

GOOFY HOOPS



ROMSTAR®

Preliminary Manual — April, 1994
Romstar® GOOFY HOOPS™
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GOOFY HOOPS™

Redemption Game

By **ROMSTAR®**

Preliminary Manual April, 1994

EPROMS and JUMPERS

EPROMS -- When ordering a replacement EPROM, indicate the PC board that it is used on, the location of the EPROM IC (its U Number), and the EPROM's label information.

PC BOARD JUMPERS -- None

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Before energizing Goofy Hoops, read the following:

Line Voltage and Coin Acceptors.

In the USA, this game requires 110-120 VAC 60Hz input voltage. If you are in an area that uses 220-240 VAC, the power supply transformer must be rewired for 220-240VAC. See the enclosed wiring diagram.

The coin acceptor is intended for US quarter dollars. If different coins are used, an appropriate coin acceptor must be installed.

The front door key is in the front door return slot. The cash box key is on the front door keyhook. The cabinet keys are in the cash box.

AC Power Line

Before plugging GOOFY HOOPS into the supply line, be sure that the AC line voltage in your location is correct. Line voltage requirements are specified in this manual.

CAUTION: The coin door and ticket door must be properly grounded to avoid against electrical shock hazard. After ensuring that the game is properly grounded, it may be plugged into the AC line voltage supply. This game should only be plugged into a grounded three-wire outlet. If you only have a two-wire outlet, it must be replaced with a three-wire grounded outlet. After servicing, check that the grounding wires are still properly secured to solid metal surfaces.

Disconnecting AC Line During Repairs

Disconnect GOOFY HOOPS from the AC power line before removing or repairing any part of the game. The power supplies can retain charge for a while after disconnecting AC power. Discharge the power supply filters and any circuitry that they are connected to.

Replacement Fuses

Use replacement fuses as specified in this manual. Replacement fuses must be the same types and have the same characteristics as those that they replace. A bag of spare fuses (and four extra balls) is supplied with the game.

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<u>Characteristic</u>	<u>Specification</u>
Power consumption	290 Watts
Line voltage	115 VAC 60 Hz (Domestic) 210 - 230 VAC 50 Hz (Foreign)
Height	78.5", 199.39 cm
Width	26", 66.06 cm
Depth	22.5", 57.15 cm
Shipping weight (crated)	250 lbs., 93.31 kg
weight (uncrated)	225 lbs., 83.97 kg

Installation and Assembly

Carefully unpack your GOOFY HOOPS game. The GOOFY HOOPS game is enclosed in an full-length wrap-around cardboard sleeve resting on a cardboard platform, with some cardboard braces and a top cover. Cut the sleeve loose from the bottom cardboard platform. If this machine is in a room with a 16-foot high ceiling, the sleeve may be lifted straight up and off. It is more typical to slit the sleeve all the way up on one side, and then just unwrap it from the machine. (Remove the top cover first.) If instead, you wish to retain the packing intact, proceed as follows:

1. Cut the wraparound sleeve loose from the bottom cardboard platform.
2. Two or more people can then carefully lay the machine on its back, and then slide it out from the cardboard sleeve. It weighs about 225 pounds, so use an appropriate set of braces or rollers while sliding GOOFY HOOPS out of the cardboard sleeve.
3. Stand the machine upright again on a level surface. Be certain that the surface is flat and level, and that the machine cannot accidentally tip over.

This equipment should be installed on a level surface. A source of grounded 60 Hz, 115 VAC should be available if installed in the United States. The unit's power transformer is designed to work from a source of 50 or 60 Hz, 110 to 230 VAC. There are taps on the power transformer for different line voltages. An 8-ampere line fuse must be used with a supply voltage of 110 - 120 VAC, and a 4-ampere fuse should be used with a 205 - 230 VAC supply line. The supply voltage line should be properly grounded, and the machine must be installed on a dry, electrically neutral mounting surface.

CAUTION: Do not place a small stepstool in front of the machine for short players. Use a large platform, at least 3 feet wide by 2 feet deep, and no more than 8 inches in height.

WARNING! Inspect the GOOFY HOOPS game carefully before plugging it into a power outlet. Go through the following inspection steps to ensure that the game is complete and in good condition.

Before energizing:

1. Check the cabinet exterior for cracks, dents, or chips.
2. **Key Locations:** The front door key is in the front door return slot. The cash box key is on the front door keyhook. The cabinet and ticket dispenser keys are in the cash box. Check that all locks (and keys) work properly, and that all doors are firmly seated when closed.
3. Check the power cord for abrasions or cuts.
4. Install tilt plumb bob into tilt assembly and adjust height and center tilt wire. The tilt plumb bob is located in the game envelope.
5. Check that the power supply has the correct fuses installed. Check that the ground wires are properly connected.
6. Check the ticket drive, printed circuit boards, speakers, and ball kicker mechanism.
7. Position the game in the desired location. The four leg levelers were shipped screwed into their respective positions, but inside the game's cabinet. Remove and install the levelers on the bottom of the game, and then level the game.
8. Check that the ball eject mechanism operates properly. (4 Balls are stored in a game envelope for shipment.)

8. If the above steps have been completed then you can power up the game. The power switch is on the back of the cabinet, toward the right side (as viewed from the front), about waist high. If there are any problems, see the troubleshooting section of this manual for help.
9. Play a couple of games to familiarize yourself with the general game functions as described in the Game Play Descriptions of this manual. If there are any problems, call your distributor or the authorized Romstar Service representative at 1 (708) 797-6136.
10. Check to see if the game is leaning in any direction. If it is, level the game as required.

MAINTENANCE

This game should provide long, trouble-free service. However, because it is a mechanical device, the game requires proper servicing of its mechanical parts, as follows:

1. Clean ball return area.
2. Clean thoroughly around ball release solenoid and check for proper solenoid switch activation.
3. Clean all glass daily.
4. Clean all ball drop lanes weekly.
5. Clean outside of game cabinet daily.
6. Check monthly for unusual wear in mechanics, pulleys and switches, and springs. Order replacements as necessary.

GOOFY HOOPS

Goofy Hoops is a basketball game that can be set up as a redemption game to yield prize tickets. As a ball travels downward during the game, the player uses the joystick to position the moving basket so that the ball will drop through the basket. The path that the ball takes before it reaches the basket determines the point score obtained if the ball drops through the basket. Extra points are earned if the player positions the basket so that the ball drops through it after the ball has dropped through one of the paths that contain any of the letters in the S·L·A·M display. If a player can catch balls that drop past all four letters of the S·L·A·M display, extra points are earned.

Goofy Hoops is an operator-friendly game with the option of being either a redemption game or a non-redemption street game.

Easy Operator Adjustments

Simply unscrew the plastic Lane Values strip containing the values that are no longer wanted, and replace the strip with one containing optional values, or customize your own lane value strip with manufactured-supplied stickers. Changes must then also be made in the Game Settings portion of the Setup procedure to match the new values shown on the plastic Lane Values strip.

Goofy Hoops Bonus

- Catch 10 Balls and win:
 - 1,000 tickets
 - 500 tickets
 - 250 tickets
 - 100 tickets
 - 100 points (non-redemption street game)

The amounts that can be won are operator-adjustable, and may be set up or changed to match the selected plastic Lane Values strips in the setup adjustments.

A game play instructional label appears near the operator's controls on the front panel, as shown below.

GOOFY HOOPS

INSTRUCTIONS FOR PLAY

1. Catch 10 balls for GOOFY HOOPS bonus
2. Catch S-L-A-M, collect SLAM DUNK value
3. See display for S-L-A-M values
4. Catch free throws, earn SHOOT-OUT bonus
5. Catch ball with flashing HOOP, collect double
6. Catch flashing lane collect lit value!

Play Instructions for Goofy Hoops Redemption Game

Only one 25 ¢ coin is needed to play, but you increase the number of tickets you can win by depositing more coins. This also increases your S-L-A-M dunk ticket quantity if awarded. Up to 150 tickets can be won by using this feature.

Slam-dunk tickets are awarded if the player catches balls that fall through the S-L-A-M lanes. The number of tickets awarded and S-L-A-M lane values are operator adjustable.

After depositing coins, pressing the Start button shoots the first of ten balls, one at a time, to the top of the playfield. The player's object is to move the basket left or right to catch the falling balls in order to score as many baskets as possible. The number of tickets that are won is determined by the number of baskets made. Catching balls that fall through lighted lanes awards a number of tickets equal to the value of the lighted number. If the backboard is flashing, the number of tickets awarded is doubled.

If a whistle blows, signaling that a foul is called during play, you will receive a "Free Throw Shoot Out," which is one or two free balls. If you catch ten balls during game play, you can collect "GOOFY HOOPS BONUS" of up to 500 tickets, (the number of tickets awarded is operator adjustable.)

Play Instructions for Goofy Hoops Non-Redemption Game

Pricing Option

Game cost is 50 ¢ for a one player game (Operator Adjustable), and \$1.00 a game for a two-player game (Operator Adjustable).

Each game has 4 quarters of play, with 10 balls per quarter, with a possibility of earning 1 or 2 free throws for 1 or 2 extra balls. If a player catches 10 balls in any one quarter of game play, the player can collect either a "Goofy Hoops Bonus" of 100 points (adjustable) or a free replay. The operator adjustable point scoring varies with which lane the ball goes through before scoring a basket. Getting two or more consecutive baskets causes the Backboard to flash, indicating a double lane value. (Operator adjustable.)

Slam Dunk

Slam Dunk feature: Spell slam by catching balls that pass through the S-L-A-M lanes. The balls don't have to drop through the lanes in any particular order, and they don't have to be consecutive. As long as baskets are scored on balls that drop through all four of the S-L-A-M lanes, the awarded game score is doubled. Spelling S-L-A-M doubles your entire score. S-L-A-M lanes stay in memory or may be reset game quarter to game quarter (operator adjustable).

Two-player game

For a two-player game, the players take turns. Player 1 plays the first quarter of a game, and then player 2 plays the first quarter of a game. (A game takes eight quarters of play to complete) The players continue until a game has been completed.

Replay

The Replay setting is operator adjustable from off (for none) up to 999.999 points in increments of 1 point.

Game Setup and Diagnostics

- A. Bookkeeping Menu
 - A.1 General Audits
 - A.2 Game Audits
- B. Adjustments Menu
 - B.1 Quick Configure
 - B.2 Language Adjustments
 - B.3 Game Adjustments
 - B.4 Configure Coinage
 - B.5 Custom Messages
 - B.6 Special Functions
- C. Password Adjustments
 - C.1 Audits Password

Diagnostics

Ticket Dispenser Jams, is Low on Tickets, or Empty

Diagnostics Displays

Power Up Diagnostics

- D. Diagnostics Menu
 - D.1 Switches
 - D.2 Lamps
 - D.3 Solenoids
 - D.4 Display
 - D.5 Music/Sounds
 - D.6 Ticket Dispenser

Menu System

There is a test button control panel behind the left edge of the coin door. There are four pushbutton controls on the test button control panel. The one closest to the front door is a control for adjusting the number of SERVICE CREDITS. The next one is a volume up control, and the one after that is a volume down control. The fourth pushbutton, labeled BEGIN TEST, is for diagnostics. To set up, adjust or modify the game, press the Diagnostics (BEGIN TEST) pushbutton. The visual display near the top of the game will then show the initial screen of the setup Main Menu:

MAIN MENU	V1.0 1994
> A. BOOKKEEPING MENU B. ADJUSTMENTS MENU C. PASSWORD MAINTENANCE D. DIAGNOSTICS MENU	
JOYSTICK < OR > TO SELECT LINE START TO EXIT - PLAYALL TO ACCEPT	

A. Bookkeeping Menu

Use the joystick to select a menu topic. Move it left to go up, or right to go down. Press the Play All button to the right of the joystick to Enter your selection, and press the Start button to the left of the joystick to cancel or go back one level. With the pointer at selection A, press the Play All button to access the Bookkeeping menu. The screen shows:

A. BOOKKEEPING MENU	V1.0 1994
> A.1 GENERAL AUDITS A.2 GAME AUDITS	
JOYSTICK < OR > TO SELECT LINE START FOR MAIN MENU - PLAYALL TO ACCEPT	

A.1 General Audits Menu

To select the first topic (with the pointer at A.1), press the Play All button. The display changes to the General Audit screen. If the Audits Display is password-protected, a password screen appears. If an incorrect password is then entered, an Access Denied! message appears on the screen. If the correct password is entered, The display changes to:

A.1	GENERAL AUDITS	V1.0 1994
TOTAL EARNINGS		\$ 0.00
TOTAL TICKETS		0
TICKETS DISPENSED		0
TOTAL FREE CREDITS		0
		00.00 %
JOYSTICK < OR > TO SELECT LINE		

TOTAL EARNINGS

Displays the total earnings from the machine's coin chutes since the last reset. This amount is displayed in dollars and cents for the USA, and in Pesos for Mexico.

TOTAL TICKETS

The first number displayed shows the number of tickets dispensed *or* handed out for each coin taken in. (In the USA, this number equals tickets per quarter dollar. The second number shows the total number of tickets awarded (either dispensed *or* handed out).

TICKETS DISPENSED

The first number shows the number of tickets dispensed only per coin taken in. The quantity shown is tickets per coin (In the USA, this number equals tickets per quarter dollar.) The second number shows the total number of tickets that have been dispensed only.

TOTAL FREE CREDITS

Shows the total number of free credits awarded (the percentage shown is per played credits)

A.2 Game Audits

To return to the Main Menu screen, press the Start button. To select the second menu topic, move the joystick to the right to move the cursor down to the Game Audits selection. Then, press the Play All button. The screen shows:

A.2 GAME AUDITS		V1.0 1994
TOTAL 1ST COIN CHUTE		0
TOTAL 2ND COIN CHUTE		0
TOTAL 3RD COIN CHUTE		0
TOTAL 4TH COIN CHUTE		0
TOTAL COIN CREDITS		0
TOTAL PLAYED CREDITS		0
JOYSTICK < OR > TO SELECT LINE		

(To return to the Bookkeeping Menu screen at any time, press the Start button.)

TOTAL 1ST - 4TH COIN CHUTE

The first four items show the total number of coins that have been deposited in each coin chute.

TOTAL COIN CREDITS

Displays the total number of credits generated by coins only.

TOTAL PLAYED CREDITS

Displays the total number of credits played.

To go on to the next screen, move the joystick to the right. The screen shows:

A.2 GAME AUDITS		V1.0 1994
TOTAL NO CHARGE CREDITS	0.00 %	0
TOTAL FREE PLAY CREDITS	0.00 %	0
TOTAL 1 PLAYER GAMES		0
TOTAL 2 PLAYER GAMES		0
TOTAL BASKETBALL, QUARTERS STARTED		0
TOTAL 1 CREDIT GAMES	0.00 %	0
JOYSTICK < OR > TO SELECT LINE		

TOTAL NO CHARGE CREDITS

Shows the total number of credits that have been generated by the Service Credit switch behind the coin door (percentage shown on the screen is per played credits).

TOTAL FREE PLAY CREDITS

Total number of credits given by free play adjustment (percentage shown is per played credits).

TOTAL 1 PLAYER GAMES

TOTAL 2 PLAYER GAMES

Shows the number of 1 or 2 player games that have been played.

NOTE: 2 player game requires 2 credits.

TOTAL BASKETBALL QUARTERS STARTED

Displays the total number of basketball game quarters that have been started.

TOTAL 1 CREDIT GAMES

For redemption games, this is the number of games that have been played at 1 credit for the slam bonus. (The percentage shown on the display is per played credits.)

To continue to the next screen, move the joystick to the right. The screen shows:

A.2 GAME AUDITS		V1.0 1994
TOTAL 2 CREDIT GAMES	0.00 %	0
TOTAL 3 CREDIT GAMES	0.00 %	0
TOTAL 4 CREDIT GAMES	0.00 %	0
NBR. OF 10 BASKETS AWARDED	0.00 %	0
NBR. OF REPLAY AWARDS	0.00 %	0
QTY. OF H.S.T.D. AWARDS	0.00 %	0
JOYSTICK < OR > TO SELECT LINE		

TOTAL 2 - 4 CREDIT GAMES

For redemption games, these are the number of games that have been played at 2 to 4 credits for the slam bonus. (The percentages shown on the display are per played credits)

NBR. OF 10 BASKETS AWARDED

Shows the total number of games in which 10 baskets were caught. (The percent shown is per played credits.)

NBR. OF REPLAY AWARDS

For non-redemption games, this quantity shows the total number of replay games that were awarded. (The percent shown is per played credits.)

QTY. OF H.S.T.D. AWARDS

Total number of H.S.T.D. (High Score to Date) credits/tickets awarded, (The percent shown is per played credits,)

To continue to the next screen, move the joystick to the right. The following screen is displayed:

A.2 GAME AUDITS		V1.0 1994
MINIMUM OR GAME START TICKETS	0.00	0
LANE TICKETS	0.00	0
BASKET TICKETS	0.00	0
FREE THROW SHOTS		0
TOTAL TILTS		0
1 BASKET GAMES	0.00 %	0
JOYSTICK < OR > TO SELECT LINE		

MINIMUM OR GAME START TICKETS

Total number of tickets dispensed by the TICKETS FOR STARTING A GAME adjustment and by the MINIMUM TICKETS TO AWARD AT GAME OVER adjustment.

LANE TICKETS

Total number of tickets awarded from all 8 lanes combined. The first number shown is tickets per base coin (25 cents in USA). The second number is the total number of tickets.

BASKET TICKETS

Shows the total number of tickets that have been awarded from just catching a ball (0.00 is the number of tickets per 25 ¢ coin [USA] for a Basketball game quarter).

FREE THROW SHOTS

Total number of free throws awarded.

TOTAL TILTS

Total number of tilts that have occurred.

1 BASKET GAMES

Distribution of balls caught in a game (for games in which 1 ball was caught).

To continue to the next screen, move the joystick to the right. The screen shows:

A.2 GAME AUDITS		V1.0 1994
2 BASKET GAMES	0.00 %	0
3 BASKET GAMES	0.00 %	0
4 BASKET GAMES	0.00 %	0
5 BASKET GAMES	0.00 %	0
6 BASKET GAMES	0.00 %	0
7 BASKET GAMES	0.00 %	0
JOYSTICK < OR > TO SELECT LINE		

2 - 7 BASKET GAMES

This screen shows the Distribution of balls caught in a game (for games in which 2 - 7 balls were caught).

To continue to the next screen, move the joystick to the right. The screen shows:

A.2 GAME AUDITS		V1.0 1994
8 BASKET GAMES	0.00 %	0
9 BASKET GAMES	0.00 %	0
10 BASKET GAMES	0.00 %	0
11 BASKET GAMES	0.00 %	0
12 BASKET GAMES	0.00 %	0
1 S.L.A.M. LETTER AWARDED	0.00 %	0
JOYSTICK < OR > TO SELECT LINE		

8 - 12 BASKET GAMES

Shows the Distribution of balls caught in a game (for games in which 8 - 12 balls were caught).

