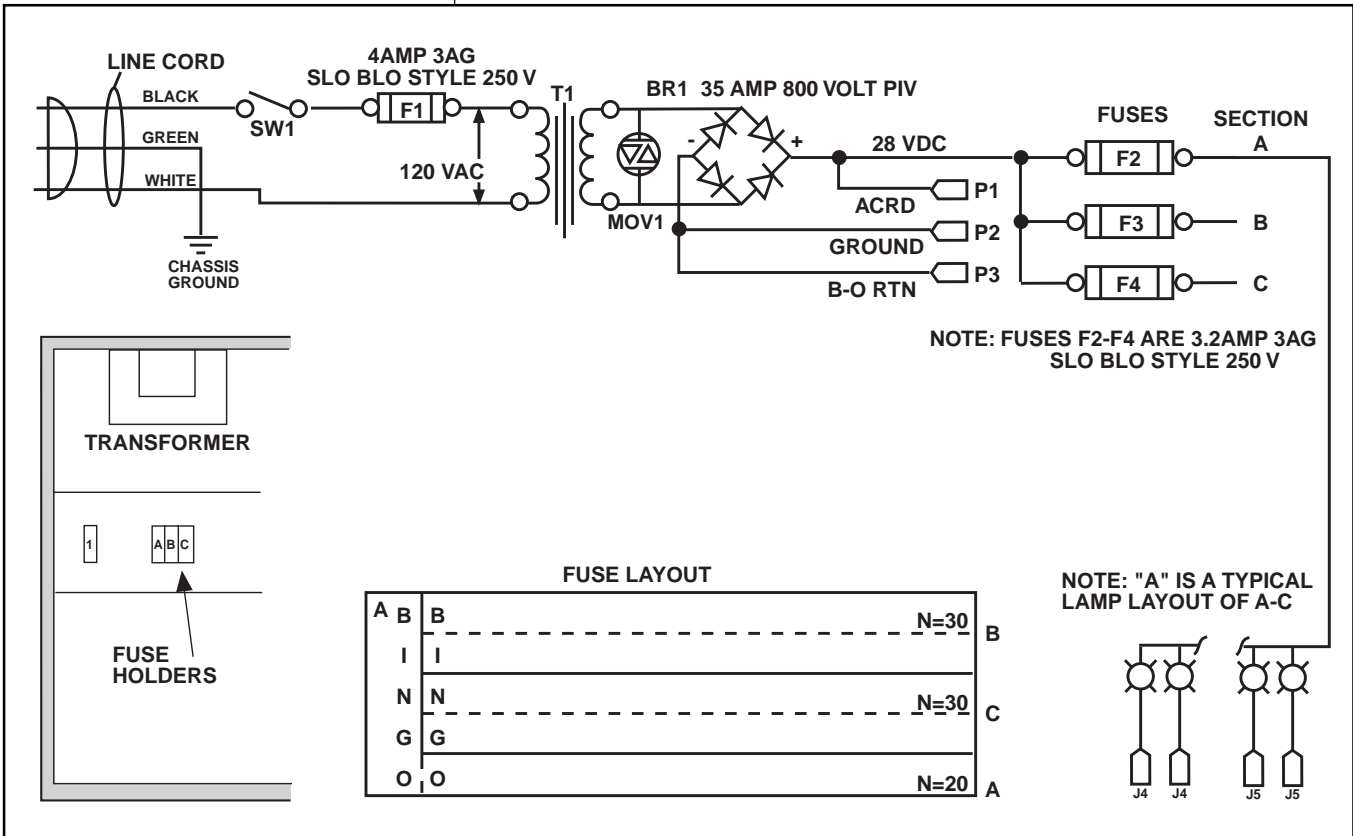
**AR FLASHBOARD WIRING DIAGRAM**



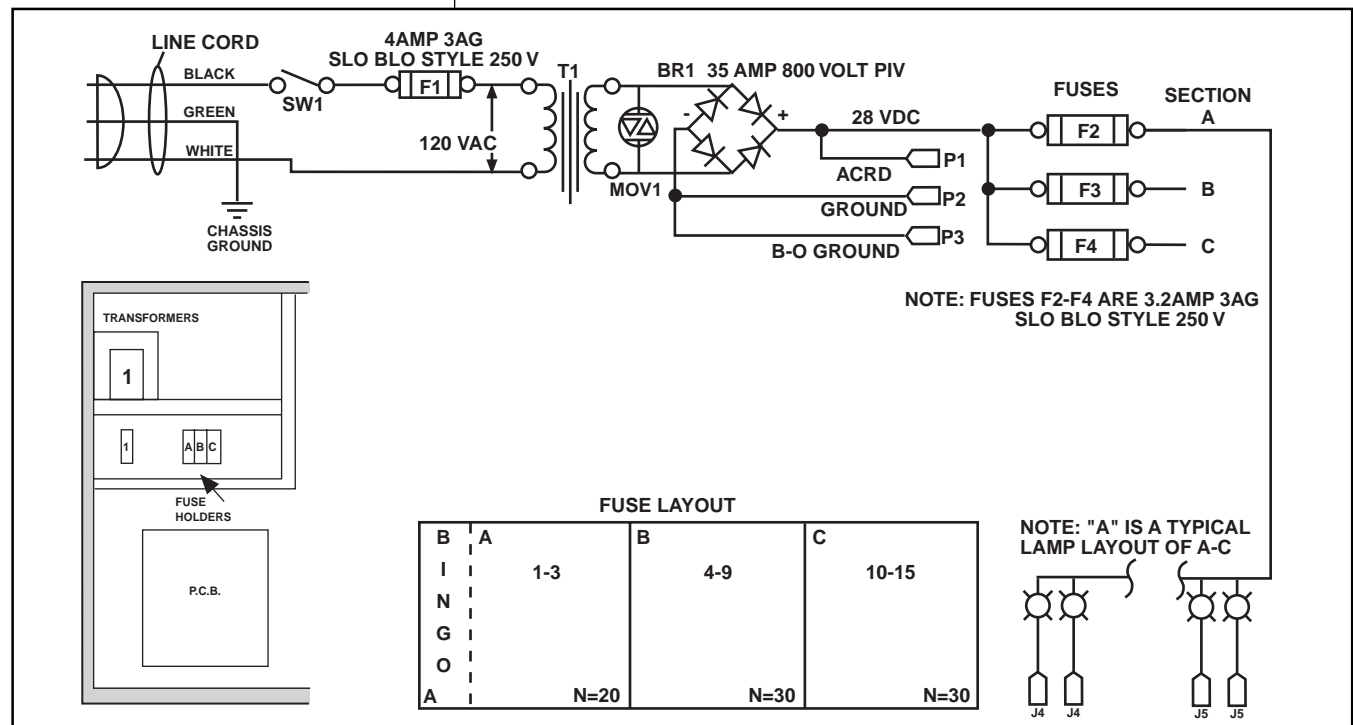
**Light to Edge Connector Numbers-Flashboard**  
— Rear View —