1 S.L.A.M. LETTER AWARDED

Shows the total number of awards (points or tickets) for balls caught beneath any one of the S.L.A.M. letters in any order.

To continue to the next screen, move the joystick to the right. The screen shows:

A.2 GAME AUDITS		V1.0 1994
2 S.L.A.M. LETTERS AWARDED	0.00 %	0
3 S.L.A.M. LETTERS AWARDED	0.00 %	0
4 S.L.A.M. LETTERS AWARDED	0.00 %	0
TOTAL NBR. OF S.L.A.M. AWARDS	0.00 %	0
TOTAL QTY. OF S.L.A.M. TICKETS	0.00	0
S.L.A.M. AWARDED AT 1 CREDIT	0.00 %	0
JOYSTICK < OR > TO SELECT LINE		

2 - 4 S.L.A.M. LETTERS AWARDED

Shows the total number of awards (points or tickets) for balls caught beneath any 2 to 4 of the S.L.A.M. letters in any order.

TOTAL NBR. OF S.L.A.M. AWARDS

Total times S.L.A.M. bonus occurred. The first number is the percent per played credits The second number is the total.

TOTAL QTY. OF S.L.A.M. TICKETS

Total ticket/credit awards of S.L.A.M. bonus (at any level) The first number is tickets per base coin (quarter dollars in USA). The second number is the total.

S.L.A.M. AWARDED AT 1 CREDIT

Total times S.L.A.M. bonus occurred at 1 credit (percent is per played credits)

To continue to the next screen, move the joystick to the right. The screen shows:

A.2 GAME AUDITS		V1.0 1994
S.L.A.M. AWARDED AT 2 CREDITS	0.00 %	0
S.L.A.M. AWARDED AT 3 CREDITS	0.00 %	0
S.L.A.M. AWARDED AT 4 CREDITS	0.00 %	0
TOTAL GOOFY BALLS KICKED		0
1 LANE SW.	0.00 %	0
2 LANE SW.	0.00 %	0
JOYSTICK < OR > TO SELECT LINE		

S.L.A.M. AWARDED AT 2 - 4 CREDITS

Total times S.L.A.M. bonus occurred at 2- 4 credits (percent is per played credits).

TOTAL GOOFY BALLS KICKED

Number of main kicker kicks.

1 LANE SW., and 2 LANE SW.

Itemized switch closure for each lane opto (percent is per total lane switches).

To continue to the next screen, move the joystick to the right. The screen shows:

A.2 GAME AUDITS		V1.0 1994
3 LANE SW. (S)	0.00 %	0
4 LANE SW. (L)	0.00 %	0
5 LANE SW. (A)	0.00 %	0
6 LANE SW. (M)	0.00 %	0
7 LANE SW.	0.00 %	0
8 LANE SW.	0.00 %	0
JOYSTICK < OR > TO SELECT LINE		

3 - 8 LANE SW.

The display shows the itemized switch closure for each lane opto (percent is per total lane switches).

To continue to the next screen, which is the last screen of the Game Audits display, move the joystick to the right. The screen shows:

A.2 GAME AUDITS		V1.0 1994
FREE THROW SW. RIGHT		0
FREE THROW SW. LEFT		0
JOYSTICK < OR > TO SELECT LINE		

FREE THROW SWITCH RIGHT
FREE THROW SWITCH LEFT

Total free throw switch closures from left or right side.

These are the last of the Game Audit screens. Moving the joystick to the right at this point will cause the display to go back to the Bookkeeping Menu. Press START to return to the Main Menu.

B. Adjustments Menu

Move the joystick to the right to move the cursor to: B. Adjustments Menu. Press the Play All button. The screen shows:

B.	ADJUSTMENTS MENU	V1.0 1994
> B.1	QUICK CONFIGURE	
B.2	LANGUAGE ADJUSTMENTS	
B.3	GAME ADJUSTMENTS	
B.4	CONFIGURE COINAGE	
B.5	CUSTOM MESSAGES	
B.6	SPECIAL FUNCTIONS	
JOYSTICK < OR > TO SELECT LINE START FOR MAIN MENU - PLAYALL TO ACCEPT		

B.1 Quick Configure

With the cursor at the first entry choice, press the Play All button. The display changes to the first Quick Configure Screen:

B.1 QUICK CONFIGURE	V1.0 1994
#1 CONFIGURE COUNTRY USA	
JOYSTICK < OR > FOR NEXT ADJUSTMENT PRESS START FOR MENU - PRESS PLAYALL TO EDIT	

#1 CONFIGURE COUNTRY

This screen allows the operator to select the proper language and coins for either Mexico or the USA, or to use the CUSTOM setting.

Selections:

- CUSTOM** -- Ignores language and coin settings, and allows the operator to customize the CONFIGURE GAME TO screen.
- USA** -- This choice sets language adjustments to English, and coin adjustments to:
 - USA REDEMPTION GAME** -- 1 credit for 25 ¢,
4 credits for 1 dollar
 - USA NON-REDEMPTION GAME** -- 1 credit for 50 ¢,
2 credits for 1 dollar
- MEXICO** -- Sets language adjustment to SPANISH and coin adjustments to: 1 credit for NS 0.50 for the redemption game, or 1 credit for NS 1.00 for the non-redemption game

To accept the screen choice USA and return to the Adjustments Menu; press Start. Otherwise, press Play All to change country, and move the joystick left or right to select CUSTOM or MEXICO. After your choice appears on the screen, press Play All to Enter (accept) that choice. The screen changes to:

ARE YOU SURE? Press Play All to accept.

If Mexico was selected for the Configure Country screen, all subsequent screens will appear in Spanish.

Next, move the joystick to get to:

#2 CONFIGURE GAME TO

This is the first screen for the master configuration of the whole game. The type of game to be played appears on the screen. If you want a game that is different from the one that first appears on the screen, press Play All. Then, move the joystick left or right for the other choices. The choices are:

REDEMPTION - A 1 player ticket redemption game.

NON-REDEMPTION - A 1 or 2 player non-redemption game.

REDEMPTION PROMOTION

A 1 player Free Play Mode redemption game that offers 1 ticket for obtaining the S.L.A.M. Bonus (catching balls through all four of the S.L.A.M. lanes). When the S.L.A.M. bonus is awarded, the message that has been entered in the Adjustments Menu: B.5 CUSTOM MESSAGES "Promotional Message #1" category appears on the screen. (Use the custom messages to advertise the game when the game is in the Attract Mode.)

CUSTOM - Selecting CUSTOM provides access to adjustment screens 2a and 2b.

#2a GAME RULES

Selects the game rules. The selections are:

- REDEMPTION** (on a single player game)
- NON-REDEMPTION** (up to a 2 player game)

#2b PROMOTIONAL GAME

When set to YES, this adjustment displays the promotional message for the S.L.A.M. Bonus. The selections are:

- YES** - promotional game
- NO** - normal game

When the type of game that you want appears on the screen, press Play All.

The next screen asks: **ARE YOU SURE?**

Press Play All again. Then move the joystick to get:

#3 CONFIGURE LANES TO --

This screen allows changes in setting the overall configuration, or point score values, of all 8 lanes that the balls drop through, to match the values shown on specific plastic overlays. It also allows for setting whether 0 or 1 ticket is awarded if a player catches a ball (makes a basket) from any Lane.

The lane point value selection choices are:

- 2 4 2 2 2 2 4 2 basket = 0
- 2 4 2 2 2 2 4 2 basket = 1
- 1 2 1 1 1 1 2 1 basket = 0
- 1 2 1 1 1 1 2 1 basket = 1
- 2 3 2 3 3 2 3 2 basket = 0
- 2 3 2 3 3 2 3 2 basket = 1

To change the point score values that first appear on the screen, move the joystick left or right until the values that you want appear, and then press Play All. Press it again at the **ARE YOU SURE?** screen.

After the sixth lane configuration display, moving the joystick to the right once more will cause the screen to show:

#3 CONFIGURE LANES TO CUSTOM --

This screen provides access to adjustments 3a to 3k. To edit or view 3a to 3k, press Play All twice. Then, move the joystick to access each of the following screens:

- #3a TICKETS - LANE 1
- #3b TICKETS - LANE 2
- #3c TICKETS - LANE 3 (S)
- #3d TICKETS - LANE 4 (L)
- #3e TICKETS - LANE 5 (A)
- #3f TICKETS - LANE 6 (M)
- #3g TICKETS - LANE 7
- #3h TICKETS - LANE 8

The number of tickets awarded for each of these lanes (When making a basket beneath them) when they are lighted can be varied from 0 to 50 tickets.

The next screen shows:

#3i TICKETS PER BASKET

Indicates the amount to be awarded for just making a basket.

DBL - 1 This means that a flashing "double value" basket is worth at least 1 ticket.

Selections: 1 - 991 units

1/2 DBL. = 1 1 ticket is awarded for every second basket caught and for three baskets in a row when double points are awarded

1/2 (1 ticket awarded for every second basket caught)

1/3 DBL. = 1 1 ticket is awarded for every third basket caught and for three baskets in a row when double points are awarded

1/3 (1 ticket awarded for every third basket caught)

1/4 DBL. = 1 1 ticket is awarded for every fourth basket caught and for three baskets in a row when double points are awarded

1/4 (1 ticket awarded for every fourth basket caught)

1/5 DBL. = 1 1 ticket is awarded for every fifth basket caught and for three baskets in a row when double points are awarded

1/5 (1 ticket awarded for every fifth basket caught)

0 DBL. = 1 - Only one ticket awarded for three baskets in a row when double points are awarded

0 units - No tickets awarded

#3j TICKET PER SLAM LETTER

Indicates the amount of tickets awarded (in the redemption game mode) when a S.L.A.M. letter is lit.

0 - 1000 = number of tickets

#3k LANE DIFFICULTY

For Redemption games, selects 1 of 5 light patterns to use for the 8 lanes

Selections:

EX. EASY EASY AVERAGE HARD EX. HARD

#4 CONFIGURE S.L.A.M. AWARD TO

Overall configuration of slam bonuses for specific plastic overlays (for next 4 settings)

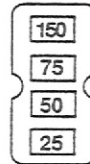
Selections:

150/75/50/25 tickets

100/60/40/20 tickets

75/50/20/10 tickets

4th Q/3rd Q/2nd Q/1st Q Basketball quarters



Example Plastic Overlay

Moving the joystick to the right once more will cause the screen to show:

CUSTOM - This screen provides access to adjustment screens 4a to 4f.

#4a TICKETS FOR S.L.A.M. AWARD, 1 CREDIT

#4c TICKETS FOR S.L.A.M. AWARD, 3 CREDITS

#4b TICKETS FOR S.L.A.M. AWARD, 2 CREDITS

#4d TICKETS FOR S.L.A.M. AWARD, 4 CREDITS

Selections: 0-1000 tickets

#4e S.L.A.M. DUNK MEMORY

For the non-redemption game. This selects if the S.L.A.M. lamps are in memory between game quarters, or if they are turned off at the start of a game quarter.

Selections = YES - lamps are in memory

NO - lamps are turned off at the start of a quarter

#4F S.L.A.M. PRELIT LETTERS

This is only for promotional redemption games. It starts a game with a variable number of S.L.A.M. letters already lit (to make completing S.L.A.M. easier).

Selections:

0 - 3 = number of letters lit in S.L.A.M. at start of game

#5 CONFIGURE 10 BASKETS TO

Overall configuration of 10 basket award for the 10 basket decal (for next 3 settings)

Selections:

1000 tickets	for redemption game decal
500 tickets	for redemption game decal
250 tickets	for redemption game decal
100 tickets	for redemption game decal
100 points	for non-redemption game decal
credits	for non-redemption game decal

Moving the joystick to the right once more will cause the screen to show:

CUSTOM -- This screen provides access to adjustment screens 5a and 5b.

#5A 10 BASKETS AWARDS

Selects what to award for 10 basket award

Selections:

Tickets credits points

#5b 10 BASKETS AWARD AMOUNT

Selects amount to award for 10 baskets

Selections:

0 - 1000 units

#6 CONFIGURE GAME DIFFICULTY TO

Overall configuration for 6a to 6d

Selections:

EX. EASY EASY AVERAGE HARD EX. HARD

Moving the joystick to the right once more will cause the screen to show:

CUSTOM -- This screen provides access to adjustment screens 6a to 6d.

#6A CONSECUTIVE BASKETS UNTIL DOUBLE TICKET AWARD

Selections:

1-25 = number of consecutive baskets to make before double lane value is active

#6B BASKETS TILL DOUBLE CANCELED

Selections:

0 = double lane value until missed a basket

1-25 = number of consecutive baskets (while doubled) until canceling double lane value. This is always canceled when a basket is missed.

#6C LIGHT SLAM LETTER

This controls how difficult it is to light a letter of S.L.A.M.

Selections:

HARD - 1 ball lights 1 blinking letter

EASY - 1 ball lights all blinking letters

#6D LIGHT SLAM LETTER TIME

Time allowed from S.L.A.M. switch till basket switch

Selections:

1.0 to 5.0 seconds

This concludes the quick configure screens. Press the Start button to return to the Adjustments Menu.

B.2 Language Adjustments

Move the joystick to the right to go to B.2 LANGUAGE ADJUSTMENTS. Press Play All.
The screen shows:

#1 TEXT LANGUAGE

Selects which language the display uses.

Selections:

ENGLISH
SPANISH

#2 SPEECH LANGUAGE

Selects which language the sound board uses:

Selections:

ENGLISH
SPANISH

Press Play All to enter your language choice, press it again for ARE YOU SURE? and then press Start to return to the ADJUSTMENTS MENU.

B.3 Game Adjustments

Move the joystick to B.3 GAME ADJUSTMENTS, and press Play All again. The screen shows:

#1 BALLS PER GAME

Selections:

1 - 20 = number of kicks (balls) in a game (for redemption),
or in a game quarter (for non-redemption)

#2 FREE THROWS ALLOWED

Selections:

0 - 2 = number of free throw awards allowed

#3 TILT WARNINGS

Selections:

0 - 5 = number of tilt warnings allowed before a tilt cancels the current game's quarter

#4 ATTRACT MODE SOUNDS

Selections:

YES = allow sounds and allows the game to play itself in the Attract Mode
NO = no sounds are allowed in the Attract Mode

#5 DISPENSER TYPE

Selections:

TICKET = Indicates that a ticket dispenser is attached to the game. All credits are routed to the ticket dispenser. (Move joystick to the right to access screens 5a and 5b.)

TICKETS, NO ATTENDANT

Similar to TICKET selection, but will ignore the dispenser if it is jammed or out of tickets. Note, this does not eliminate adjustment #5a: it must be set higher than the highest ticket award. (Move joystick to the right to access screens 5a and 5b.)

NONE = Ignores ticket dispenser. All tickets routed to credits.

#5a TICKETS UNTIL "CALL ATTENDANT"

Selections:

0-999999 = number of tickets to reach or exceed that are handed out by the attendant (operator) at the end of a game. Note that power has to be turned off, and then on again, to allow another game.

#5b TICKETS FOR STARTING A GAME

Selections:

0-50 = number of tickets to dispense at the start of a game

#5c MINIMUM TICKETS TO AWARD AT GAME OVER

Selections:

0-50 = minimum amount of tickets to dispense at the end of a game

#6 ALLOW REPLAY

Selections:

YES = allows a score to beat (replay) during the game (Move joystick to the right to access screens 6a and 6b)

NO = disables a score to beat (replay) during the game (Move joystick to the right to access screens 6a and 6b)

#6a REPLAY PERCENT

Selections:

0-99% = target award per credit (used with new settings available)

#6b REPLAY START SCORE

Selections

1-999999 = Initial (or current) replay score

#7 ALLOW H.S.T.D.

Allow High Score To Date (H.S.T.D.)

Selections:

YES = H.S.T.D. is allowed (Move joystick to the right to access 7a to 7d)

NO = H.S.T.D. is NOT allowed

#7a H.S.T.D. FIRST SCORE

#7b H.S.T.D. LAST SCORE

The range of scores for the first and last of 8 scores when H.S.T.D. is initialized.

Selections:

0-999999 = Initial H.S.T.D. score

#7c H.S.T.D. CREDITS FOR #1

#7d H.S.T.D. CREDITS FOR #2-8

The amount of tickets/credits to award for the first position in the High Score to Date table and all other (2-8) positions in the High Score To Date table.

Selections: 0-999999 = units to award

This concludes the Game Adjustments screens. Press the Start button to return to the Adjustments Menu.

B.4 Configure Coinage

Move the joystick to the right to go to B.4 CONFIGURE COINAGE. Press Play All.

The screen shows:

#1 FREE PLAY

Allow all games to be free

Selections:

YES

NO

#2 CONFIGURE COINAGE TO

This offers some standard coinage settings for the next 16 coinage adjustments

Selections:

CUSTOM

USA, 1/25 4/100

USA, 1/50 2/100

MEXICO, 1/NS 0.50 & 1/P 500

MEXICO, 1/NS 1.00 & 1/P 1000

FRANCE, 1/3x1Fr 2/5Fr 5/10Fr

FRANCE, 1/6x1Fr 2/10Fr 5/20Fr

GERMAN, 1/2DM 2/3DM 3/4DM 5/5DM

GERMAN, 1/4DM 2/6DM 3/8DM 5/10DM

TOKEN 1/1TOKEN

GENERIC, 1/1COIN

GENERIC, 1/2COIN

GENERIC, 1/3COIN

GENERIC, 2/1COIN

GENERIC, 1/1COIN 3/2COINS

GENERIC, 1/2COIN 3/4COINS

GENERIC, 1/2COIN 2/3COINS 4/4COINS

#2A COINAGE COUNTRY

Selects the coins used for a particular country
 Selections:

- GENERIC
- TOKENS
- USA CENTS & DOLLAR
- MEXICO NS & P
- FRANCE Fr
- GERMANY DM

#2b 1ST COIN CHUTE UNITS

#2c 2ND COIN CHUTE UNITS

#2d 3RD COIN CHUTE UNITS

#2e 4TH COIN CHUTE UNITS

Selects the coin value for each coin chute

Selections:

0 - 65535 = value of the coin chute

#2f 1-4 COIN CHUTE ACCEPTOR

Selects which coin chutes are electronic or mechanical

Selections:

- ALL ELECTRONIC
- 1-2 MECHANICAL/3-4 ELECTRONIC
- 1-3 MECHANICAL/4 ELECTRONIC

#2g BASE COIN UNITS

Selects a repetitive coin rate (i.e award coin credits every 25 cents).

Selections:

0 - 65535 = value of the coin chute units to award

BASE COIN CREDITS

#2h BASE COIN CREDITS

Selects amount of credits to add when BASE COIN UNITS is reached or exceeded.

Selections:

0 - 65535 = amount of credits to add when
 BASE COIN UNITS is reached or exceeded.

#2i 1ST BONUS COIN UNITS FOR 1 CREDIT

#2j 2ND BONUS COIN UNITS FOR 1 CREDIT

#2k 3RD BONUS COIN UNITS FOR 1 CREDIT

#2l 4TH BONUS COIN UNITS FOR 1 CREDIT

Select bonus coin unit values to reach or exceed when 1 more credit is awarded.
 This repeats after the maximum bonus coin units is reached, and is typically
 a multiple of the base coin units.

Selections:

0 - 65535 = value of the coin chute units to award 1 credit

#2m MAXIMUM CREDITS

Selections:

0 = limit credits to 65535

1 - 100 = maximum credits allowed in the game

#2n TICKET BASE COIN UNITS

Base coin units for calculating tickets/coin

Selections:

0 - 65535 = coin units denominator of tickets/coin

#2o COIN METER COIN UNITS

Base coin units for adding 1 to the coin meter

Selections:

0 - 65535 = coin units to reach or exceed

#2p PRINT FRACTIONAL CREDITS

YES = print fractions of a credit

NO = do not print fractions of a credit

B.5 Custom Messages**CUSTOM MESSAGE #1****CUSTOM MESSAGE #2****CUSTOM MESSAGE #3**

Up to 3 lines of a custom message to be displayed in the attract mode

PROMOTIONAL MESSAGE #1

A 1 line message to be place in the S.L.A.M. Bonus display show. For promotional games only.

B.6 Special Functions**#1 SPECIAL FUNCTIONS**

These perform certain functions to the game

Selections:

NONE**CLEARAUDITS**

clears all audits

RESET ADJUSTMENTS

configures all adjustments for a selected country

Clear CREDITS

make credits = 0

RESET H.S.T.D.

re-starts the high score to data table

RESET ALL for Country**RESET ALL for USA**

clears everything and configures game for a selected country or for the USA

BURN-IN

cycles thru most diagnostics

#2m MAXIMUM CREDITS

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0 = limit credits to 65535

1 - 100 = maximum credits allowed in the game

#2n TICKET BASE COIN UNITS

Base coin units for calculating tickets/coin

Selections:

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Base coin units for adding 1 to the coin meter

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B.5 Custom Messages**CUSTOM MESSAGE #1****CUSTOM MESSAGE #2****CUSTOM MESSAGE #3**

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Clear CREDITS

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RESET ALL for Country**RESET ALL for USA**

clears everything and configures game for a selected country or for the USA

BURN-IN

cycles thru most diagnostics

C. Password Maintenance

C.1 AUDITS PASSWORD

If a password is given, this will not display the GENERAL AUDITS page until the correct password is given. To change the password, the old password must be given. The only other way to erase a forgotten password is to:

RESET ALL..... (and thus lose all your data).

DIAGNOSTICS

Ticket Dispenser Jams, is Low on tickets, or Empty.

When the Ticket Dispenser Low lamp is OFF, it is operating normally.

If the Ticket Dispenser Low lamp is ON but not blinking, the ticket dispenser is low on tickets.

If the Ticket Dispenser Low lamp is blinking, the ticket dispenser is either empty, jammed, or broken, and the game must be turned off and serviced or repaired. After the ticket dispenser has been refilled, unjammed, or repaired, turn the game back on. The ticket dispenser will then dispense 1 ticket and stop after the ticket notch.

To check if the dispenser is connected and functions properly to the game, use the dispenser test.

Dispenser jumpers for the dispenser from Coin Controls are;

JP1 = pins 1 & 2

JP2 = pins 1 & 2

JP3 = pins 1 & 2

JP4 = pins 1 & 2

Diagnostics Displays

If pressing the Diagnostic button behind the coin door causes the dot-matrix screen to display the following messages:

SERVICE REQUIRED,

SEE DIAGNOSTICS.

PRESS PLAY ALL TO CONTINUE.

A switch might be operating improperly either electrically or mechanically (i.e. misadjusted switch, misaligned opto, broken wires, etc...) The Diagnostics Menu selection: **D.1 Switches**, will display a list of switch numbers that could be malfunctioning. Several successful activations of the suspected switch will erase its appearance from the diagnostic display.

If pressing the Diagnostic button behind the coin door causes the dot-matrix screen to display the following messages;

NEW REPLAY SETTINGS

PRESS PLAY ALL NOW FOR NEW SETTINGS

PRESS START TO CANCEL

The game diagnostic is recommending a new replay score. On the control panel, press the 'PLAY ALL' button to use this new replay score or press the 'START' button to use the current replay score.

Power-up Diagnostics

When the game is first turned on, a series of tests are automatically performed. If any of the tests fail, a message is displayed on the dot-matrix screen and LED D2 on the CPU Board blinks to identify the problem area.

Number of Blinks per Second	Dot matrix Message	Possible Explanation
1	U14 ERROR	Dynamic RAM U14 or control signals not working
2	U1 ERROR	Static RAM U1 or control signals not working
3	U6 ERROR	ROM U6 or control signals not working
4	U13 ERROR	ROM U13 or control signals not working
5	U17 ERROR	ROM U17 or control signals not working
6	U23 ERROR	ROM U23 or control signals not working

If the message "U1 initialized" appears several times after turning on the game, the U1 internal battery may be dead or a connection to the chip may not be working.

D. Diagnostics Menu

The Diagnostic Menu Test selections are:

- D.1 Switches
- D.2 Lamps
- D.3 solenoids
- D.4 display
- D.5 music/sounds
- D.6 Ticket Dispenser
- D.7 linked games

Tests D.1, D.2, D.3, D.5, and D.6 show switches pictured on the left side of the display screen. Switches are shown open (voltage across the switch =5V) and closed (voltage across the switch=0V), and the infrared optos are displayed as a beam of light (switch voltage=0V) that can be interrupted (switch voltage=5V). The name and number of the last switch tested (hit) is always shown on the bottom line of the display.

D.1 Switches

Suspected defective switches (if any) are displayed on the screen's second from bottom line. These switches might be electrically or mechanically malfunctioning (i.e. misadjusted switch, misaligned opto, broken wires, etc.). The switch Diagnostic will show a list of switch numbers that could be malfunctioning. Several activations of a switch will erase it from the diagnostic display if it is not malfunctioning.

The bottom line of the D.1 Switches screen will always display the switch number and name of the last switch that was activated.

When in ALL SWITCH TEST, the top line of the D.1 Switches screen will always display the last activated (hit) switch and information about the switch.

Single switch test

For information about a certain switch, move the joystick to select that switch. The switch graph on the left will also highlight the selected switch.

Note: The basket motor will operate while in this test.

D.2 Lamps

ALL LAMPS TEST

This mode blinks all the multiplexed row and column lamps

SINGLE LAMP TEST

For information about a certain lamp and to test each individual lamp, move the joystick to select that lamp.

D.3 Solenoids

SINGLE SOLENOID TEST

Use the joystick to select a solenoid driver, and the display will show the device being driven along with information about the driver.

Note: Activating BASKET MOTOR drives 15,16,19, and 20 one at a time SHOULD NOT turn on the basket motor.

D.4 Display

DISPLAY TEST

Move the joystick to display test patterns DISPLAY TEST and DISPLAY TEST (inverted). DISPLAY TEST (inverted) shows a lighted screen with dark letters. Move the joystick again to obtain each of the following types of backgrounds on the screen:

- 2 intensities
 - 5 moving diagonal lines
 - 5 moving diagonal lines (inverted)
 - 256 vertical lines
 - 64 horizontal lines
 - 256 vertical lines (inverted)
 - 64 horizontal lines (inverted)
-

D.5 Music/Sounds

SINGLE SOUND TEST

Use the joystick to select a sound. If the music board is not responding to the CPU board when a sound or music is being played, the message **SOUND BOARD NOT RESPONDING** should be displayed. Otherwise, a music note symbol is displayed when sounds should be heard (assuming that the sound volume control has not been set to zero). The operator can adjust the sound volume by using the Volume Up and Volume Down pushbutton controls on the control panel behind the coin door. Sound blips should be heard at the left, center, and right sides of the display unless a speaker has been miswired with its leads reversed.

D.6 Ticket Dispenser

Coin controls dispenser jumpers: JP1=1-2 JP2=1-2 JP3=1-2 JP4=1-2

DISPENSER OFF

Use the joystick to select a test. If the dispenser has been turned off by Adjustment #5: DISPENSER TYPE, the message **DISPENSER DISABLED** appears on the screen and this test cannot be operated.

DISPENSE 1 TICKET

The dispenser will try and dispense 1 ticket. When the motor symbol that appears on the dot-matrix screen is filled, the motor should be on. The ticket notch switch on the screen should open and close. When a ticket is successfully dispensed, the message **DISPENSED 1 TICKET** is shown. Otherwise, the **ERROR** message is displayed.

TROUBLESHOOTING

CPU Power up Diagnostics

When the game is first turned on, a series of tests are automatically performed. If any of the tests fail, a message is displayed on the dot-matrix screen and LED D2 on the CPU board blinks to identify the problem area.

NOTE: During normal operation, LED 2 flashes constantly at a rate of about 1 flash per second.

Number of blinks per second (with 2 second pause between blinks)	Dot Matrix Screen Message	Possible cause of problem
1	U 14 Error	Dynamic RAM U 14 or Control signals not working
2	U 1 Error	Static RAM U 1 or Control signals not working
3	U 6 Error	ROM U 6 or Control signals not working
4	U 13 Error	ROM U 13 or Control signals not working
5	U 17 Error	ROM U 17 or Control signals not working
6	U 23 Error	ROM U 23 or Control signals not working

The following problems could interfere with game operation. If there are problems, check this section of the manual before calling for customer assistance.

SOLENOIDS

1. Solenoid System Overview

Two solenoids are used to control proper ball flow in normal game operation. They are the 'Ball Release' coil (27-1500) and the main 'Kick-up' coil (23-900). Their supply voltage is 70 VDC No Load, and 50 VDC under load.

Four game balls are loaded into a guide trough lane at the bottom of the playfield. The first ball stops on the 'Ball Release' stop pin. Both coils are software controlled.

At game power up, the 'Ball Release' coil is pulsed, which pulls in the stop pin, allowing the first ball to enter the kick-up position. The 'Kick-up' coil is pulsed, shooting the ball up and through the vertical playfield shooter lane until it exits the one-way gate. When the gate optical switch (inverted switch), is operated, it causes game software to load another ball into the kick-up position.

The Kick-up coil tries five times to shoot a ball if the shooter lane exit opto switch is working. If this opto switch is not operating properly, the 'Extra Tries' feature is disabled.

2. Solenoid does not pull in

If the solenoid does not pull in, access the coil diagnostics screens: D.3, Solenoids. Probable causes of the malfunction are: Open circuit between coil and driver p.c. board; loose or missing assembly screws resulting in jams; defective spring; or a blown fuse. Localize and repair as needed. Check that solenoid voltage is correct: 70 VDC no load condition, 50 VDC under load.

3. Solenoid on continuously

Access the coil diagnostics screens: D.3, Solenoids. Probable causes of solenoid on continuously: Loose screws; shorted driver transistor or coil diode; signal wire shorted to ground between the driver board connector; and coil shorted to ground. Use a VOM meter to isolate problem. Check that solenoid voltage is correct: 70 VDC no load, 50 VDC loaded.

BASKET MOTOR, 12VDC - 100 RPM

1. Motor does not operate

Access the coil diagnostics screen: D.1 switches, and go to the single switch test in the diagnostics. The basket motor will normally operate in this test by activating the joystick. Use diagnostics to isolate any problem. Probable causes of the motor not operating are: Defective motor or gear; jams due to loose miscellaneous parts such a screw, etc.; or an open circuit due to a broken wire or bad connection. Check that the motor voltage is correct.

LIGHTING

1. Lights will not flash properly.

Check lamp power supply. Replace any fuse(s) as necessary. Check fuses for continuity. Check for burned out bulbs. Replace as necessary.

2. Illumination lamps are not on.

Check for burned-out bulbs and replace with the proper size bulbs.

SOUNDS

1. Sound is not at proper volume or there is no sound at all.

Check for LEDs being lighted on Sound PCB. This shows that there is power getting to the board for the sound circuitry. See if speakers have failed by swapping them. NOTE: Replacement speakers should have the same impedance as the originals. You may have to adjust the volume to obtain proper loudness of the game. Use the volume UP or DOWN pushbutton on the service panel.

TICKET DRIVE

1. Drive will not work properly

Check all wiring for continuity. Check to see if drive has 12VDC going to it. (see wiring diagrams). Check photoelectric part on drive to sense the ticket notch. Clean as necessary. Clean out any jammed tickets in drive.

Note: If computer does not receive any ticket notch pulses within 2 seconds it stops the motor. The 12 volt ticket notch pulse drops to 0 volts when a notch is present.

The signal leaves the board and goes to the CPU PCB through connector J9. This signal is used for counting purposes. Play a game to make sure that the proper number of tickets is being dispensed.

OPTICAL ENCODING

1. The game is misreading the optical sensors.

Optics may have come out of adjustment. See Optics adjustment descriptions.

TIPS
Pss Sig TO patch
DIO cal

ED SCHMIDT
708
797 6136

Power Driver
8 AMP
TO

8 pin 10 AMP S.B.
F3

CN:

ORGR 2

North Black
CNS

3

BL Red
Meta

4

Yell
#12 VDC

2 Header
Facing PLATE



SOUND BOARD

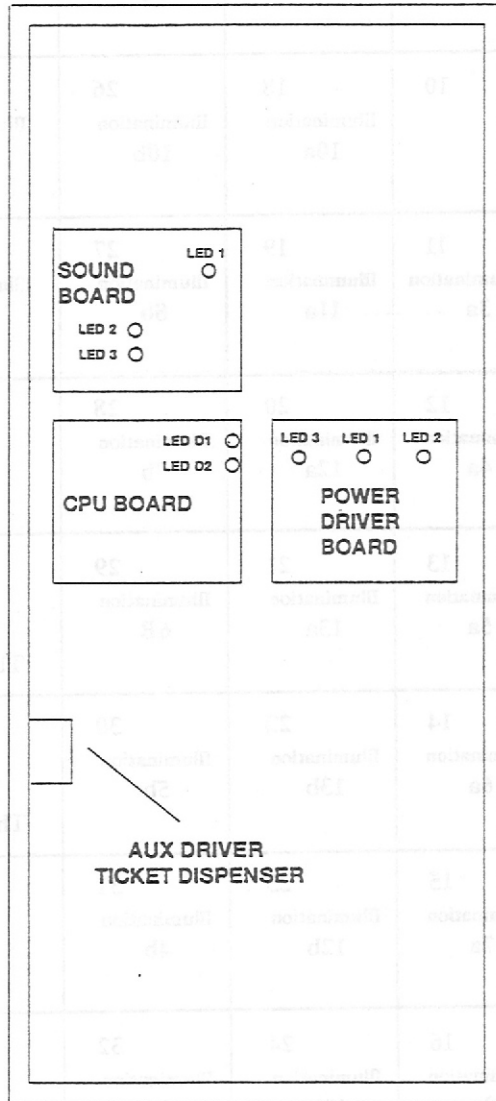
- LED 1 Logic +5 VDC
- LED 2 +5 VDC Regulator
- LED 3 -5 VDC Regulator

CPU BOARD

- LED D1 +5 VDC
- LED D2 Flashing Indicator

POWER DRIVER BOARD

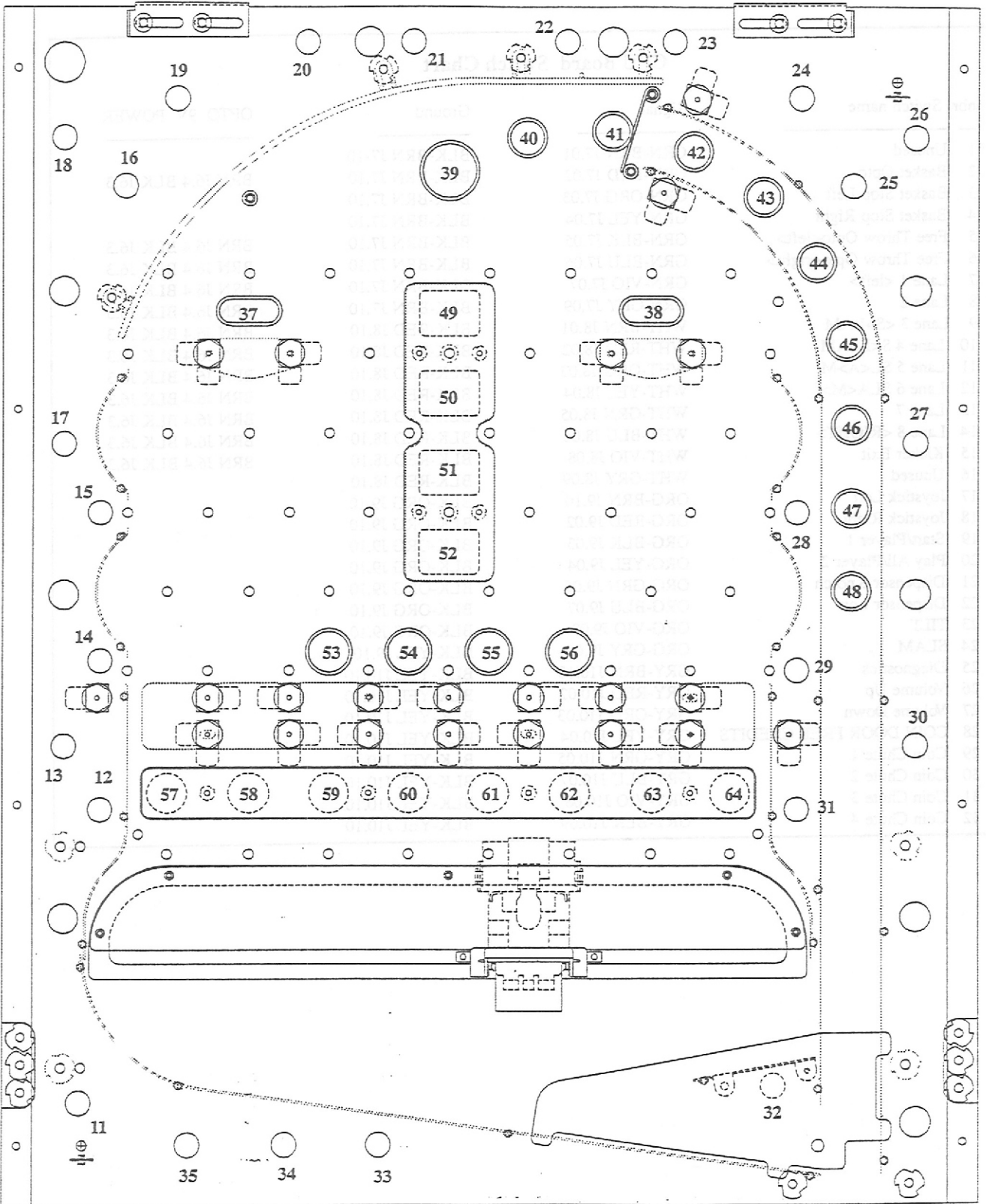
- LED 1 +12 VDC
- LED 2 +18 VDC
- LED 3 +5 VDC