15	J4-5	30	J4-N	45	J4-19	60	J5-21	15	J5-25	1	J4-5	16	J4-5	31	J4-5	46	J5-5	61	J4-22	2	J4-5	17	J4-10	32	J4-17	47	J5-D	62	J4-Z	3	J4-4	18	J4-M	33	J4-V	48	J5-6	63	J4-23	4	J4-A	19	J4-R	34	J4-W	49	J5-L	64	J4-a	5	J4-1	20	J4-K	35	J4-18	50	J5-K	65	J4-25	6	J4-2	21	J4-8	36	J4-T	51	J5-10	66	J4-24	7	J4-B	22	J4-J	37	J4-15	52	J5-K	67	J4-h	8	J4-F	23	J4-14	38	J4-X	53	J5-9	68	J5-B	9	J4-6	24	J4-11	39	J4-20	54	J5-2	69	J5-3	10	J4-H	25	J4-P	40	J4-Y	55	J5-A	70	J5-C	11	J4-7	26	J4-13	41	J4-21	56	J5-1	71	J5-4	12	J4-9	27	J4-S	42	J5-F	57	J5-E	72	J5-22	13	J4-E	28	J4-16	43	J5-7	58	J5-19	73	J5-23	14	J4-D	29	J4-12	44	J5-H	59	J5-20	74	J5-24	15	J4-5	30	J4-N	45	J5-19	60	J5-21	75	J5-25	16	J4-5	31	J4-5	46	J5-5	61	J4-22	76	J4-5	17	J4-10	32	J4-17	47	J5-D	62	J4-Z	77	J4-5	18	J4-M	33	J4-V	48	J5-6	63	J4-23	78	J4-5	19	J4-R	34	J4-W	49	J5-L	64	J4-a	79	J4-5	20	J4-K	35	J4-18	50	J5-K	65	J4-25	80	J4-5	21	J4-8	36	J4-T	51	J5-10	66	J4-24	81	J4-5	22	J4-J	37	J4-15	52	J5-K	67	J4-h	82	J4-5	23	J4-14	38	J4-X	53	J5-9	68	J5-B	83	J4-5	24	J4-11	39	J4-20	54	J5-2	69	J5-3	84	J4-5	25	J4-P	40	J4-Y	55	J5-A	70	J5-C	85	J4-5	26	J4-13	41	J4-21	56	J5-1	71	J5-4	86	J4-5	27	J4-S	42	J5-F	57	J5-E	72	J5-22	87	J4-5	28	J4-16	43	J5-7	58	J5-19	73	J5-23	88	J4-5	29	J4-12	44	J5-H	59	J5-20	74	J5-24	89	J4-5	30	J4-N	45	J5-19	60	J5-21	75	J5-25	90	J4-5
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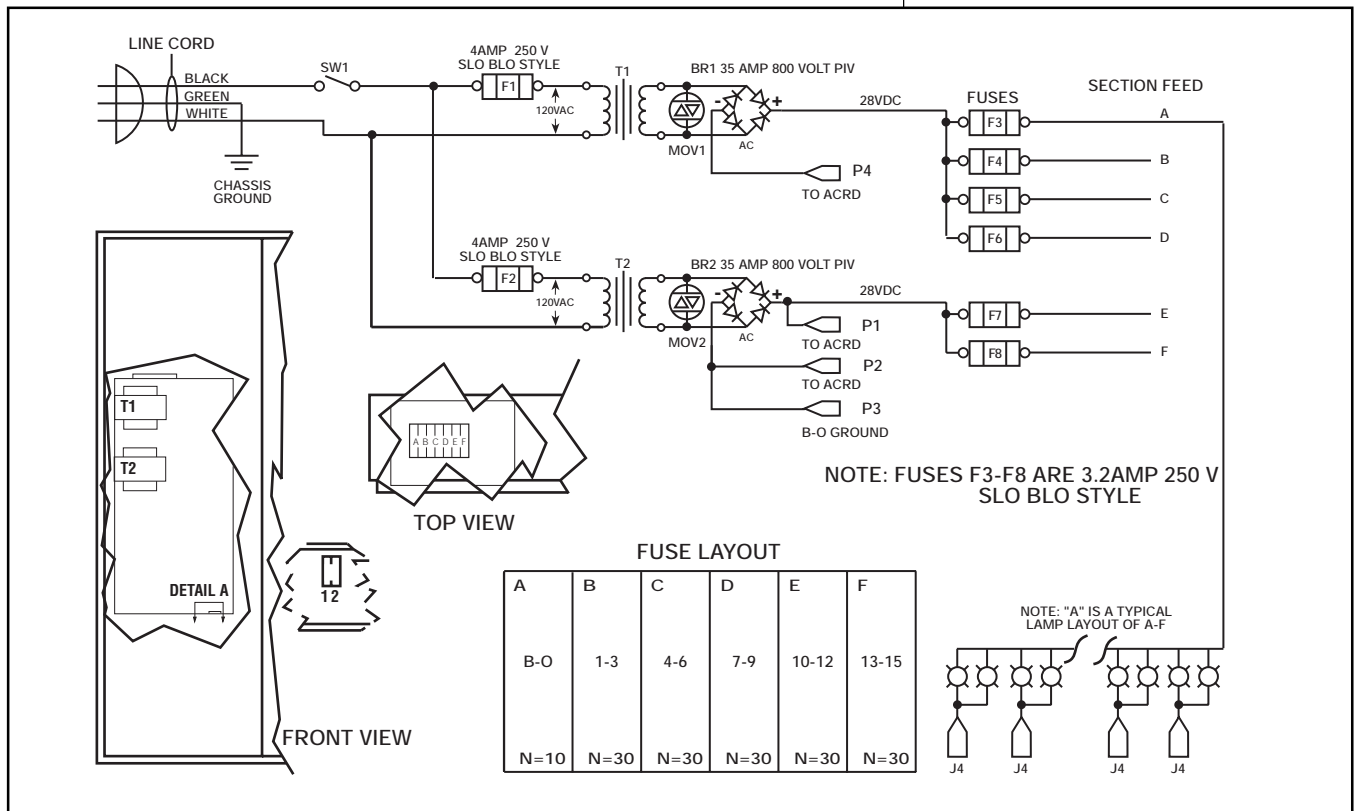
### L. 2" FB Primary Wiring Schematic - Numbers Only



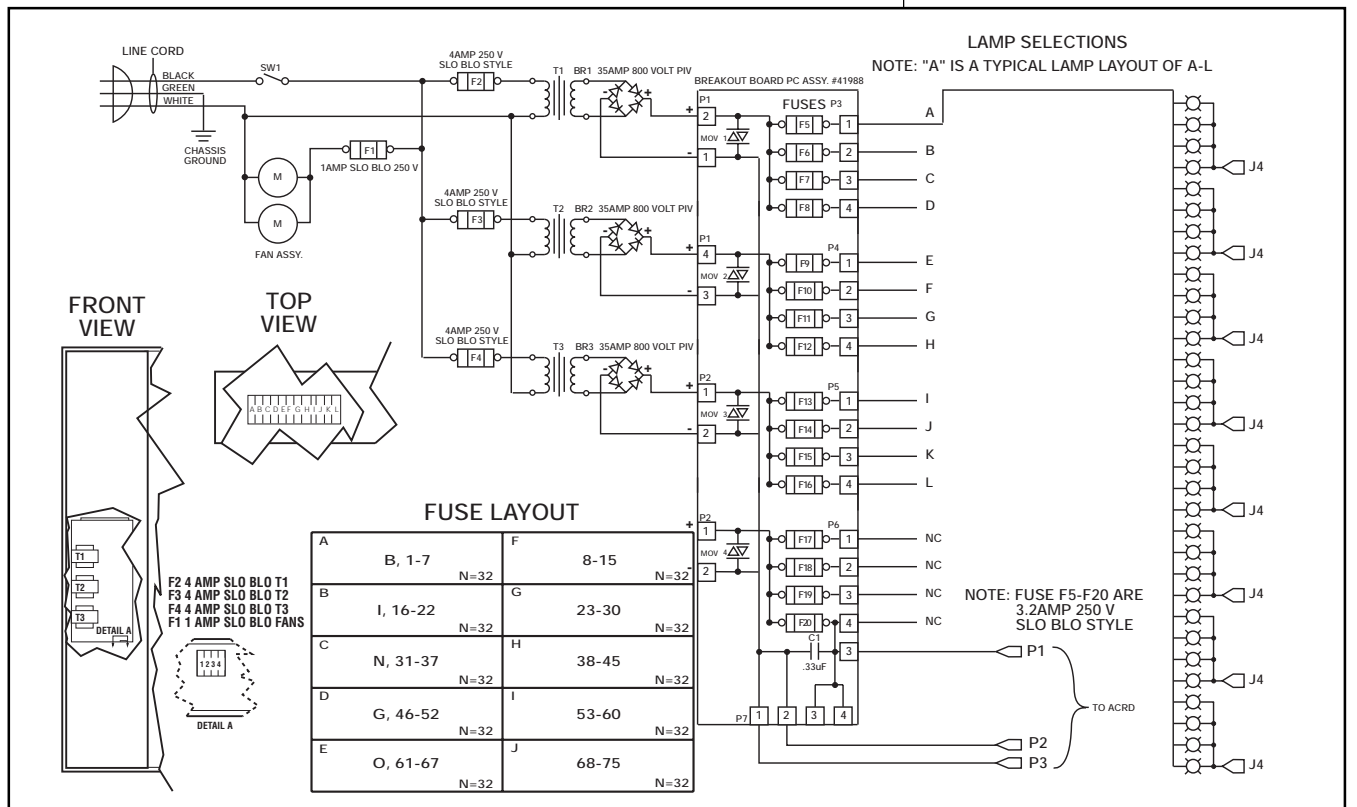
### M. 4" FB Primary Wiring Schematic - Numbers Only