Lamp Matrix

	Column 1 Yel-Brn	Column 2 Yel-Red	Column 3 Yel-Org	Column 4 Yel-Blk	Column 5 Yel-Grn	Column 6 Yel-Blu	Column 7 Yel-Vio	Column 8 Yel-Gry
Row 1 Red-Brn	1 Coin 1 Chute	9	17 Illumination 8a	25 Illumination 9b	33 Illumination 2b	41 Catch 10 # 8	49 100 Tickets/Quarter 4	57 Left Lane 1
Row 2 Red-Blk	2 Coin 2 Chute	10	18 Illumination 10a	26 Illumination 10b	34 Illumination 1	42 Catch 10 # 7	50 60 Tickets/Quarter 3	58 Lane 2
Row 3 Red-Org	3 Coin 3 Chute	11 Illumination 3a	19 Illumination 11a	27 Illumination 8b	35 Illumination 2a	43 Catch 10 # 6	51 40 Tickets/Quarter 2	59 Lane 3 (S)
Row 4 Red-Yel	4 Dispenser Low	12 Illumination 4a	20 Illumination 12a	28 Illumination 7b	36	44 Catch 10 # 5	52 20 Tickets/Quarter 1	60 Lane 4 (L)
Row 5 Red-Grn	5 Player 1	13 Illumination 5a	21 Illumination 13a	29 Illumination 6B	37 Free Throw L	45 Catch 10 # 4	53 S	61 Lane 5 (A)
Row 6 Red-Blu	6 Player 2	14 Illumination 6a	22 Illumination 13b	30 Illumination 5b	38 Free Throw R	46 Catch 10 # 3	54 L	62 Lane 6 (M)
Row 7 Red-Vio	7	15 Illumination 7a	23 Illumination 12b	31 Illumination 4b	39 # 10	47 Catch 10 # 2	55 A	63 Lane 7
Row 8 Red-Gry	8	16 Illumination 9a	24 Illumination 11b	32 Illumination 3b	40 # 9	48 Catch 10 # 1	56 M	64 Lane 8 (Right)

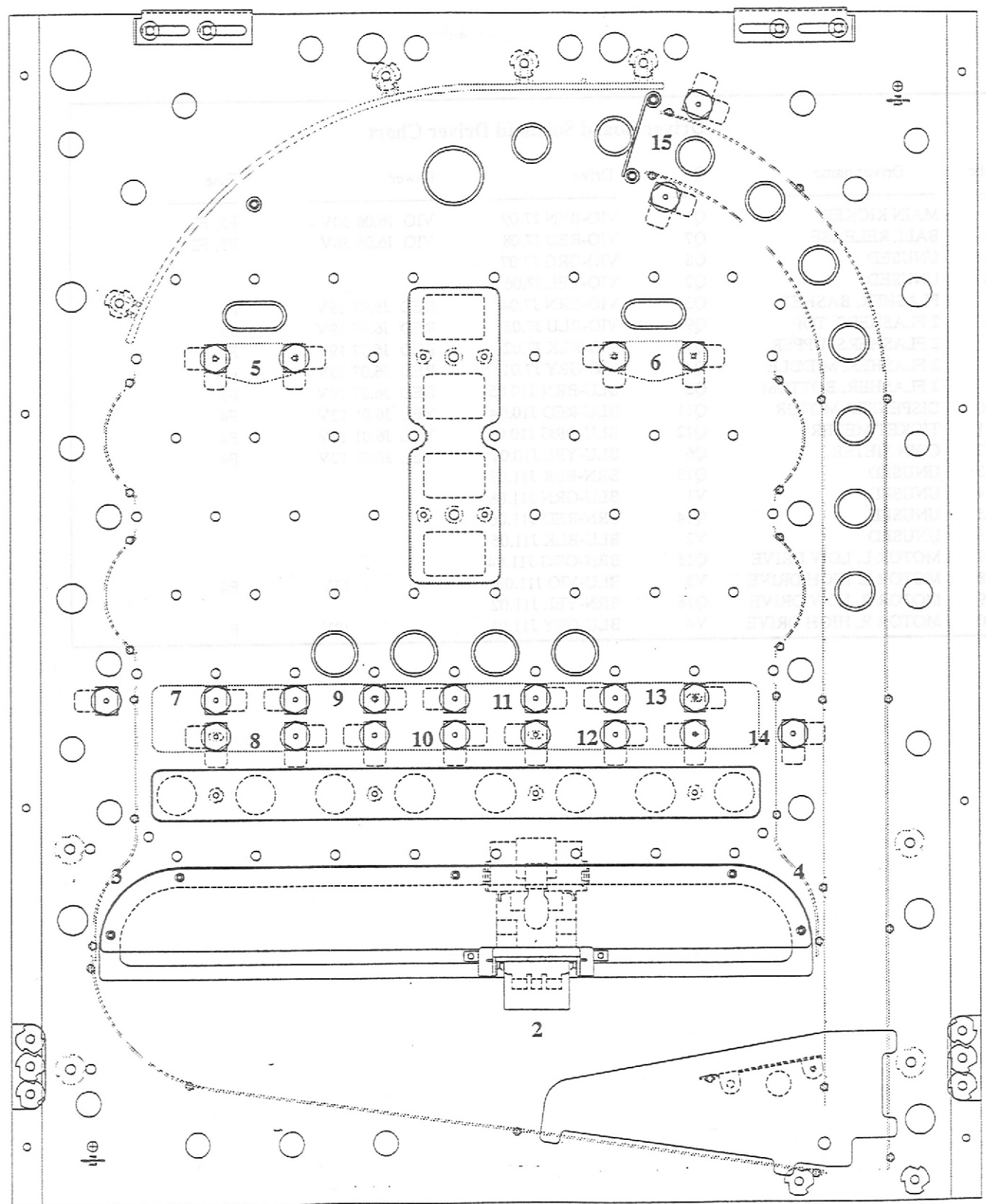
Lamps



CPU Board Switch Chart

nbr	Switch name	Signal	Ground	OPTO 9V POWER
1	Unused	GRN-BRN J7.01	BLK-BRN J7-10	
2	Basket Opto	GRN-RED J7.02	BLK-BRN J7.10	BRN J6.4 BLK J6.3
3	Basket Stop Left	GRN-ORG J7.03	BLK-BRN J7.10	
4	Basket Stop Right	GRN-YEL J7.04	BLK-BRN J7.10	
5	Free Throw Opto<left>	GRN-BLK J7.05	BLK-BRN J7.10	BRN J6.4 BLK J6.3
6	Free Throw Opto<right>	GRN-BLU J7.06	BLK-BRN J7.10	BRN J6.4 BLK J6.3
7	Lane 1 <left>	GRN-VIO J7.07	BLK-BRN J7.10	BRN J6.4 BLK J6.3
8	Lane 2	GRN-GRY J7.09	BLK-BRN J7.10	BRN J6.4 BLK J6.3
9	Lane 3 <S>LAM	WHT-BRN J8.01	BLK-RED J8.10	BRN J6.4 BLK J6.3
10	Lane 4 S<L>AM	WHT-RED J8.02	BLK-RED J8.10	BRN J6.4 BLK J6.3
11	Lane 5 SL<A>M	WHT-ORG J8.03	BLK-RED J8.10	BRN J6.4 BLK J6.3
12	Lane 6 SLA<M>	WHT-YEL J8.04	BLK-RED J8.10	BRN J6.4 BLK J6.3
13	Lane 7	WHT-GRN J8.05	BLK-RED J8.10	BRN J6.4 BLK J6.3
14	Lane 8 <RIGHT>	WHT-BLU J8.06	BLK-RED J8.10	BRN J6.4 BLK J6.3
15	Kicker Exit	WHT-VIO J8.08	BLK-RED J8.10	BRN J6.4 BLK J6.3
16	Unused	WHT-GRY J8.09	BLK-RED J8.10	
17	Joystick Left	ORG-BRN J9.10	BLK-ORG J9.10	
18	Joystick Right	ORG-RED J9.02	BLK-ORG J9.10	
19	Start/Player 1	ORG-BLK J9.03	BLK-ORG J9.10	
20	Play All/Player 2	ORG-YEL J9.04	BLK-ORG J9.10	
21	Dispensor Knotch	ORG-GRN J9.06	BLK-ORG J9.10	
22	Dispensor Low	ORG-BLU J9.07	BLK-ORG J9.10	
23	TILT	ORG-VIO J9.08	BLK-ORG J9.10	
24	SLAM	ORG-GRY J9.09	BLK-YEL J9.10	
25	Diagnostics	GRY-BRN J10.10	BLK-YEL J10.10	
26	Volume Up	GRY-RED J10.02	BLK-YEL J10.10	
27	Volume Down	GRY-ORG J10.03	BLK-YEL J10.10	
28	COIN DOOR FREE CREDITS	GRY-YEL J10.04	BLK-YEL J10.10	
29	Coin Chute 1	GRY-GRN J10.05	BLK-YEL J10.10	
30	Coin Chute 2	GRY-BLU J10.07	BLK-YEL J10.10	
31	Coin Chute 3	GRY-VIO J10.08	BLK-YEL J10.10	
32	Coin Chute 4	GRY-BLK J10.09	BLK-YEL J10.10	

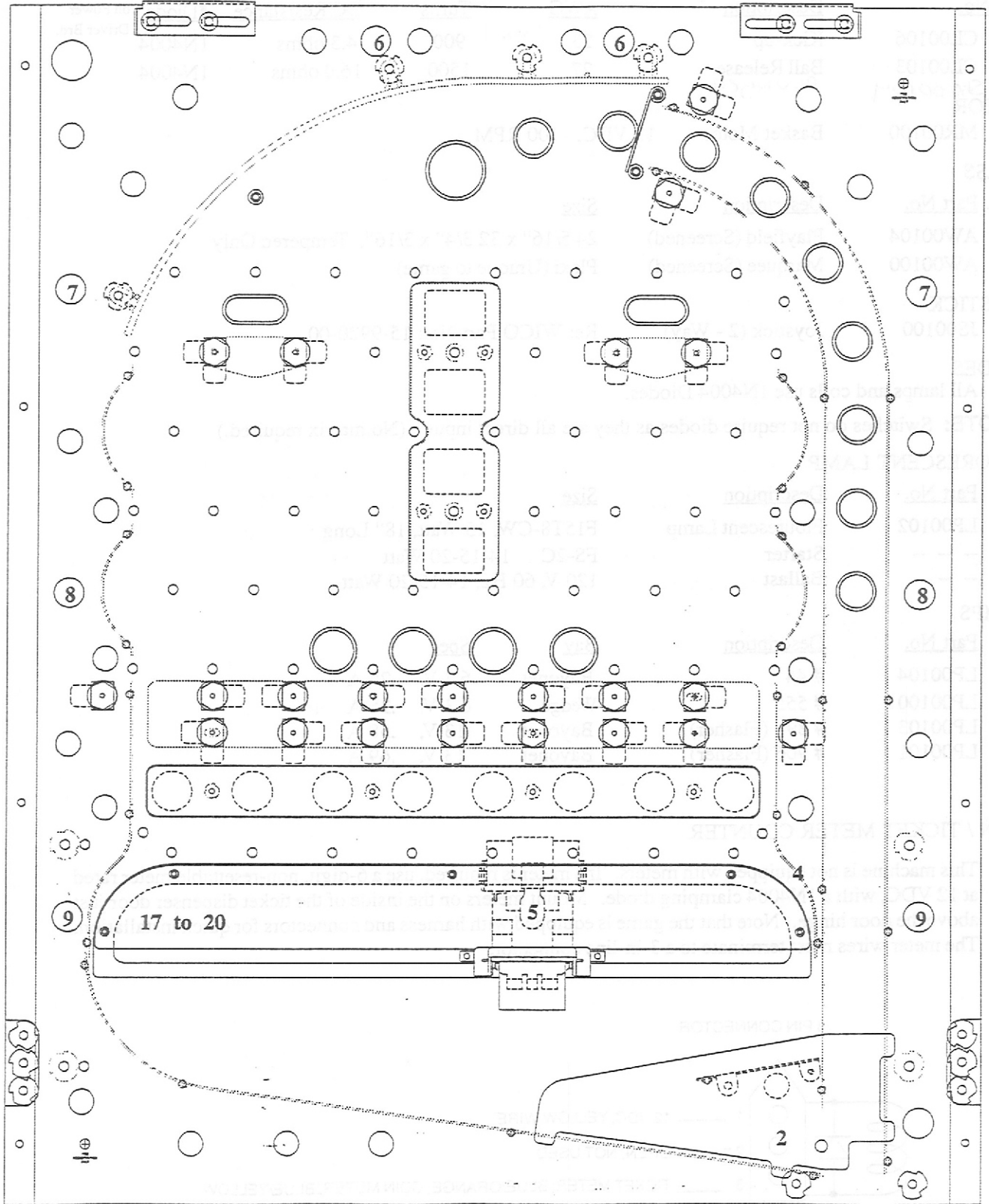
Switches



Driver Board Solenoid Driver Chart

nbr	Driver name	Q	Drive	Power	Fuse
1	MAIN KICKER	Q1	VIO-BRN J7.09	VIO J6.06 50V	F5, F2
2	BALL RELEASE	Q7	VIO-RED J7.08	VIO J6.06 50V	F5, F2
3	UNUSED	Q8	VIO-ORG J7.07		
4	UNUSED	Q2	VIO-YEL J7.06		
5	FLASHER, BASKET	Q3	VIO-GRN J7.04	RED J6.07 19V	F3
6	2 FLASHERS, TOP	Q9	VIO-BLU J7.03	RED J6.07 19V	F3
7	2 FLASHERS, UPPER	Q10	VIO-BLK J7.02	RED J6.07 19V	F3
8	2 FLASHER, MIDDLE	Q4	VIO-GRY J7.01	RED J6.07 19V	F3
9	2 FLASHER, BOTTOM	Q5	BLU-BRN J10.05	RED J6.07 19V	F3
10	DISPENSER MOTOR	Q11	BLU-RED J10.04	YEL J6.01 12V	F4
11	TICKET METER	Q12	BLU-ORG J10.03	YEL J6.01 12V	F4
12	COIN METER	Q6	BLU-YEL J10.01	YEL J6.01 12V	F4
13	UNUSED	Q13	BRN-BLK J11.09		
14	UNUSED	V1	BLU-GRN J11.08		
15	UNUSED	Q14	BRN-RED J11.06		
16	UNUSED	V2	BLU-BLK J11.05		
17	MOTOR L. LOW DRIVE	Q15	BRN-ORG J11.04		
18	MOTOR L. HIGH DRIVE	V3	BLU-VIO J11.03	12V	F4
19	MOTOR R. LOW DRIVE	Q16	BRN-YEL J11.02		
20	MOTOR R. HIGH DRIVE	V4	BLU-GRY J11.01	12V	F

Drives (Solenoids)



PARTS INFORMATION

COILS

Part No.	Description	AWG	Turns	DC Resistance	*Diode	* Located on Power Driver Brd.
CL00106	Kick-up	23	900	4.3 ohms	1N4004	
CL00103	Ball Release	27	1500	16.0 ohms	1N4004	

MOTOR

MR00100 Basket Motor 12 VDC, 100 RPM

GLASS

Part No.	Description	Size
AW00104	Playfield (Screened)	24 5/16" x 32 3/4" x 3/16", Tempered Only
AW00100	Marquee (Screened)	Plexi (Unique to game)

JOYSTICK

JS00100 Joystick (2 - Way) Re: WICO Part No.: 15-9920-00

DIODES

All lamps and coils use 1N4004 Diodes.

NOTE: Switches do not require diodes as they are all direct input. (No matrix required.)

FLUORESCENT LAMP

Part No.	Description	Size
LP00102	Flourescent Lamp	F15T8-CW, 15 Watt, 18" Long
-- -- --	Starter	FS-2C 14-15-20 Watt
-- -- --	Ballast	120 V, 60 Hz, 14-15-20 Watt

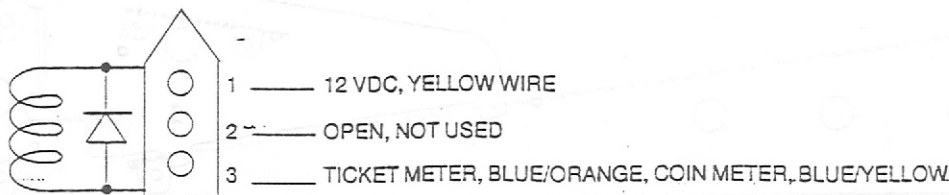
LAMPS

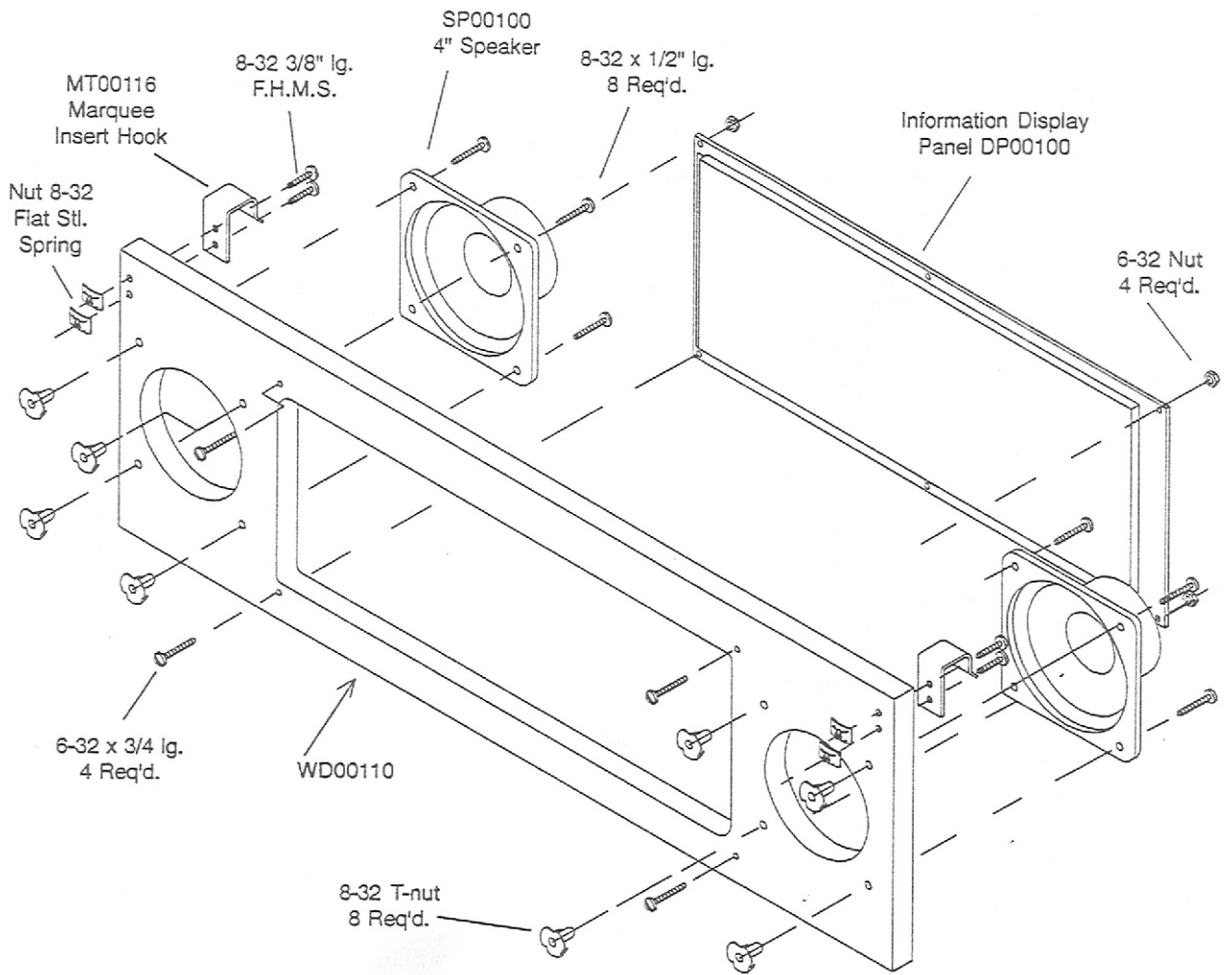
Part No.	Description	Bay	Spec
LP00104	# 44	Bayonet	6.3 V, .25 A
LP00100	# 555	Wedge	6.3 V, .25 A
LP00103	# 89 (Flasher)	Bayonet	13 V, .58 A
LP00101	# 906 (Flasher)	Bayonet	13 V, .69 A

COIN / TICKET METER COUNTER

This machine is not equipped with meters. If a meter is required, use a 6-digit, non-resettable meter rated at 12 VDC, with a 1N4004 clamping diode. Mount meters on the inside of the ticket dispenser door just above the door hinge. Note that the game is equipped with harness and connectors for quick installation. The meter wires must terminate to a 3-in-line connector.

3 PIN CONNECTOR





A-00035
Marquee Speaker & Display Assembly

Marquee Speaker & Display Assembly

- Display Mounting Board
- Nut 8-32 Flat Steel Spring
- Marquee Insert Hook
- 8-32 x 3/8" Lg. FHMS
- 4" Speaker
- 8-32 x 1/2" lg. screw (8 required)
- Information Display Panel
- 6-32 Nut (4 required)
- 8-32 T-Nut (8 required)
- 6-32 x 3/4" large (4 required)

A-00035

WD00110

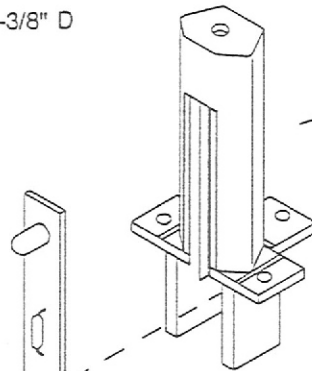
MT00116

SP00100

DP00100

Opto Transmitter Assembly 1-3/8" D
A-00061-T

#6-Pan-PH AB
X 3/8 Lg.
(Self-Tapping Screw)



Universal Infrared (XMTR)
PCB Assembly
A-00023-T (Board Color Blue)

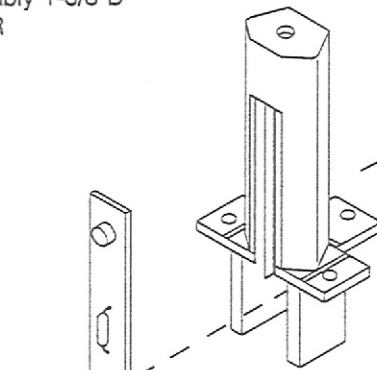
Universal Opto
Housing
PL00117-03

Opto Assemblies used on
Upper PLFD 2 ea.

To Be Color-Coded w/label to
Differentiate Screw Location

Opto Receiver Assembly 1-3/8" D
A-00061-R

#6-PAN-PH AB
x 3/8 LG
(Self-Tapping Screw)



Universal Infrared (RX)
PCB Assembly
A-00023-T
(Board Color Green)

Universal Opto
Housing
PL00117-03

Opto Transmitter Assembly 1-3/8" D

#6-PAN-PH AB x 3/8" Long (Self-tapping Screw)
Universal Infrared (XMTR) PCB Assembly (Board Color Blue)

A-00061-T

A-00023-T

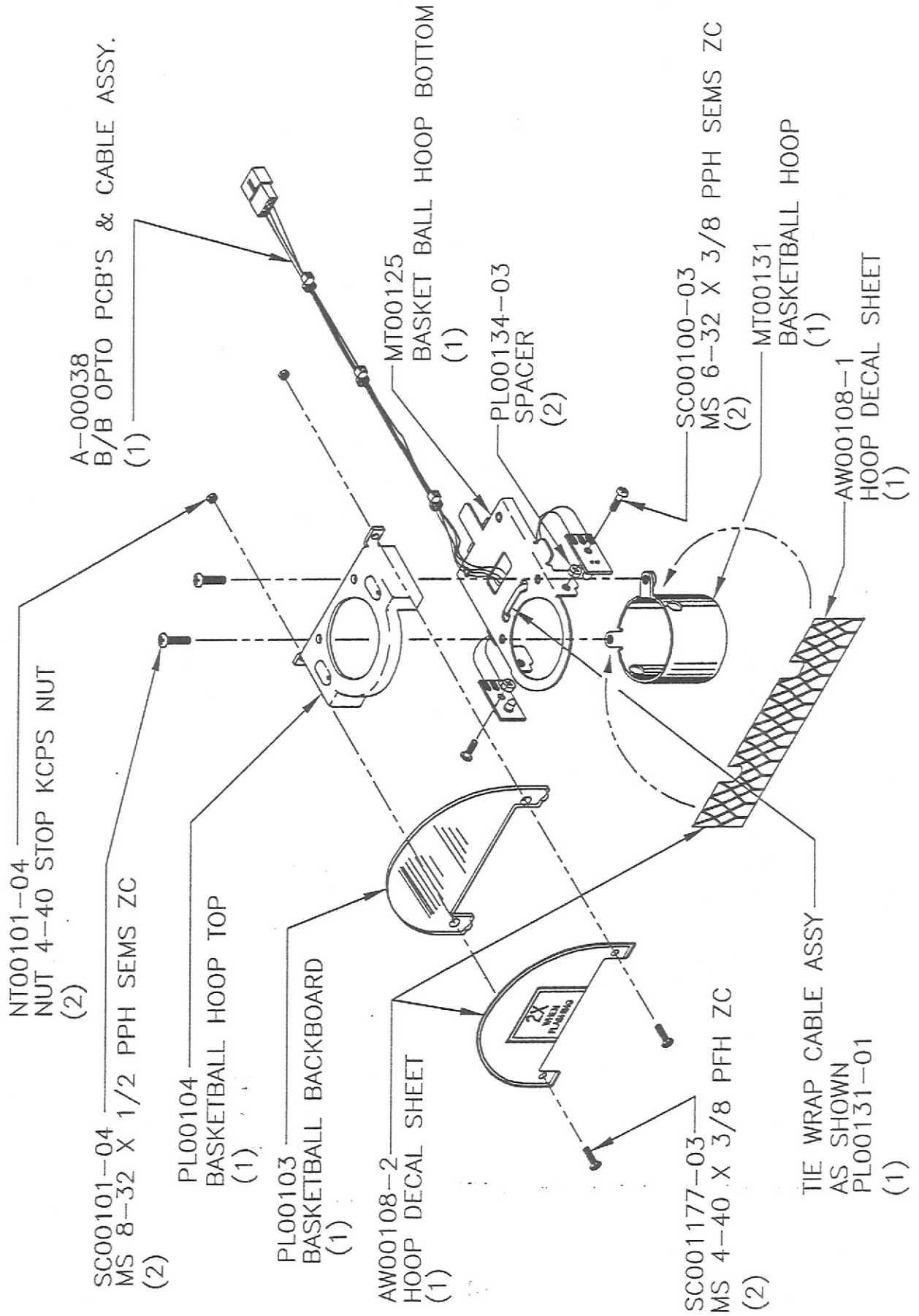
Opto Receiver Assembly 1-3/8" D

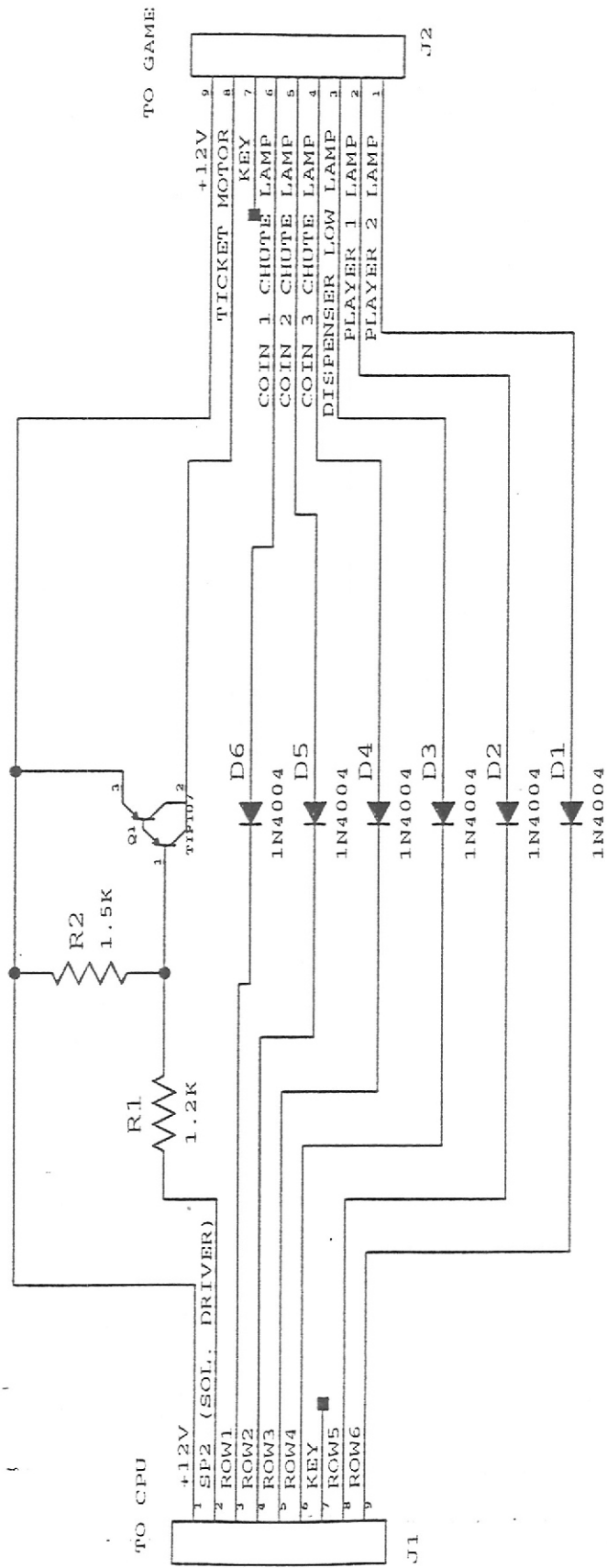
#6-PAN-PH AB x 3/8 Long (Self-tapping Screw)
Universal Opto Housing
Universal Infrared (RX) PCB Assembly (Board Color Green)

A-00061-R

PL00117-03

A-00023-T





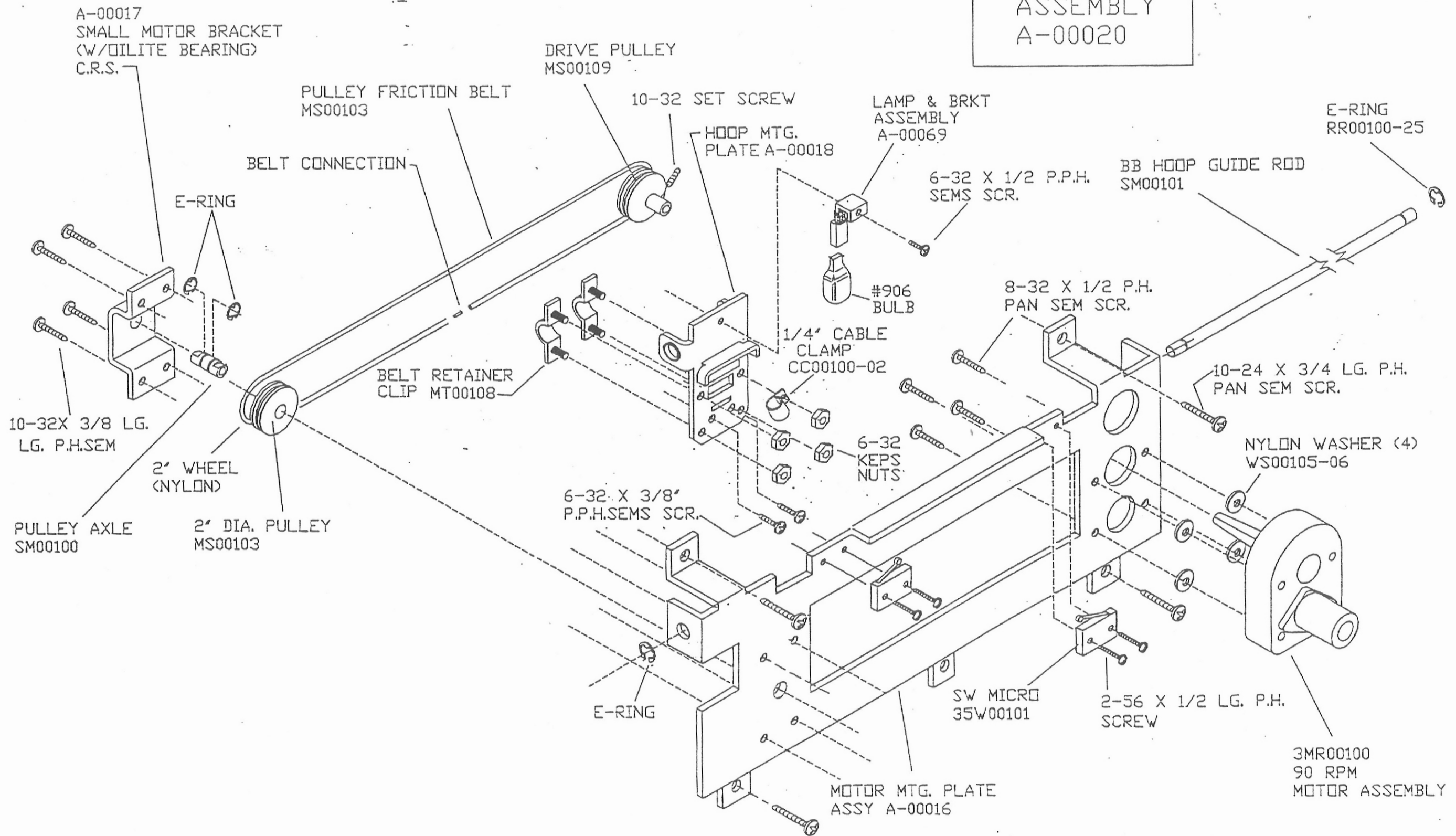
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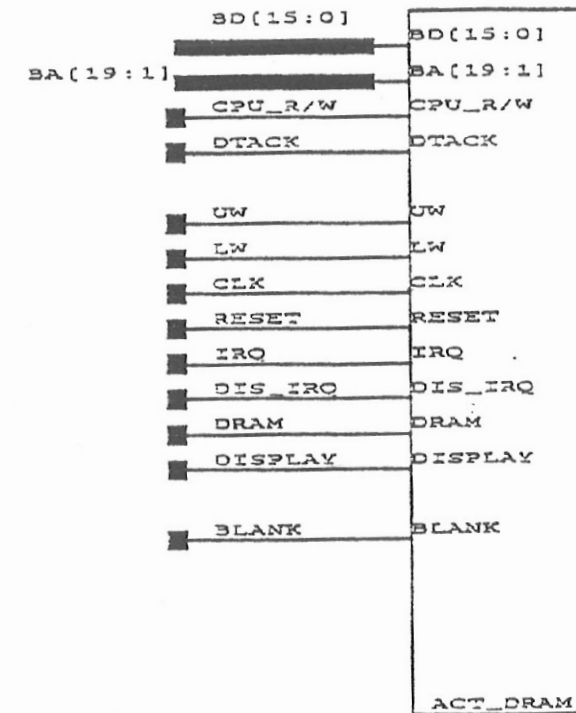
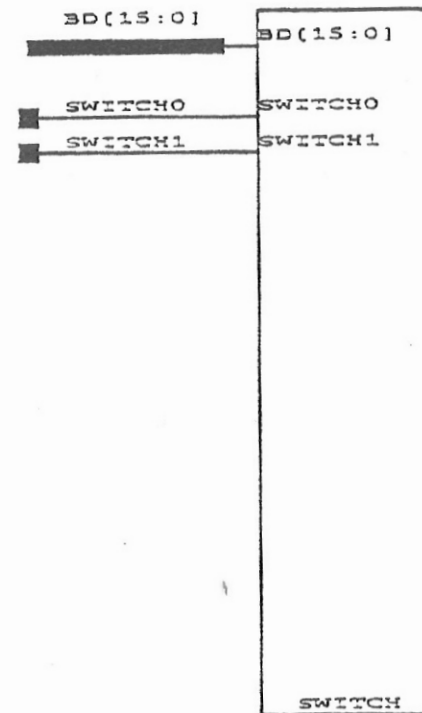
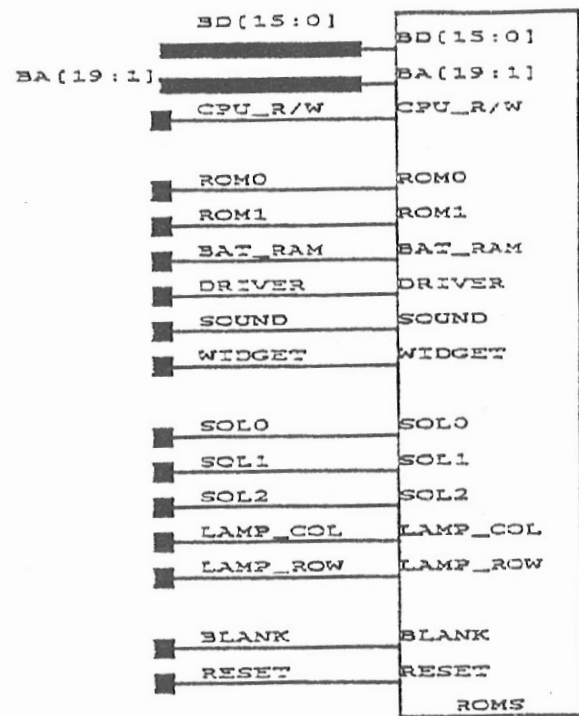
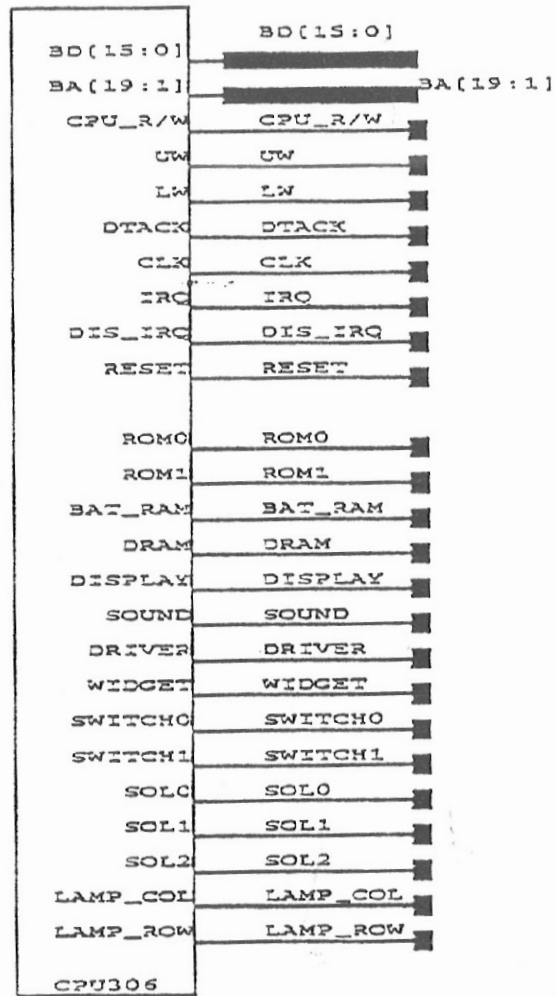
A-00067