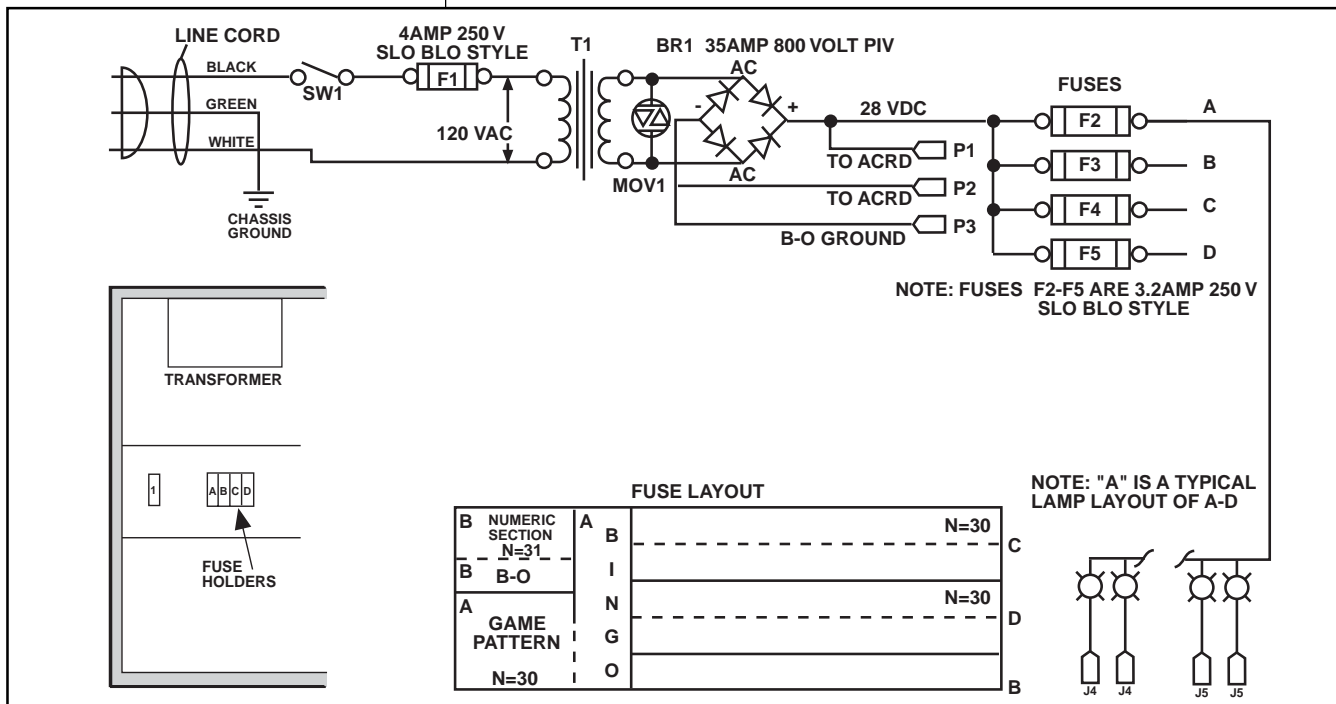
### N. 8" FB Primary Wiring Schematic - Numbers Only



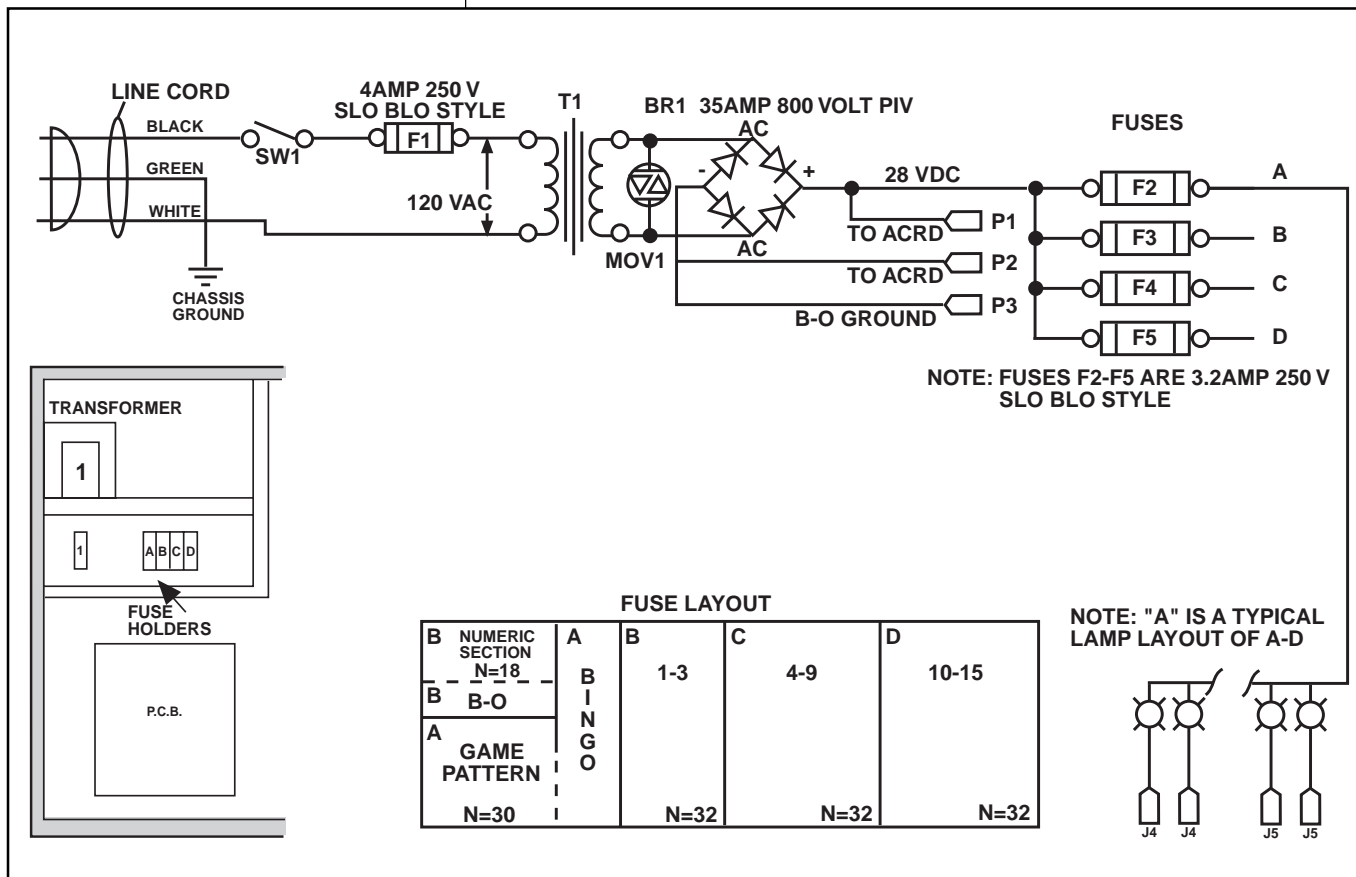
### O. 12" FB Primary Wiring Schematic - Numbers Only