RD-1 DIODE BOARD

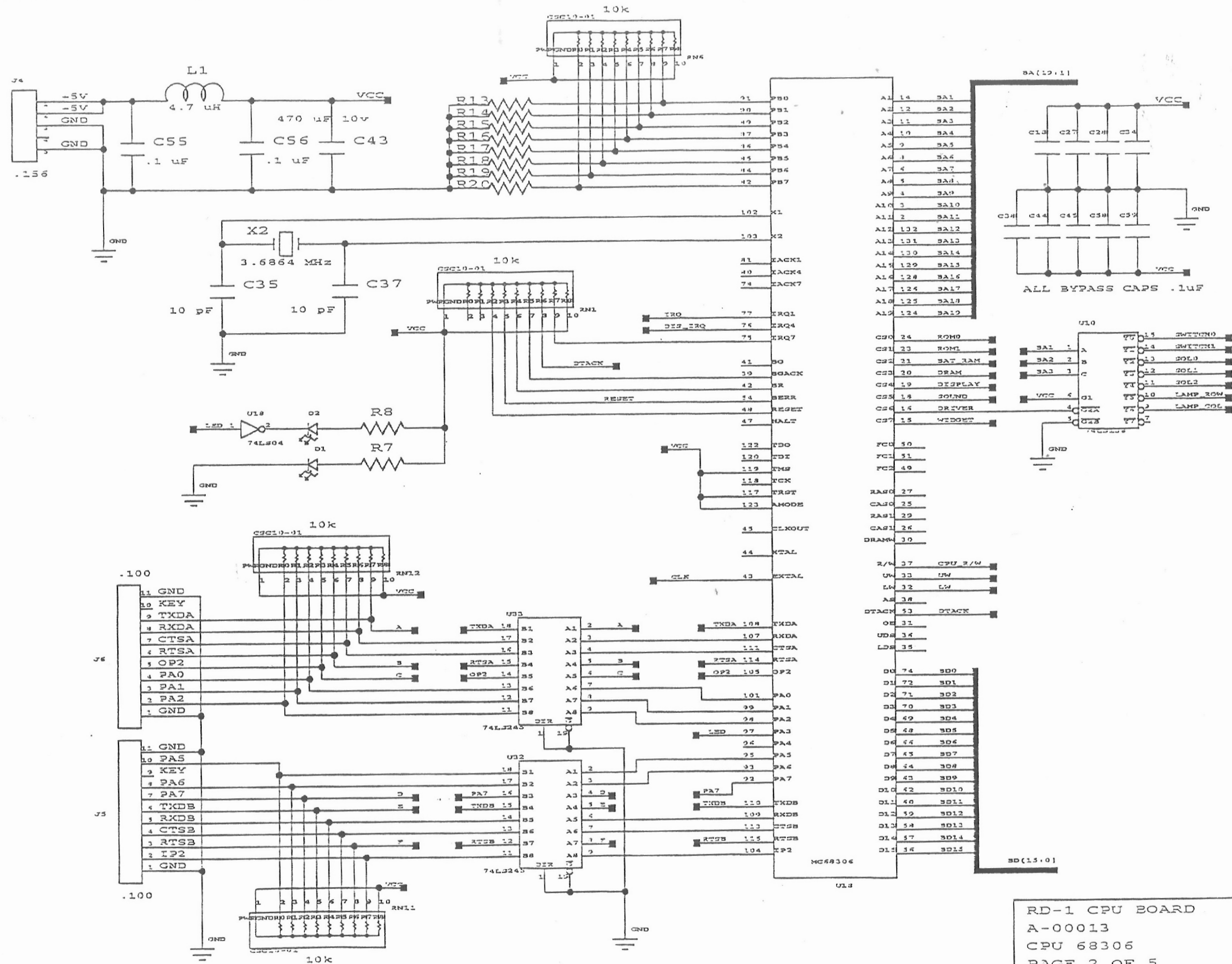
PAGE 1 OF 1

ASSEMBLY
A-00020

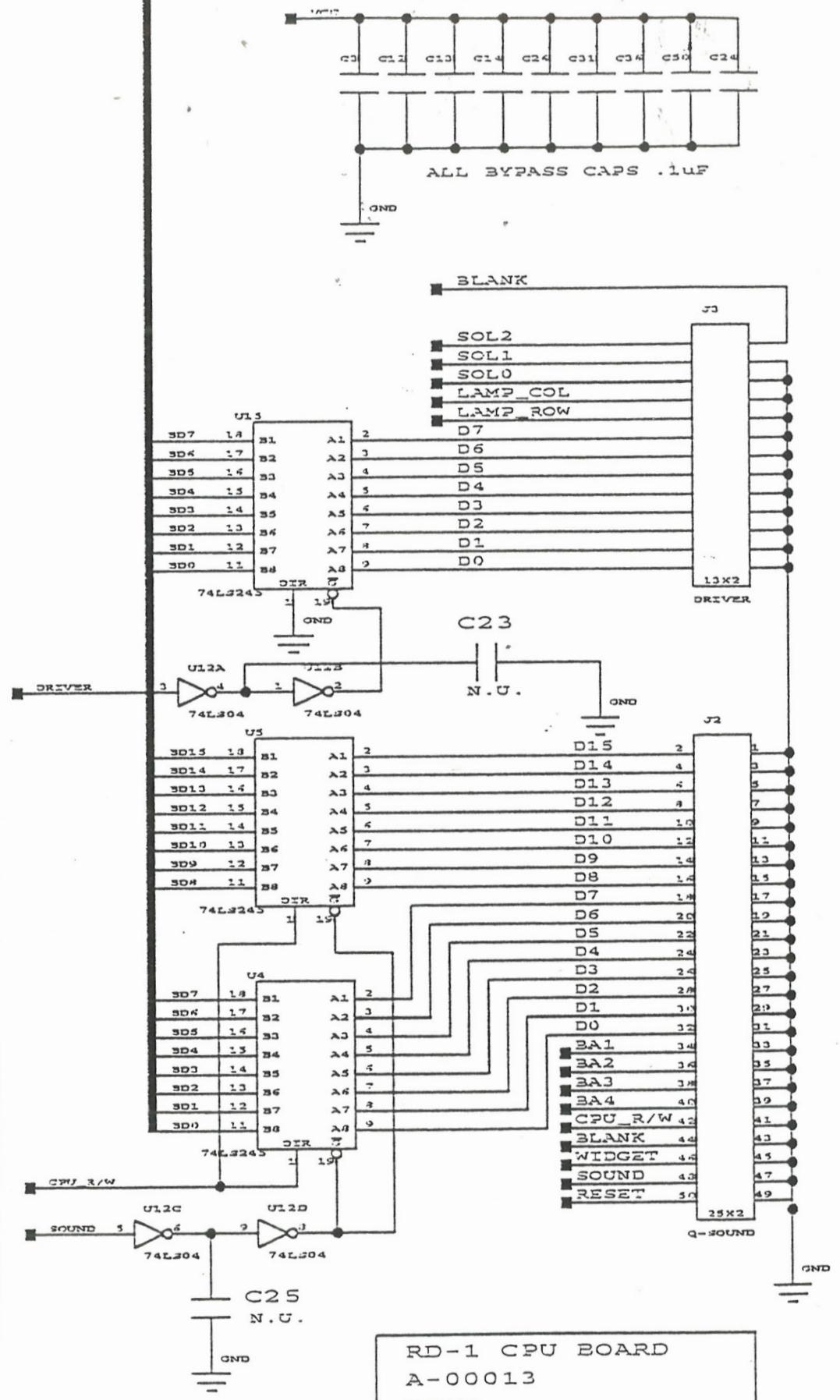
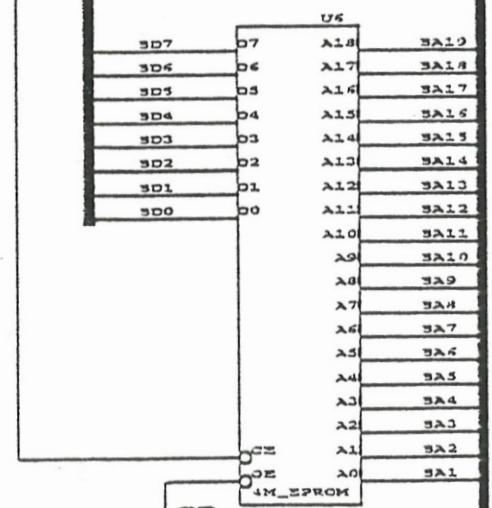
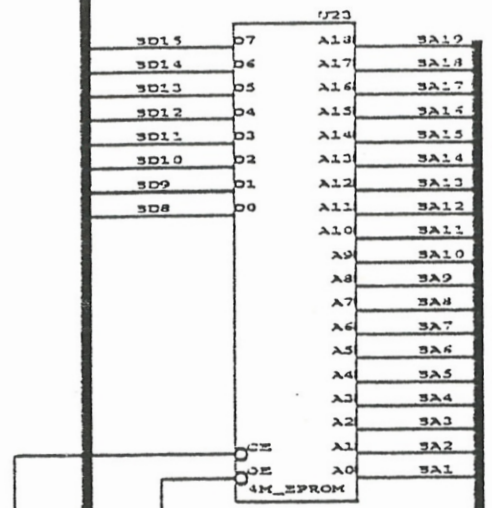
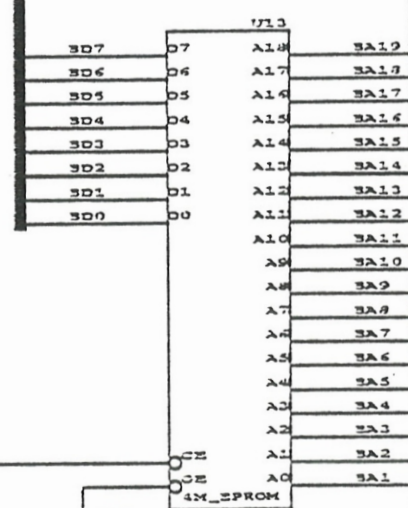
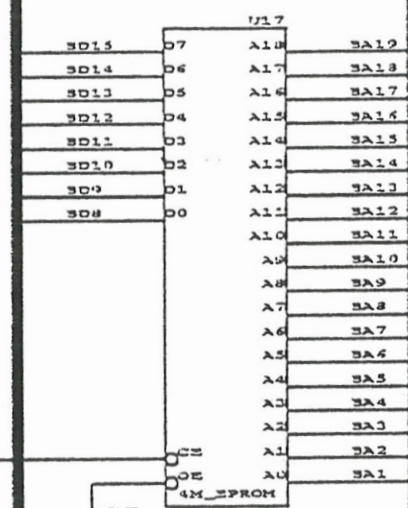
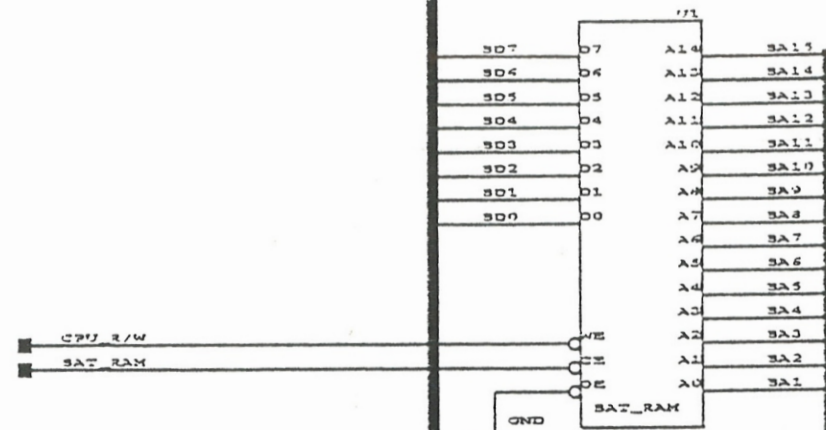




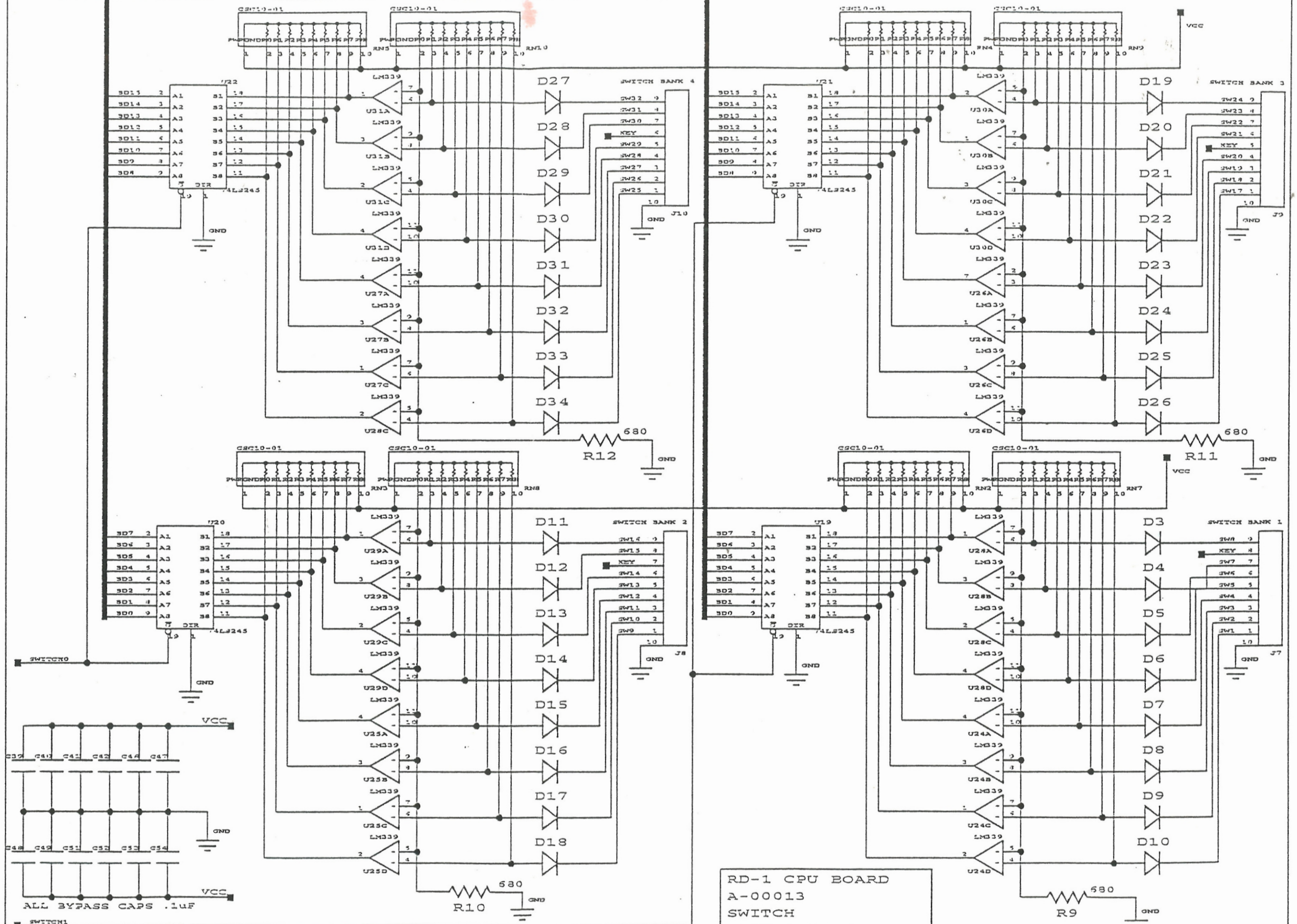
ROMSTAR
RD-1 CPU BOARD
A-00013
PAGE 1 OF 5



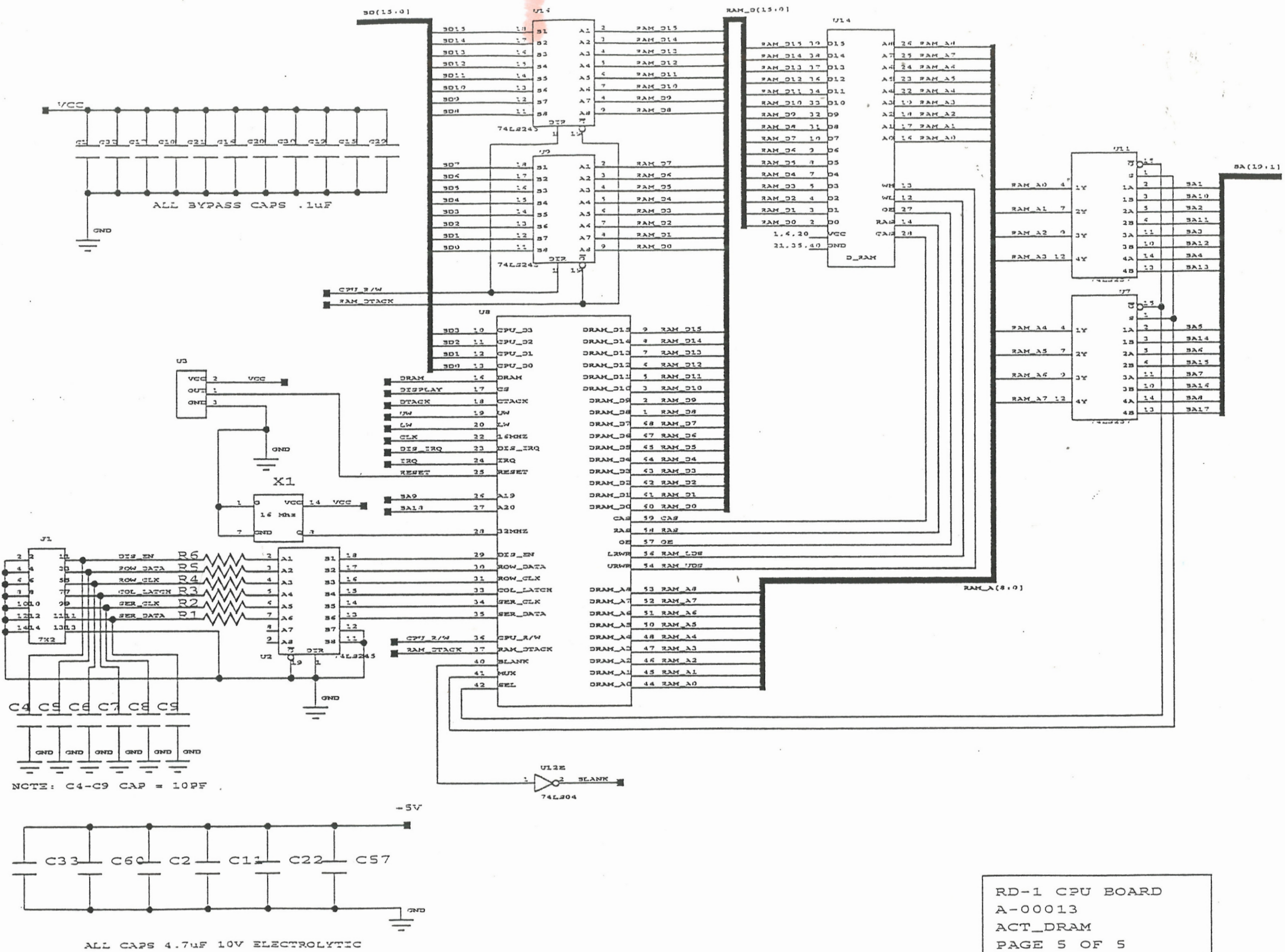
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 A-00013
 CPU 68306
 PAGE 2 OF 5



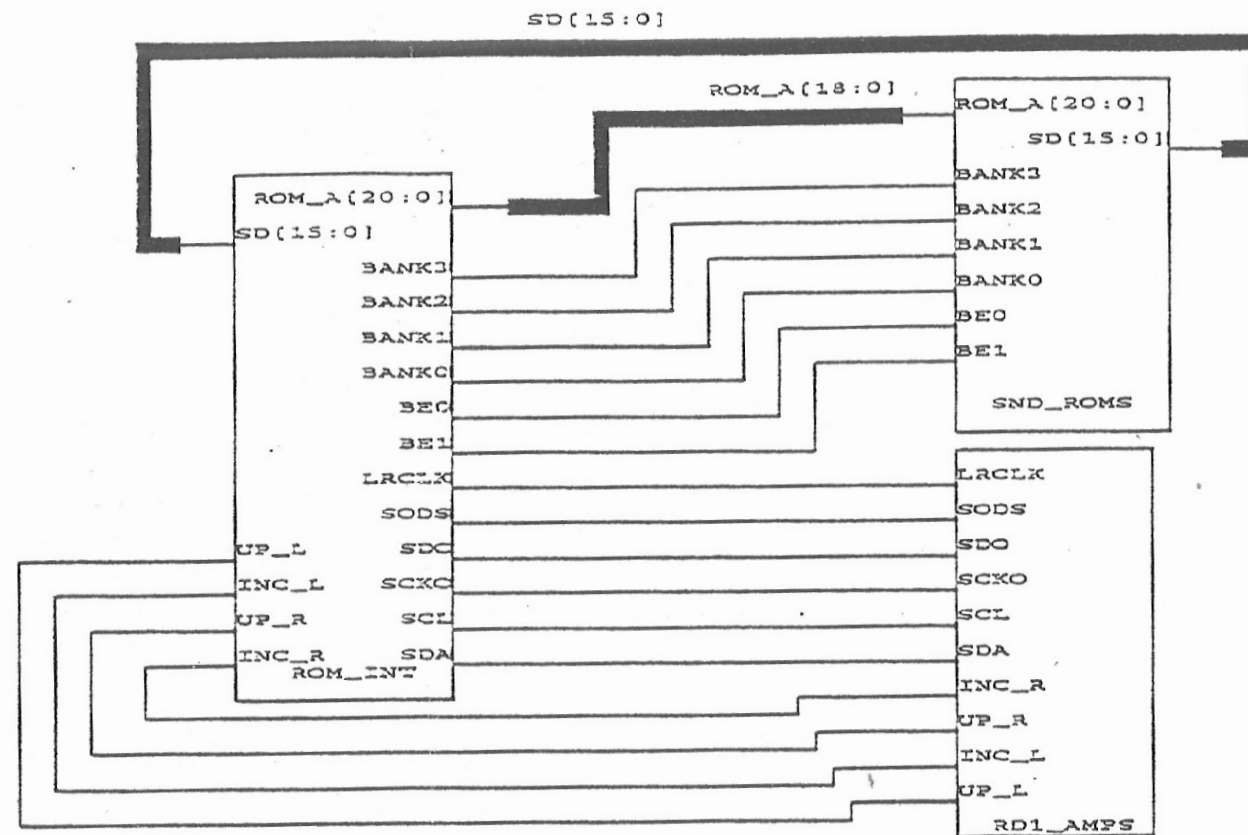
RD-1 CPU BOARD
A-00013
ROMS
PAGE 3 OF 5



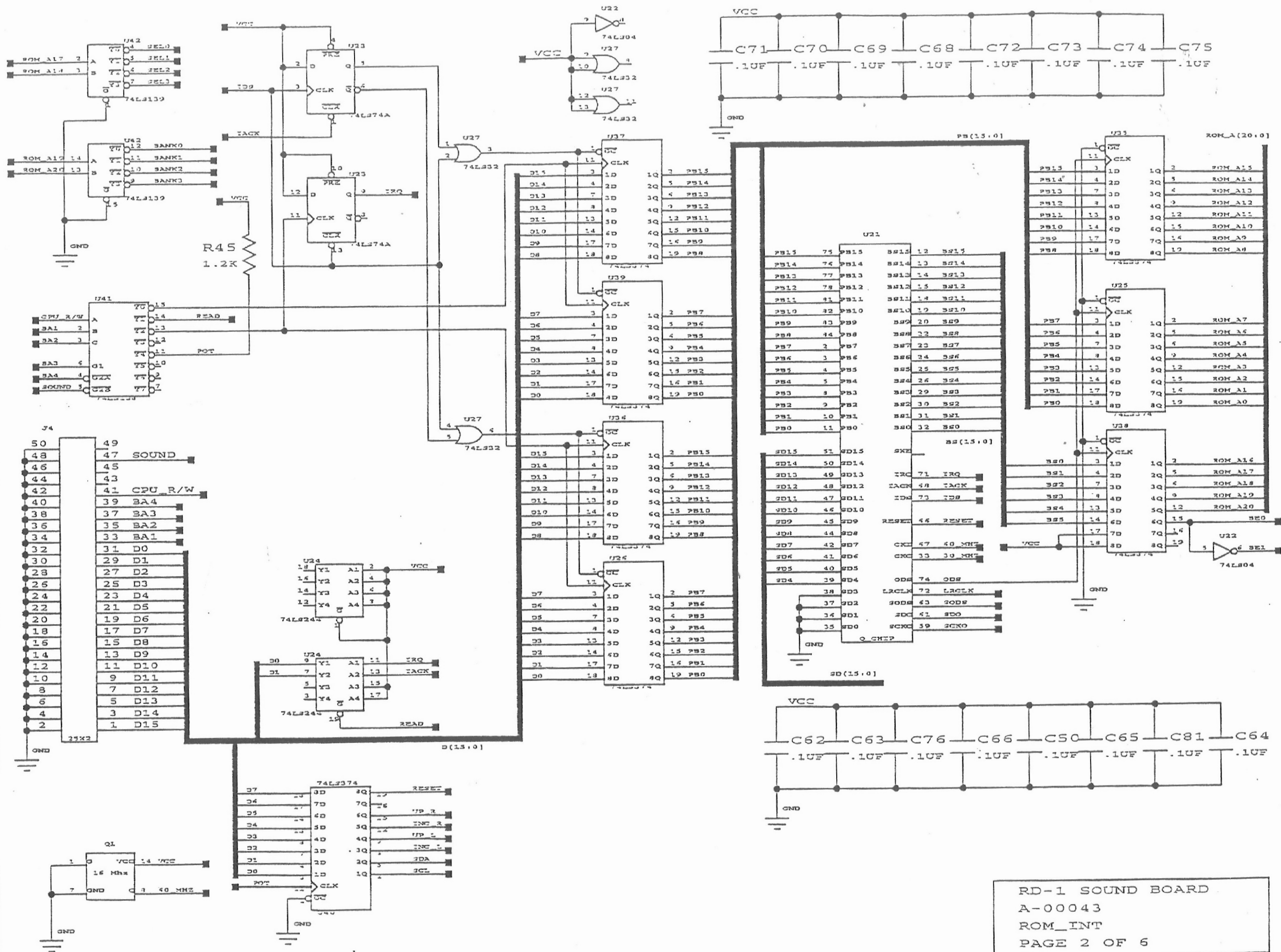
RD-1 CPU BOARD
 A-00013
 SWITCH
 PAGE 4 OF 5



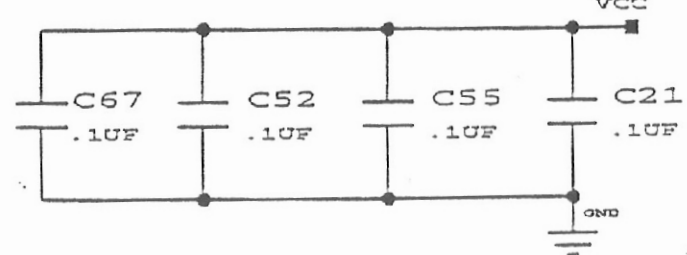
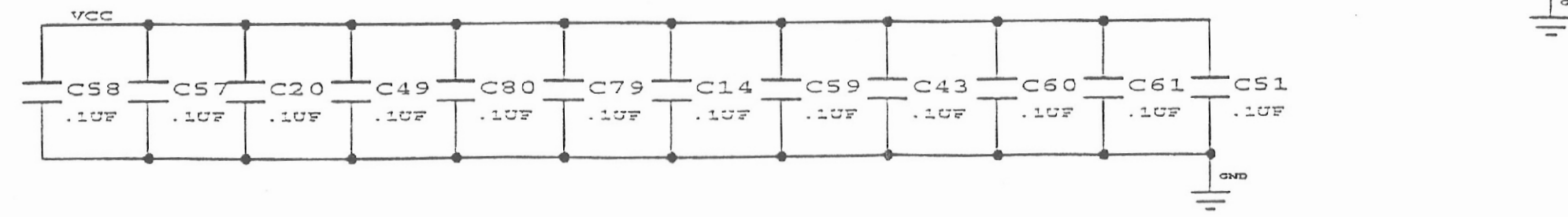
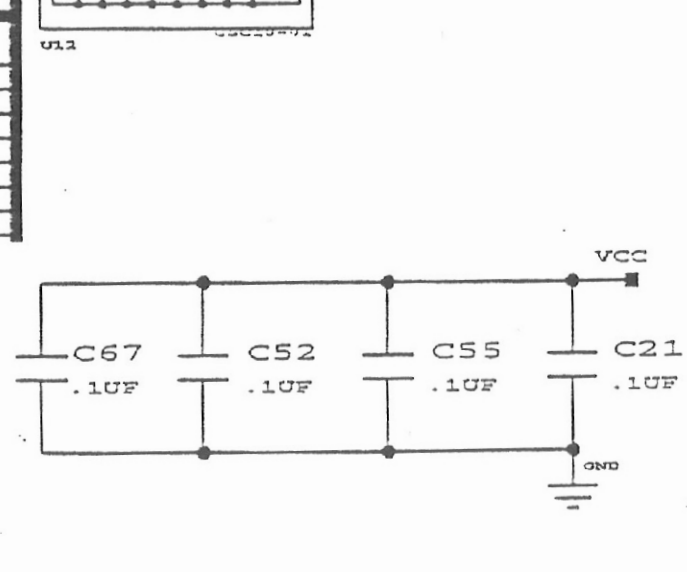
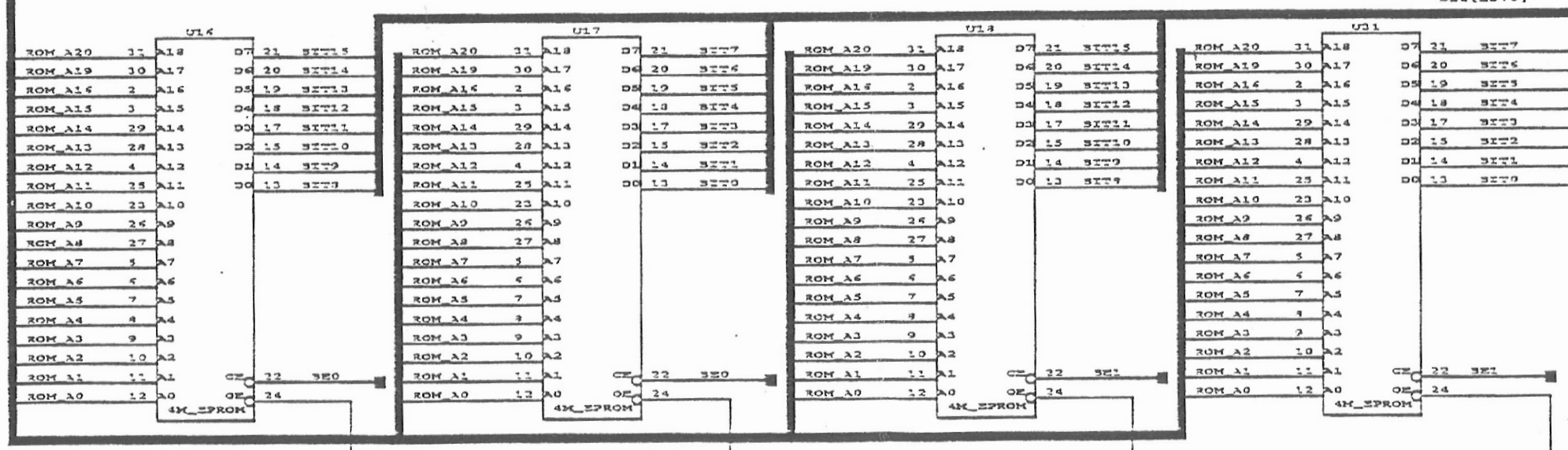
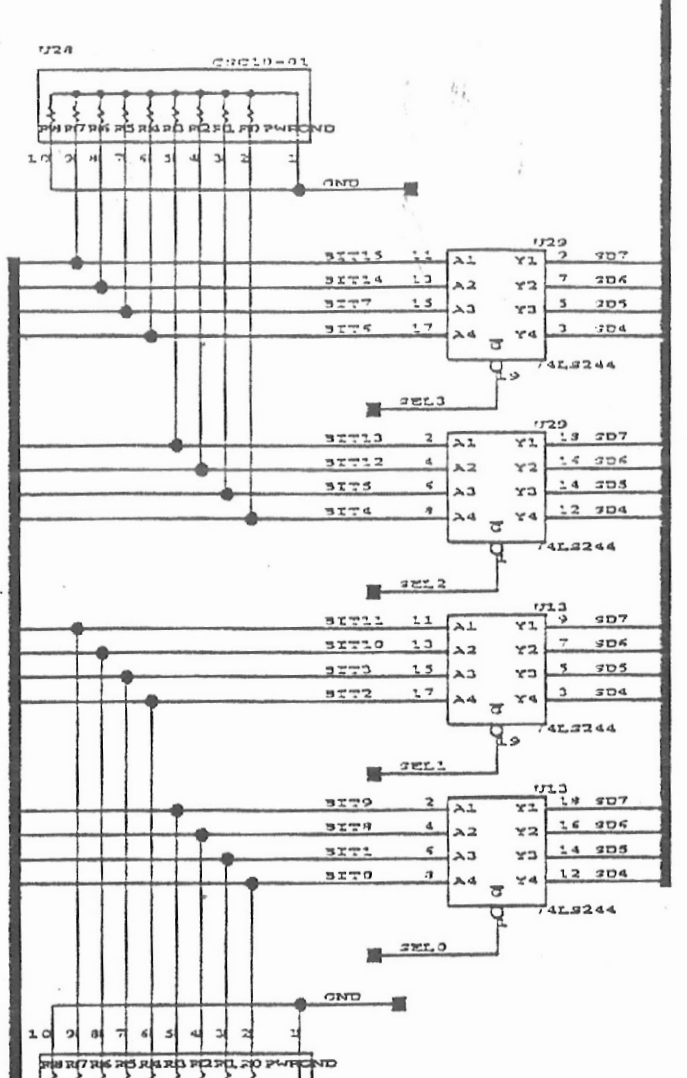
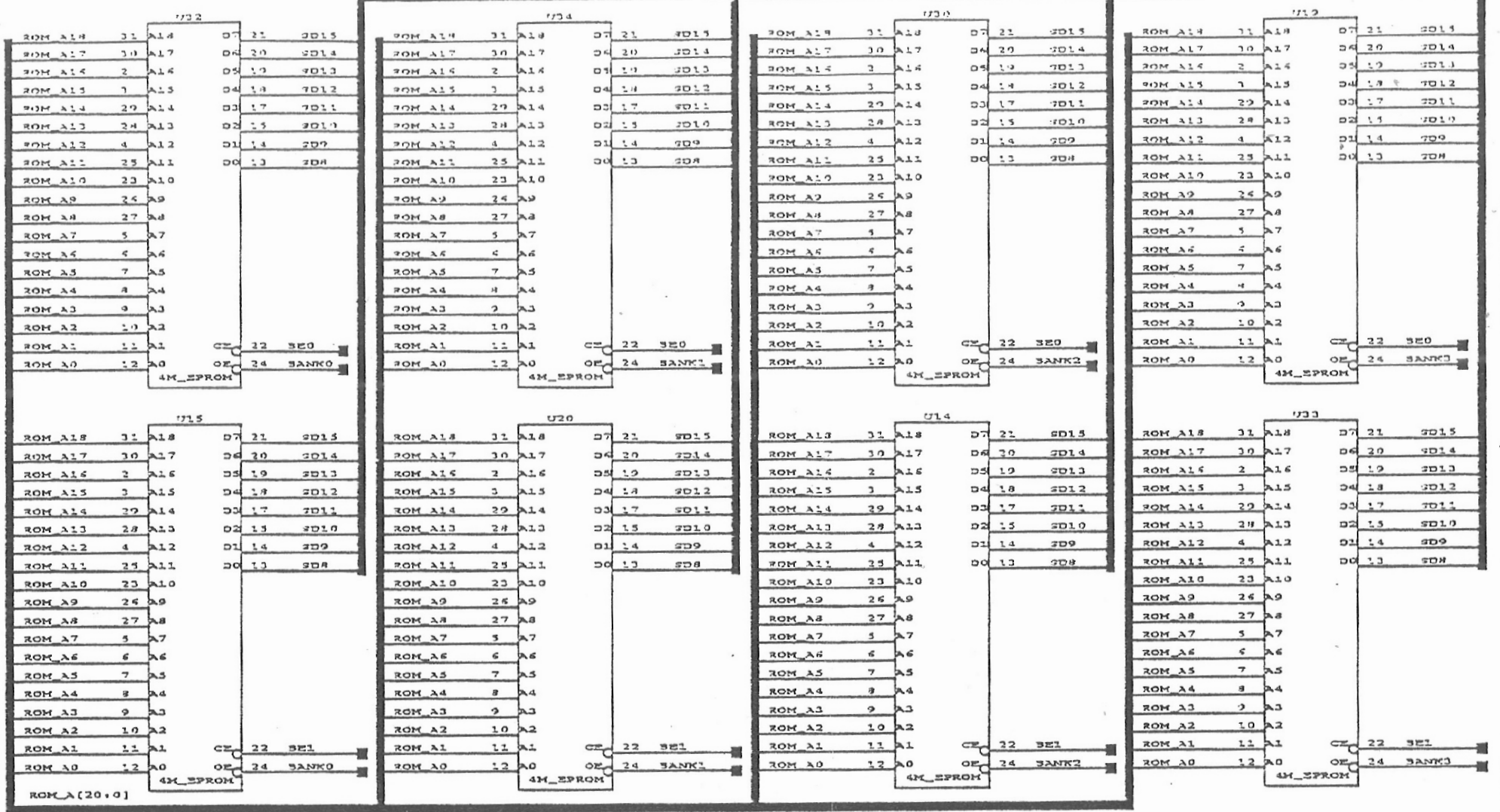
RD-1 CPU BOARD
 A-00013
 ACT_DRAM
 PAGE 5 OF 5