### P. 2" FB Primary Wiring Schematic - Numbers and Game Indicator

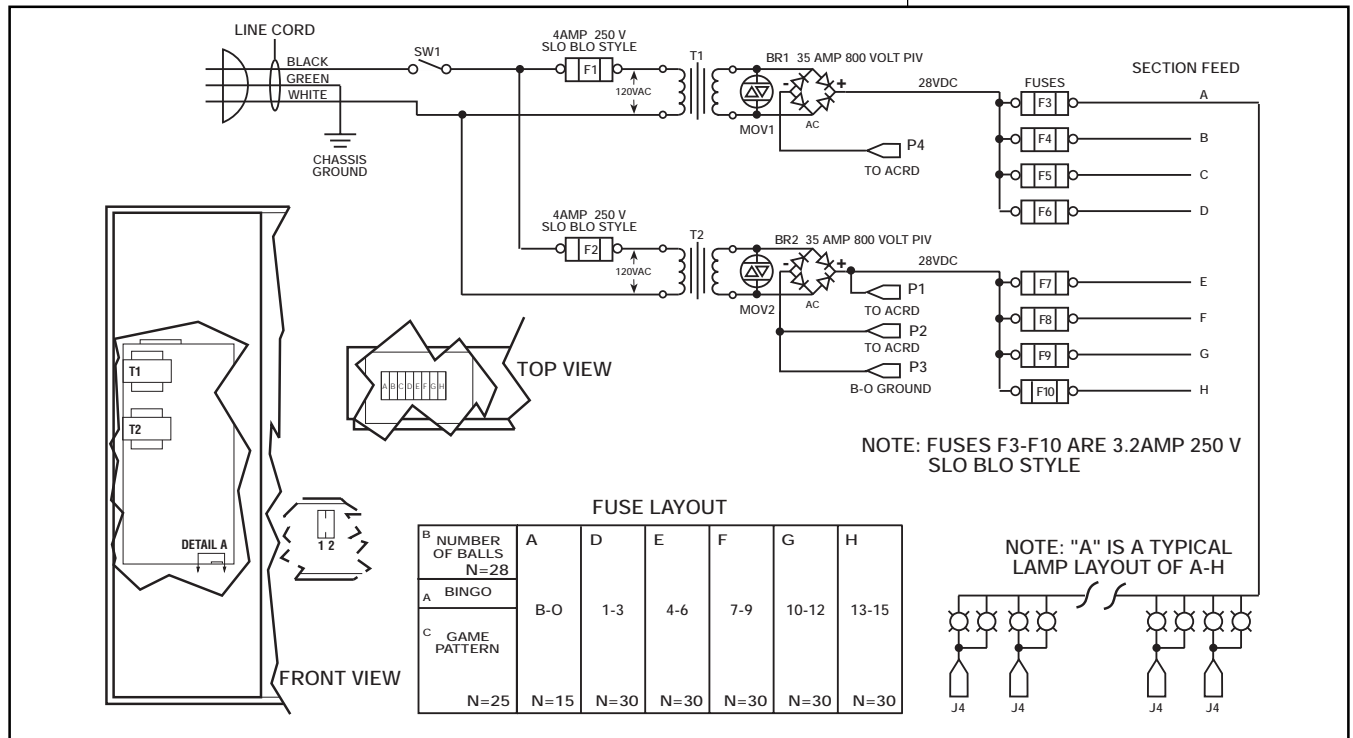


### Q. 4" FB Primary Wiring Schematic - Numbers and Game Indicator

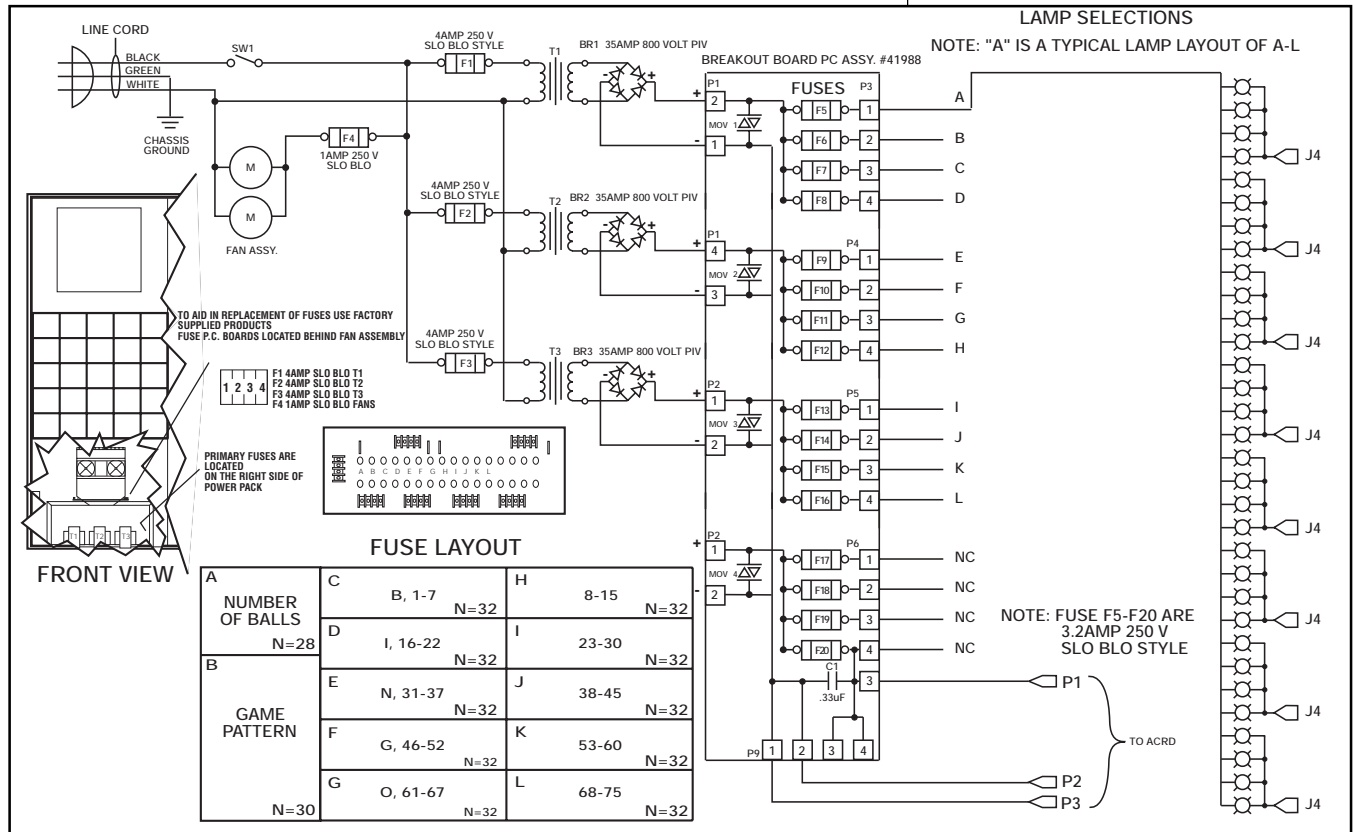




## R. 8" FB Primary Wiring Schematic - Numbers and Game Indicator



## S. 12" FB Primary Wiring Schematic - Numbers and Game Indicator



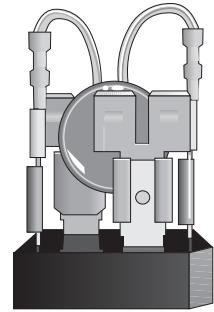
T. Bridge Rectifier

TO POWER TRANSFORMER

TO FUSE BLOCK

TO PRINTED CIRCUIT BOARD

TO POWER TRANSFORMER



U. 96/32 Pattern AX Board Connections

EDGE CARD CONNECTIONS

J1

N/C	A	1	B-8
B-09	B	2	B-1
B-10	C	3	B-2
B-11	D	4	B-3
B-12	E	5	B-4
B-13	F	6	B-5
B-14	H	7	B-6
B-15	J	8	B-7
N/C	K	9	I-23
N/C	L	10	I-24
N/C	M	11	I-25
I-16	N	12	I-26
I-17	P	13	I-27
I-18	R	14	I-28
I-19	S	15	I-29
I-20	T	16	N/C
I-21	U	17	I-30
I-22	V	18	N-38
N-39	W	19	N-31
N-40	X	20	N-32
N-41	Y	21	N/C
N-42	Z	22	N-33
N-43	a	23	N-34
N-44	b	24	N-35
N-45	c	25	N-36

J2

G-53	A	1	N-37
G-46	B	2	G-54
G-47	C	3	G-55
G-48	D	4	G-56
G-49	E	5	G-57
G-50	F	6	G-58
G-51	H	7	G-59
G-52	J	8	G-60
N/C	K	9	O-68
O-69	L	10	O-61
O-70	M	11	N/C
O-71	N	12	O-62
N/C	P	13	O-63
O-72	R	14	O-64
O-73	S	15	O-65
O-74	T	16	N/C
O-67	U	17	O-66
N/C	V	18	O-75
N/C	W	19	TIMER STROBE
OUT.GND	X	20	TEST
GND	Y	21	N/C
INVERSE	Z	22	DATA. OUT. 1
P. SW. 8	a	23	DATA. OUT. 2
P. SW. 4	b	24	P. SW. 1
P. SW. 2	c	25	GAME # SW.

J3

SW-15	A	1	SW-16
SW-13	B	2	SW-14
SW-11	C	3	SW-12
SW-9	D	4	SW-10
HI/LOW	E	5	N/C
SW-24	F	6	SW-25
SW-22	H	7	SW-23
SW-20	J	8	SW-21
SW-18	K	9	SW-19
N/C	L	10	SW-8
SW-7	M	11	SW-6
SW-4	N	12	SW-5
N/C	P	13	SW-3
N/C	R	14	SW-2
TIM. TB1-4	S	15	SW-1
SW-17	T	16	TIM. TB1-1
TIM. TB1-3	U	17	TIM. TB1-7
MB LST. NO	V	18	TIM. TB1-15
N/C	W	19	TIM. TB1-14
N/C	X	20	TIM. TB1-12
TIM. TB1-10	Y	21	TIM. TB1-9
N/C	Z	22	TIM. TB1-11
N/C	a	23	TIM. TB1-13
N/C	b	24	TIM. TB1-8
TIM. TB1-6	c	25	TIM. TB1-5

V. 100 Pattern AX Board Connections

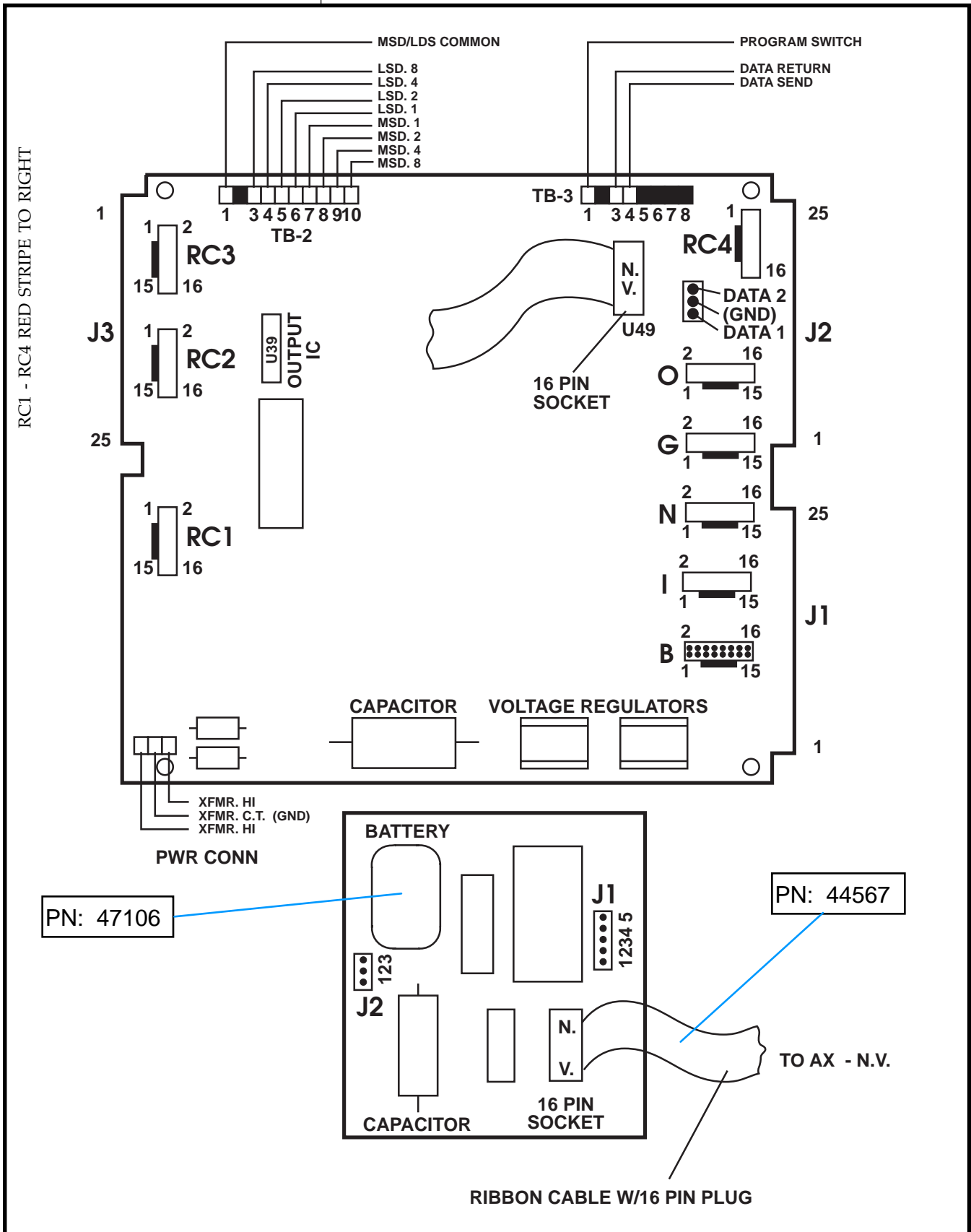
**EDGE CARD CONNECTIONS**

J1			J2			J3					
N/C	A	1	B-8	G-53	A	1	N-37	SW-15	A	1	SW-16
B-09	B	2	B-1	G-46	B	2	G-54	SW-13	B	2	SW-14
B-10	C	3	B-2	G-47	C	3	G-55	SW-11	C	3	SW-12
B-11	D	4	B-3	G-48	D	4	G-56	SW-9	D	4	SW-10
B-12	E	5	B-4	G-49	E	5	G-57	N/C	E	5	N/C
B-13	F	6	B-5	G-50	F	6	G-58	SW-24	F	6	SW-25
B-14	H	7	B-6	G-51	H	7	G-59	SW-22	H	7	SW-23
B-15	J	8	B-7	G-52	J	8	G-60	SW-20	J	8	SW-21
N/C	K	9	I-23	N/C	K	9	O-68	SW-18	K	9	SW-19
N/C	L	10	I-24	O-69	L	10	O-61	N/C	L	10	SW-8
N/C	M	11	I-25	O-70	M	11	N/C	SW-7	M	11	SW-6
I-16	N	12	I-26	O-71	N	12	O-62	SW-4	N	12	SW-5
I-17	P	13	I-27	N/C	P	13	O-63	N/C	P	13	SW-3
I-18	R	14	I-28	O-72	R	14	O-64	N/C	R	14	SW-2
I-19	S	15	I-29	O-73	S	15	O-65	TIM. TB1-4	S	15	SW-1
I-20	T	16	N/C	O-74	T	16	N/C	SW-17	T	16	TIM. TB1-1
I-21	U	17	I-30	O-67	U	17	O-66	TIM. TB1-3	U	17	TIM. TB1-7
I-22	V	18	N-38	N/C	V	18	O-75	MB LST. NO	V	18	TIM. TB1-15
N-39	W	19	N-31	N/C	W	19	TIMER STROBE	N/C	W	19	TIM. TB1-14
N-40	X	20	N-32	OUT.GND	X	20	TEST	N/C	X	20	TIM. TB1-12
N-41	Y	21	N/C	GND	Y	21	N/C	TIM. TB1-10	Y	21	TIM. TB1-9
N-42	Z	22	N-33	INVERSE	Z	22	DATA. OUT. 1	N/C	Z	22	TIM. TB1-11
N-43	a	23	N-34	P. SW. 8	a	23	DATA. OUT. 2	N/C	a	23	TIM. TB1-13
N-44	b	24	N-35	P. SW. 4	b	24	P. SW. 1	N/C	b	24	TIM. TB1-8
N-45	c	25	N-36	P. SW. 2	c	25	GAME # SW.	TIM. TB1-6	c	25	TIM. TB1-5

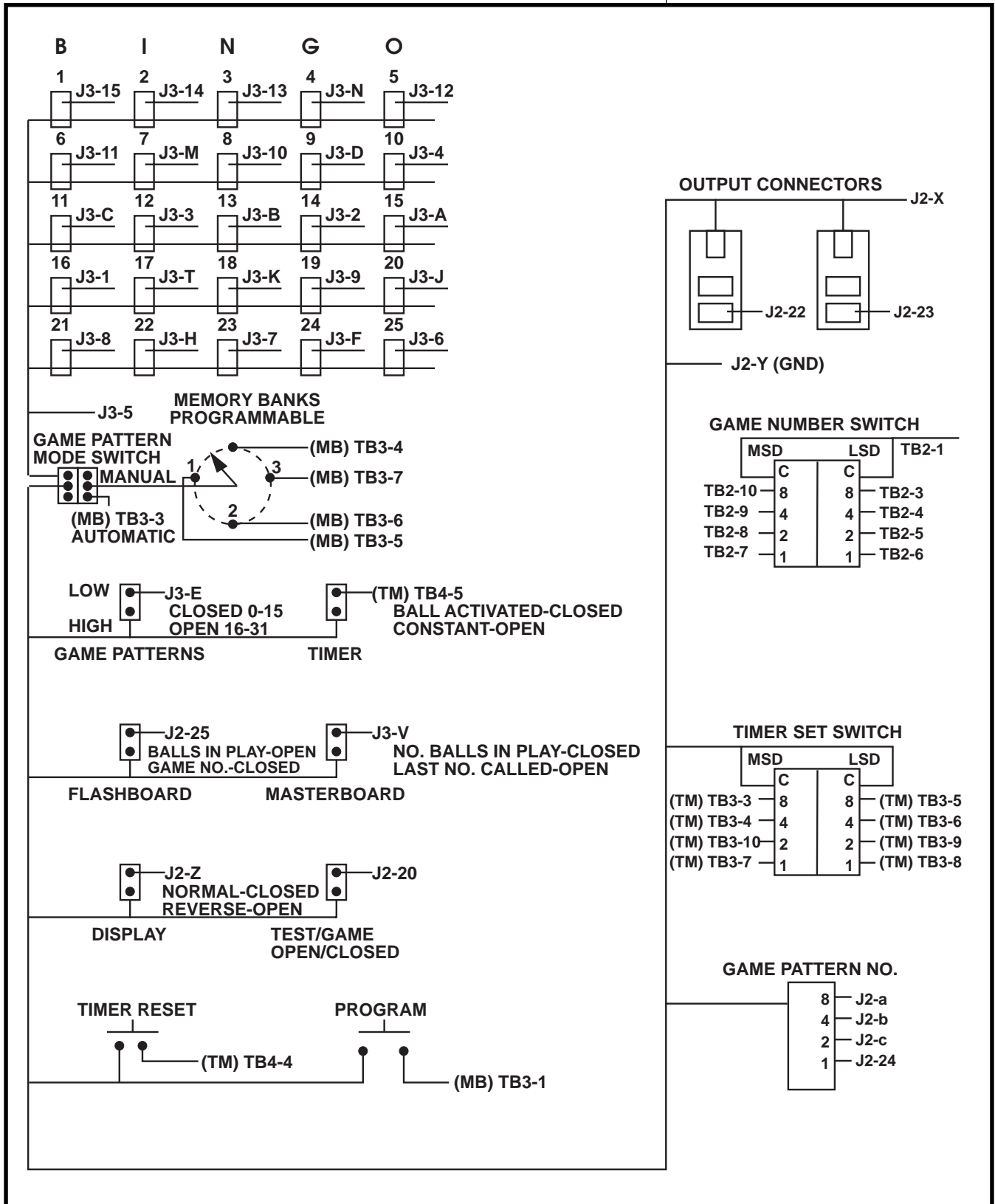
**RIBBON CABLE CONNECTIONS**

<u>B</u>	<u>I</u>	<u>N</u>	<u>G</u>	<u>O</u>	<u>RC1</u>	<u>RC2</u>	<u>RC3</u>	<u>RC4</u>
1-1	1-16	1-31	1-46	1-61	1-(TM)RC1-1	1-SW19	1-SW16	1-P.SW1
2-2	2-17	2-32	2-47	2-62	2-(TM)RC1-2	2-SW18	2-SW15	2-P.SW8
3-3	3-18	3-33	3-48	3-63	3-(TM)RC1-3	3-SW8	3-SW14	3-P.SW2
4-4	4-19	4-34	4-49	4-64	4-(TM)RC1-4	4-N.C.	4-SW13	4-P.SW4
5-5	5-20	5-35	5-50	5-65	5-(TM)RC1-5	5-SW7	5-SW12	5-MSD1 GAME #
6-6	6-21	6-36	6-51	6-66	6-(TM)RC1-6	6-SW6	6-SW11	6-MSD8
7-7	7-22	7-37	7-52	7-67	7-(TM)RC1-7	7-SW1	7-SW10	7-MSD2
8-8	8-23	8-38	8-53	8-68	8-(TM)RC1-8	8-SW17	8-SW9	8-MSD4
9-9	9-24	9-39	9-54	9-69	9-(TM)RC1-9	9-SW4	9-N.C.	9-LSD1
10-10	10-25	10-40	10-55	10-70	10-(TM)RC1-10	10-SW5	10-N.C.	10-LSD8
11-11	11-26	11-41	11-56	11-71	11-(TM)RC1-11	11-SW2	11-SW25	11-LSD2
12-12	12-27	12-42	12-57	12-72	12-(TM)RC1-12	12-SW3	12-SW24	12-LSD4
13-13	13-28	13-43	13-58	13-73	13-(TM)RC1-13	13-TIMER STROBE	13-SW23	13-LAST #(MB)
14-14	14-29	14-44	14-59	14-74	14-(TM)RC1-14	14-TB3-1	14-SW22	14-TEST
15-15	15-30	15-45	15-60	15-75	15-(TM)RC1-15	15-TB3-3	15-SW21	15-GAME #SW
16-GND	16-GND	16-GND	16-GND	16-GND	16-(TM)RC1-16	16-TB3-4	16-SW20	16-INVERSE

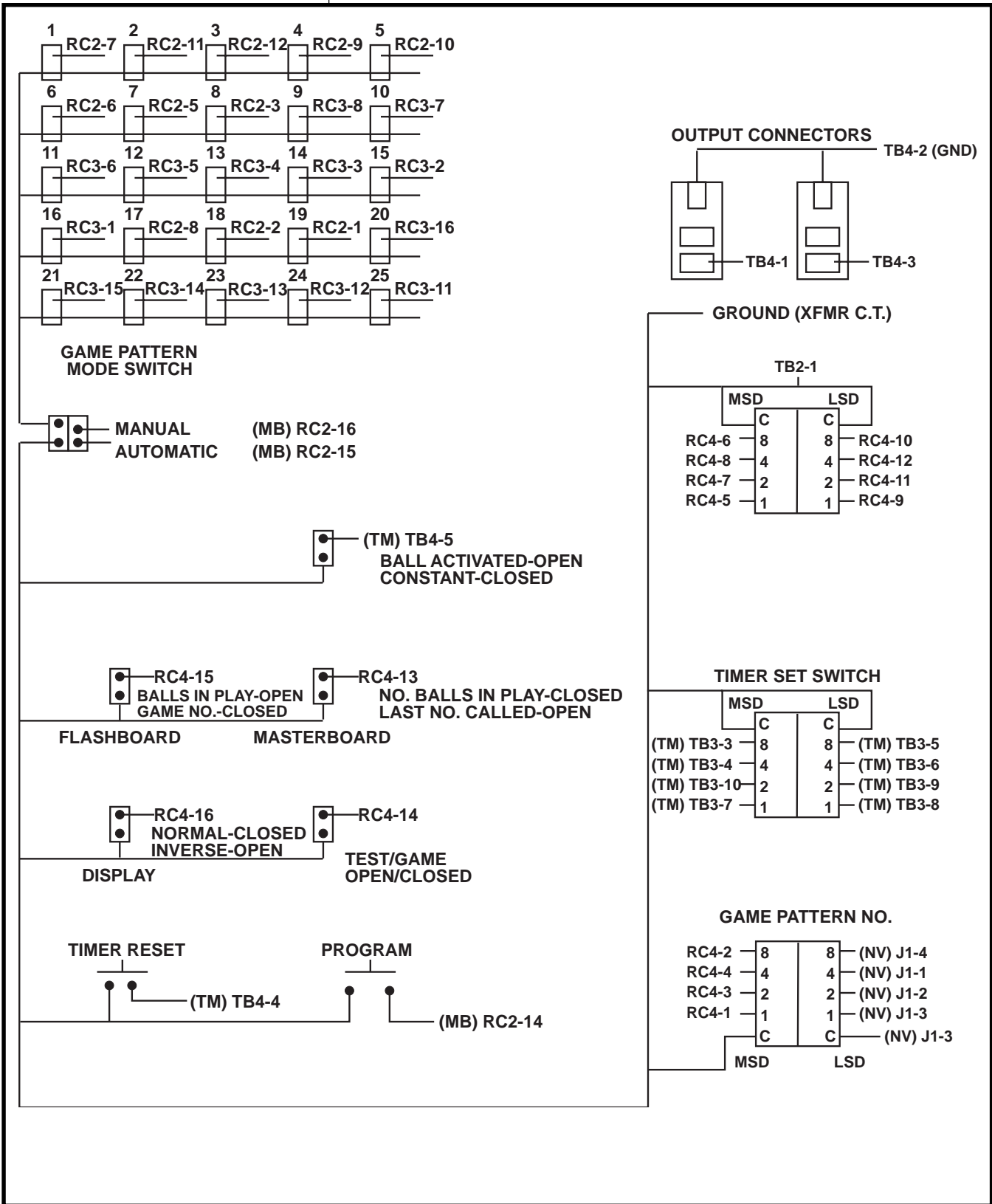
# W. AX AND NV LAYOUT



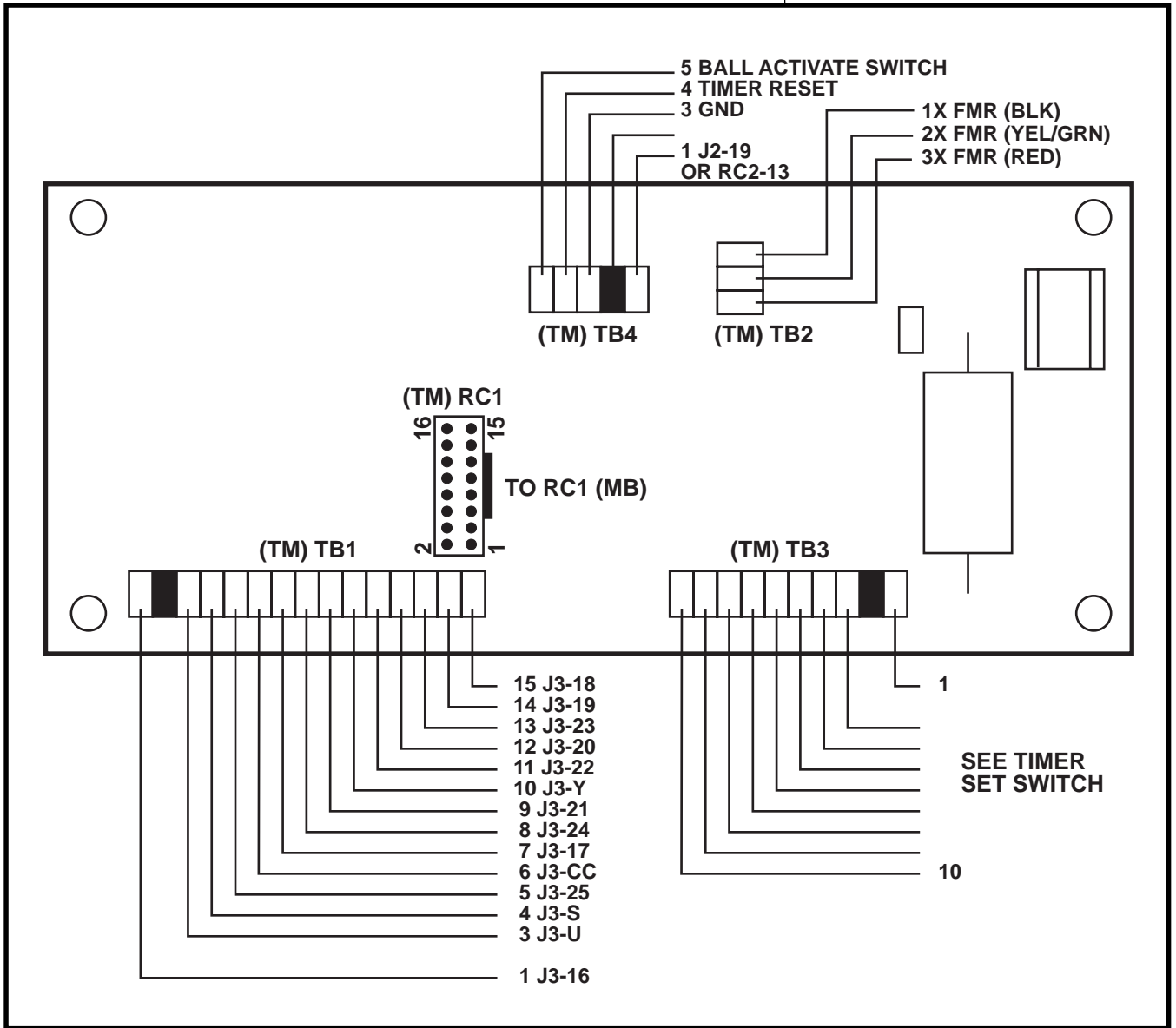
X. 96/32 SWITCHED GROUND INPUTS CONSOLE



## Y. 100 SWITCHED GROUND INPUTS RIBBON CABLE CONSOLE



Z. TIMER PC LAYOUT



# Capitol Bingo Equipment Limited Warranty

Set out below are the terms of the Limited Warranty made by Arrow International, Inc. ("Arrow") in connection with the sale of the Capitol Bingo Equipment (the "Equipment").

## 1. Limited Warranty

Arrow warrants to the original purchaser ("Purchaser") that the Equipment will, for a period of ONE (1) YEAR from the date of original purchase of any equipment in the product line from an authorized Arrow dealer, be free from manufacturing defects in material and workmanship. Purchaser represents to Arrow that no employee, agent, or representative of Arrow (or of an Arrow dealer) has made any representation or warranty regarding the Equipment except as set out herein.

This Limited Warranty applies to normal commercial use and does not cover failures or damage which (a) occur in shipment; (b) is caused by products not supplied by Arrow; or (c) result from accident, misuse, abuse, neglect, mishandling, misapplication, alteration, set-up adjustments or modifications. This Limited Warranty also does not cover (i) any damage to the Equipment resulting from failure to install in strict conformity with both local fire and building codes and regulations, (ii) if installation does not comply with the installation instructions provided by Arrow, or (iii) consumable items such as filters or bulbs.

## 2. Disclaimer of Warranties

ARROW MAKES NO WARRANTIES, EXPRESS OR IMPLIED (INCLUDING, WITHOUT LIMITATION, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR AGAINST INFRINGEMENT OF ANY PATENT), EXCEPT AS EXPRESSLY PROVIDED HEREIN. THE EXPRESS WARRANTIES PROVIDED HEREIN ARE IN LIEU OF AND EXCLUDE ALL OTHER WARRANTIES, GUARANTEES OR REPRESENTATIONS, EXPRESS OR IMPLIED, WHETHER ARISING BY OPERATION OF LAW OR OTHERWISE.

## 3. Limitation of Remedies

If the Equipment supplied does not conform to the Limited Warranty set out above, Arrow will, at its option, (a) repair or replace the Equipment, or part thereof, which is defective or (b) refund so much of the purchase price as Purchaser has paid for the defective Equipment, less 1/3rd of the purchase price for each month between the date of the purchase from an authorized Arrow dealer and the date of the discovery of the defect, provided that written notice of the defect and its nature is given to Arrow as soon as practical after discovery of the defect, but in no event later than 15 days from the date of the discovery of the defect.

## 4. Limitation of Liability

The remedy of repair, replacement, or refund of the purchase price is Purchaser's sole and exclusive remedy and will satisfy all of Arrow's liabilities, whether based on contract, negligence, tort, product liability, strict liability, or otherwise. IN NO EVENT WILL ARROW BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES, NOR WILL ITS INABILITY IN CONNECTION WITH ANY EQUIPMENT OR SERVICE SOLD (INCLUDING NONDELIVERY OR LATE DELIVERY THEREOF) EXCEED THE SALES PRICE OF SUCH EQUIPMENT OR SERVICE.

## 5. Warranty Voided

Any obligations of Arrow under this Limited Warranty will be deemed to have been satisfied if anyone other than an authorized Capitol Bingo Equipment Dealer services the Equipment.

## 6. Transfer Of Limited Warranty

Purchaser may transfer its rights under this Limited Warranty subject to the terms and conditions hereof, to a buyer ("Buyer") from Purchaser of the Equipment. Thereafter, the rights under this Limited Warranty are not

transferable. For the transfer by Purchaser of the Limited Warranty to be effective, the following conditions must have occurred no later than the 30th day following the date of resale to Buyer:

- A. Purchaser must have complied with all requirements to make the Limited Warranty effective as to Purchaser; and
- B. The Equipment (as an entire unit and as purchased by Purchaser) must be transferred to Buyer.

Upon an effective transfer of this Limited Warranty, Buyer will be considered to be "Purchaser" for paragraphs 1, 4 and 8 hereof.

## 7. Inspection

With respect to any claim that the Equipment is defective, Arrow will be allowed a reasonable time to inspect the Equipment, in place. If the Equipment is altered or removed before Arrow has made such inspection or waived its right to do so, the obligations of Arrow under this Limited Warranty will be deemed to have been satisfied.

## 8. Proof of Purchase

Notwithstanding anything to the contrary in this Limited Warranty, Purchaser must, upon Arrow's request, submit proof of original purchase (satisfactory to Arrow) of the Equipment. The Limited Warranty set out above shall not apply to, nor cover, any Equipment for which Purchaser is unable, upon Arrow's request, to supply such proof of purchase.

## 9. Limitation of Actions

Any legal action against Arrow for a default of its obligations under this Limited Warranty must be commenced within two years from the date the Equipment was sold by an authorized dealer of the Equipment.

## 10. How to Obtain Service

If a Problem with this Equipment develops during or after the warranty period, proceed as follows:

- A. Refer to your Operator's Manual and follow the Troubleshooting Table within the "Care and Maintenance" section.
- B. Contact the authorized Capitol Bingo Equipment Distributor from whom you purchased the Equipment.
- C. Contact the Capitol Bingo Equipment Service Manager at the most convenient phone number listed below:
  - 1 (800) 321-0757 outside Ohio, but within the U.S.A.
  - 1 (800) 537-3479 within the state of Ohio
  - 1 (216) 961-3500 within the 216 area code or  
outside the continental U.S.A.
  - 1 (216) 961-3641 fax number in Cleveland, Ohio
  - 1 (800) 387-7621 within Ontario
  - 1 (519) 770-4621 outside Ontario, but within Canada
  - 1 (905) 670-0324 fax number in Canada

SERVICE CALLS WHICH DO NOT INVOLVE DEFECTIVE MATERIALS OR WORKMANSHIP AS DETERMINED BY ARROW IN ITS SOLE DISCRETION, ARE NOT COVERED. COST OF SUCH SERVICE CALLS ARE THE RESPONSIBILITY OF THE PURCHASER.

Arrow wants you to remain a satisfied customer. If a problem occurs that cannot be resolved to your satisfaction, please contact us immediately, Phone one of the numbers listed above or write to:

Capitol Bingo Equipment Division	Arrow Games (Canada) Inc.
C/o National Service Manager	1245 Lorimar Drive
9900 Clinton Road	Mississauga, Ontario
Cleveland, Ohio 44144	L5S 1R2

Please be sure to include the name, model number, serial number, date of original purchase, and the distributor from whom you purchased the Equipment, as well as any actions taken to correct the problem.



**WARNING:**

You must keep your receipt or invoice for proof of purchase in order to insure proper warranty coverage.

ARROW INTERNATIONAL, INC. /ARROW GAMES (CANADA) INC.

and our subsidiaries

CAPITAL GAME MANUFACTURING

9900 Clinton Rd., Cleveland, Ohio 44144

1 (800) 321-0757 outside Ohio, but within the U.S.A.

1 (800) 537-3479 within the state of Ohio

1 (216) 961-3500 within the 216 area code or outside the continental U.S.A.

1 (216) 961-3641 U.S. FAX

1 (800) 387-7621 within Ontario

1 (519) 770-4621 outside Ontario, but within Canada

1 (519) 770-4872 Canada FAX

**[www.arrowinternational.com](http://www.arrowinternational.com)**

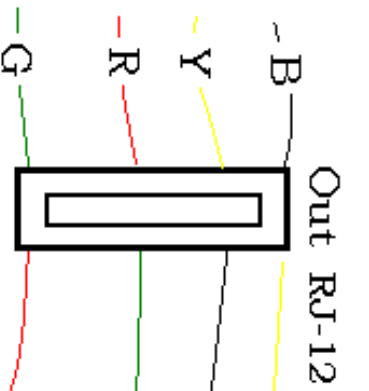


**Arrow Technical Assistance Center**  
*Protecting Your Investment Through  
Innovative Solutions and Support*

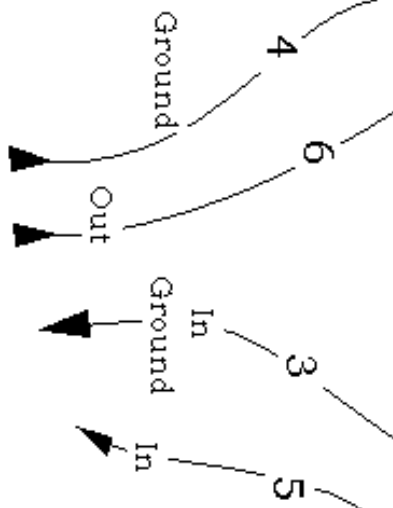
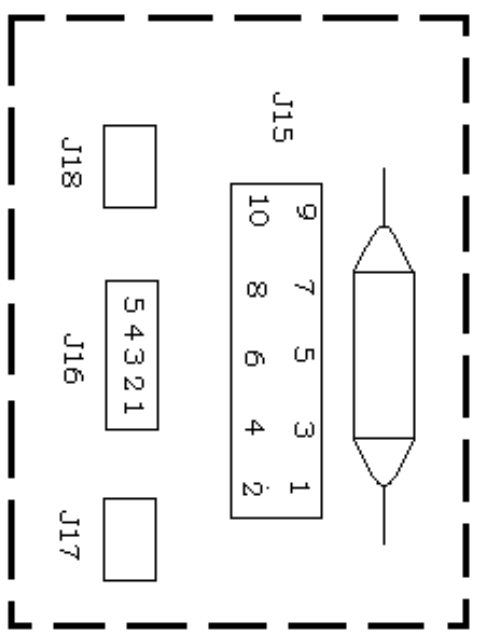
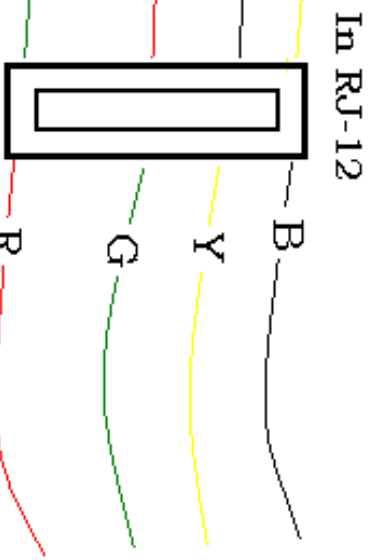
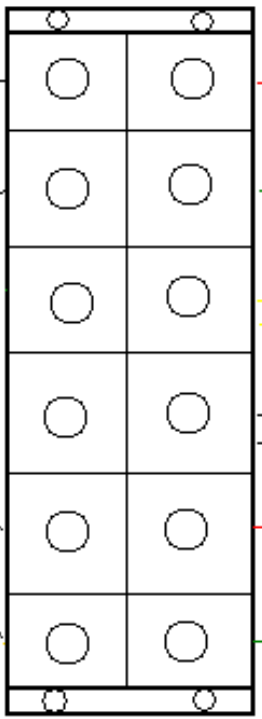
Phone Support Hours: 8:00 AM to 12:00 AM  
**800-277-6214**  
[www.arrowinternational.com](http://www.arrowinternational.com)

# Appendix A

B Black  
 R Red  
 G Green  
 Y Yellow

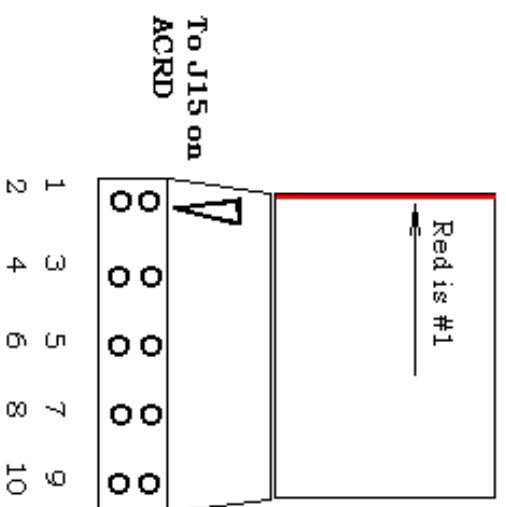


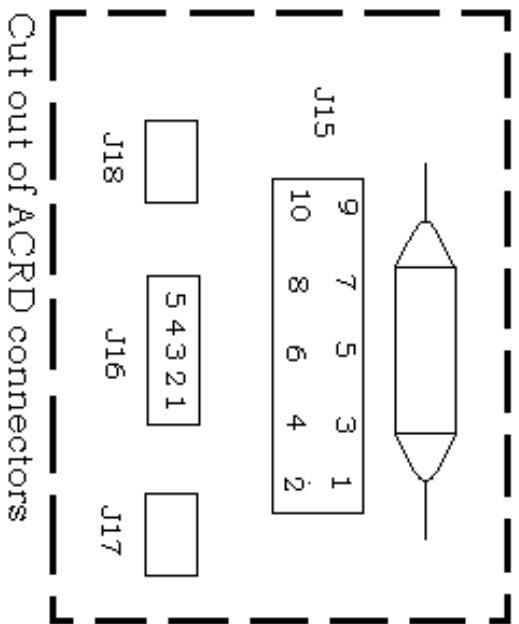
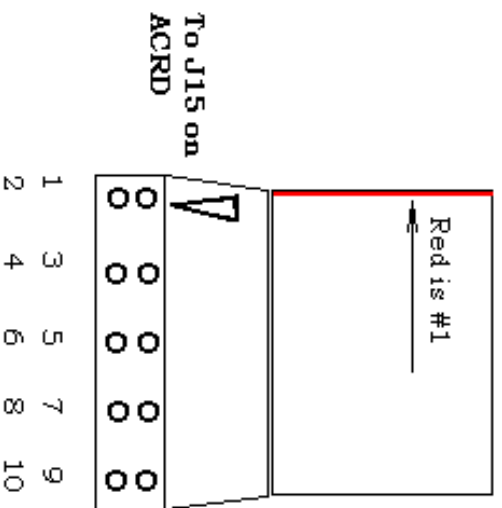
Yellow & Black are Presidential signals being looped back out.



Part # 446622

4" Dollar Value  
 Access Flashboard  
 Input/Output Harness





**4" Access GI I/O harness**

**Part # 446621**