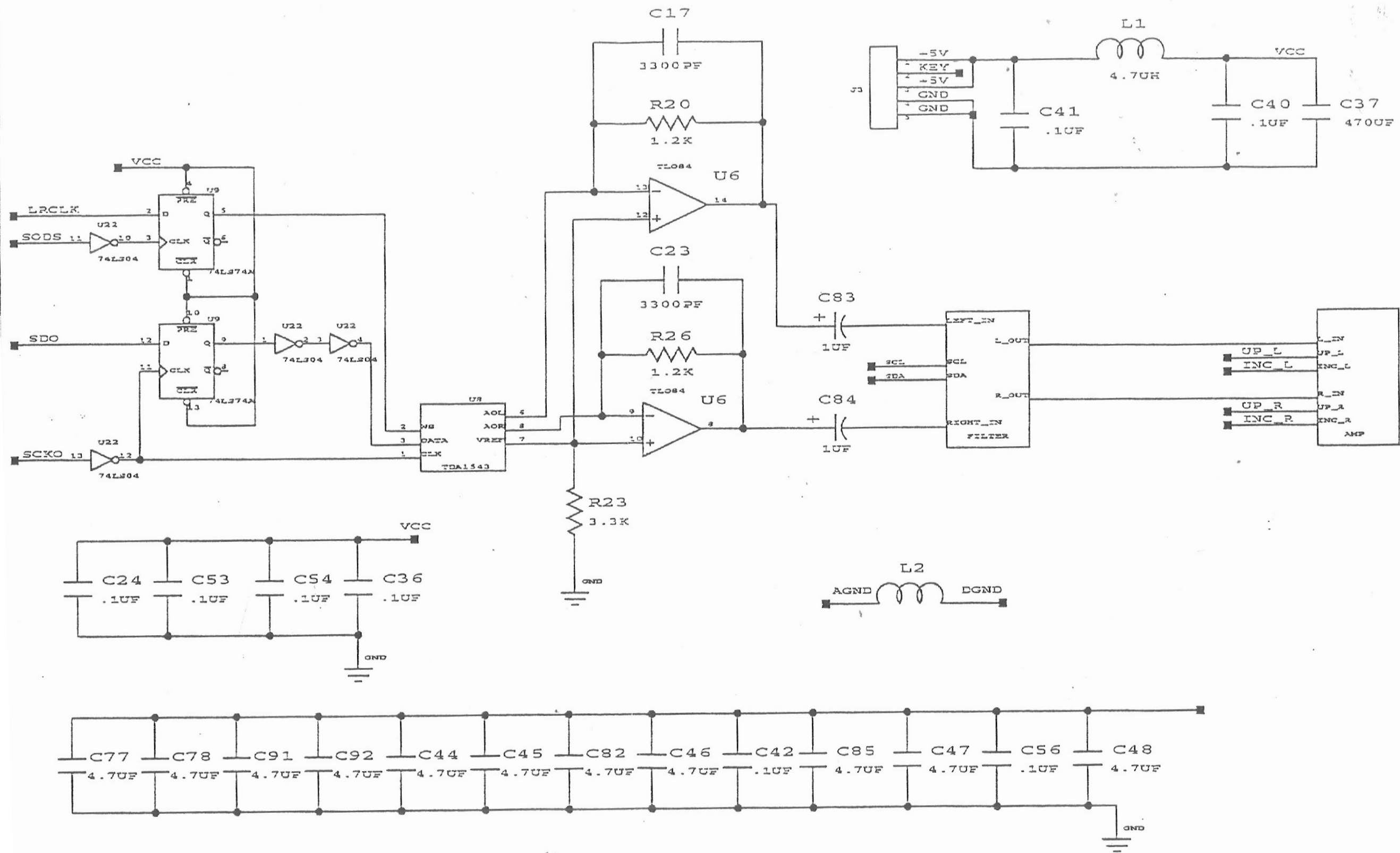
ROMSTAR
RD-1 SOUND BOARD
A-00043
PAGE 1 OF 6



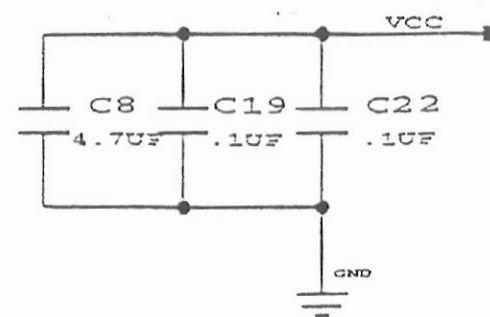
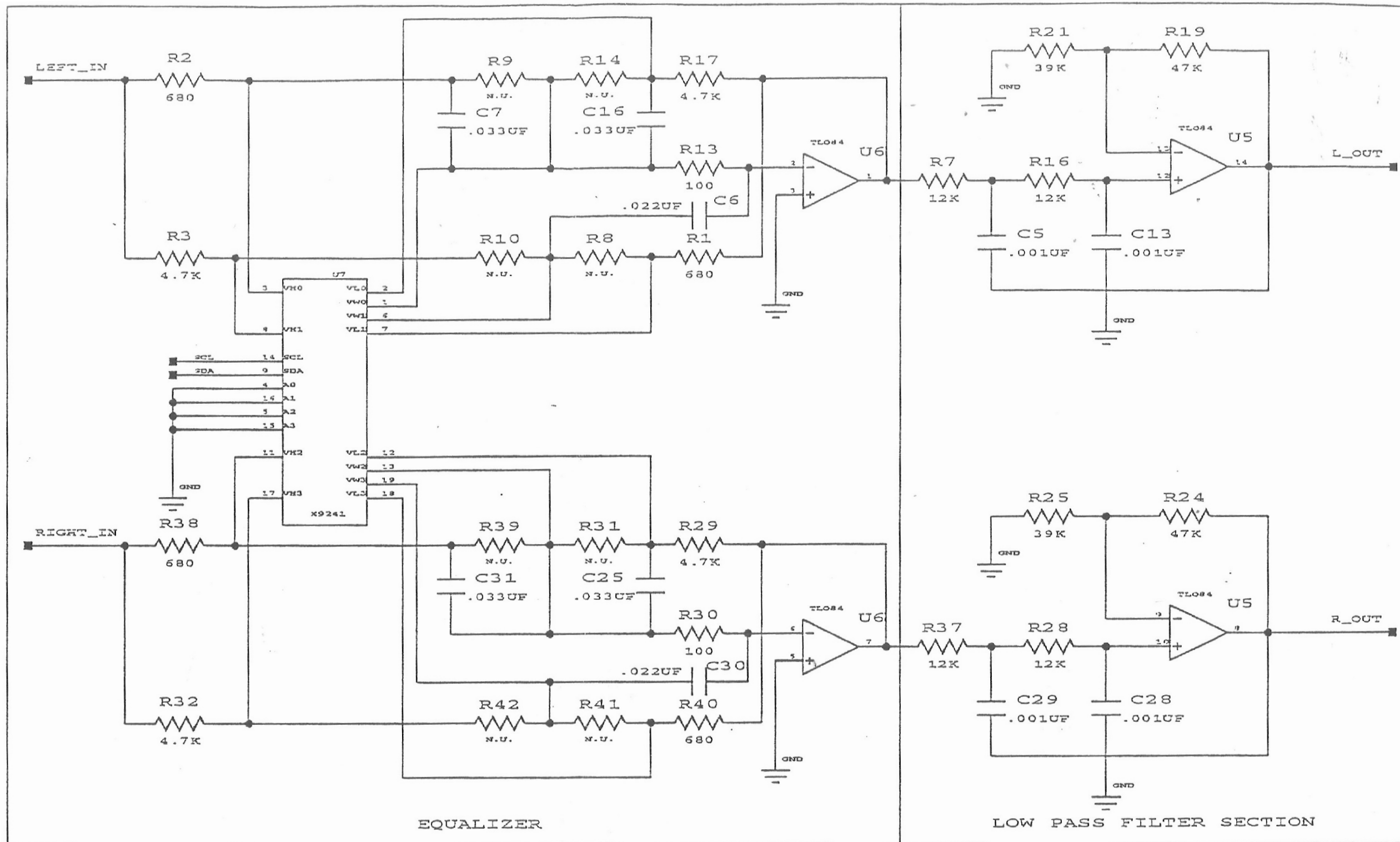
RD-1 SOUND BOARD
 A-00043
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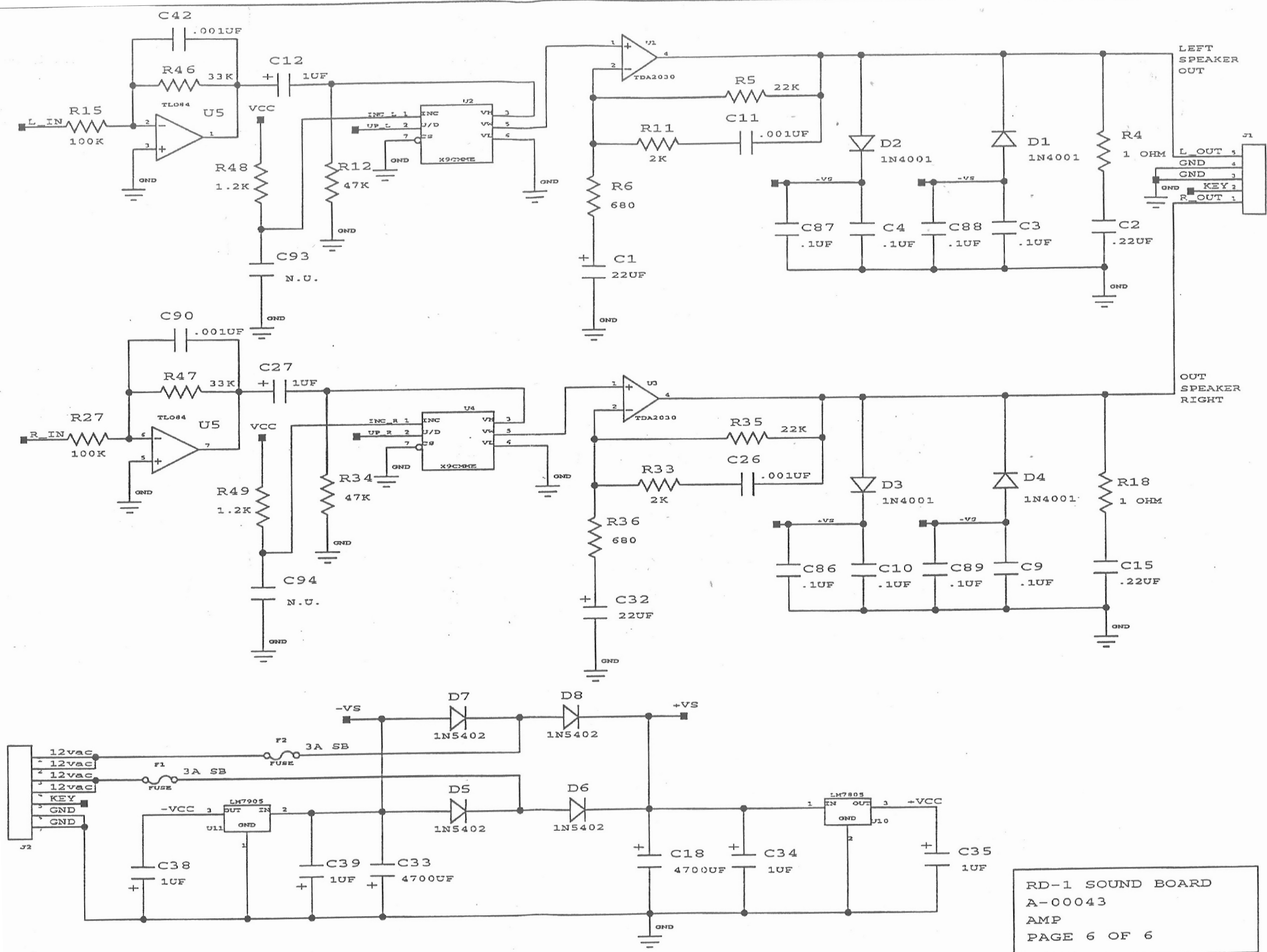
RD-1 SOUND BOARD
A-00043
SND_ROMS
PAGE 3 OF 6



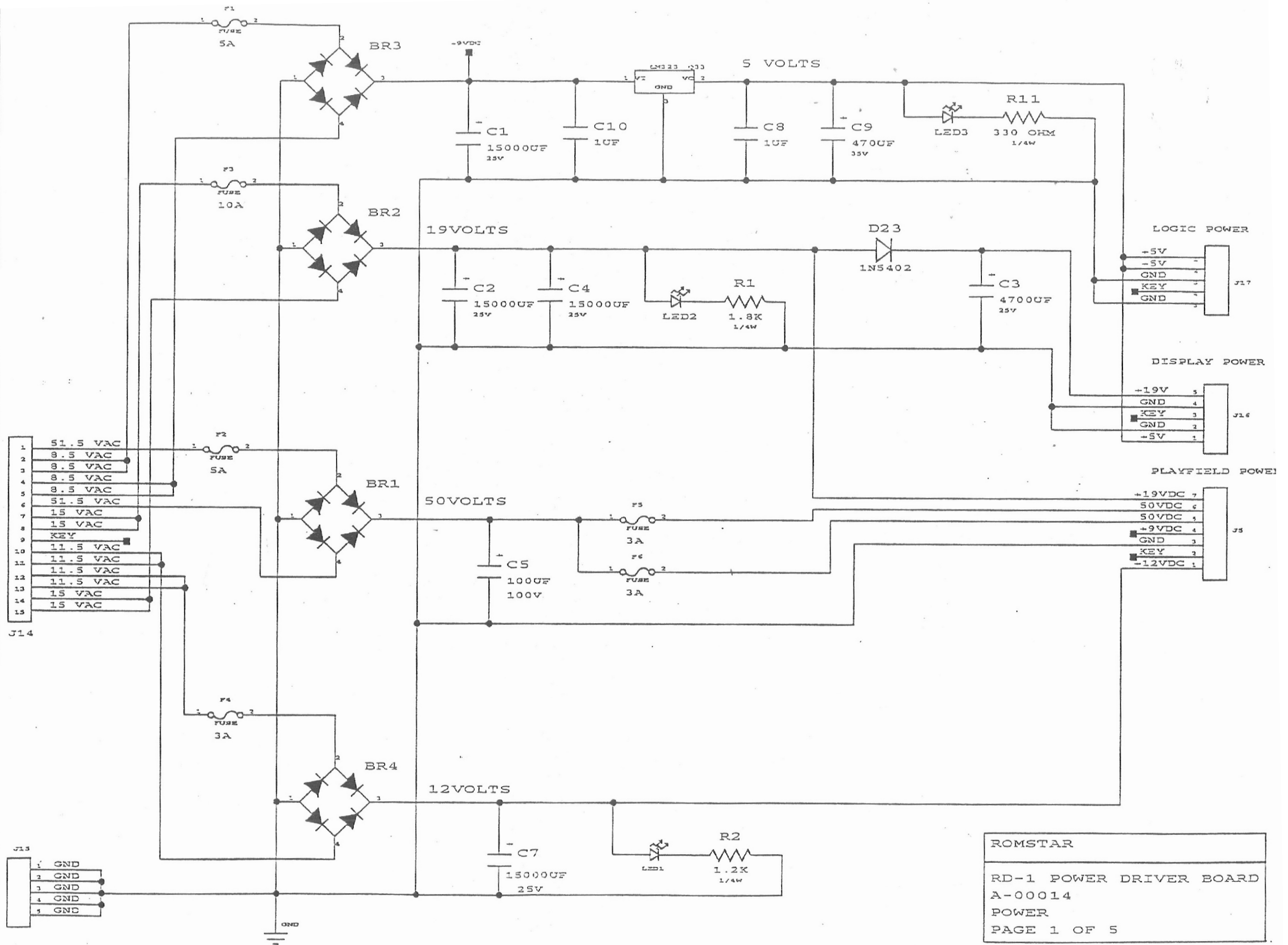
RD-1 SOUND BOARD
 A-00043
 RD1_AMPS
 PAGE 4 OF 6

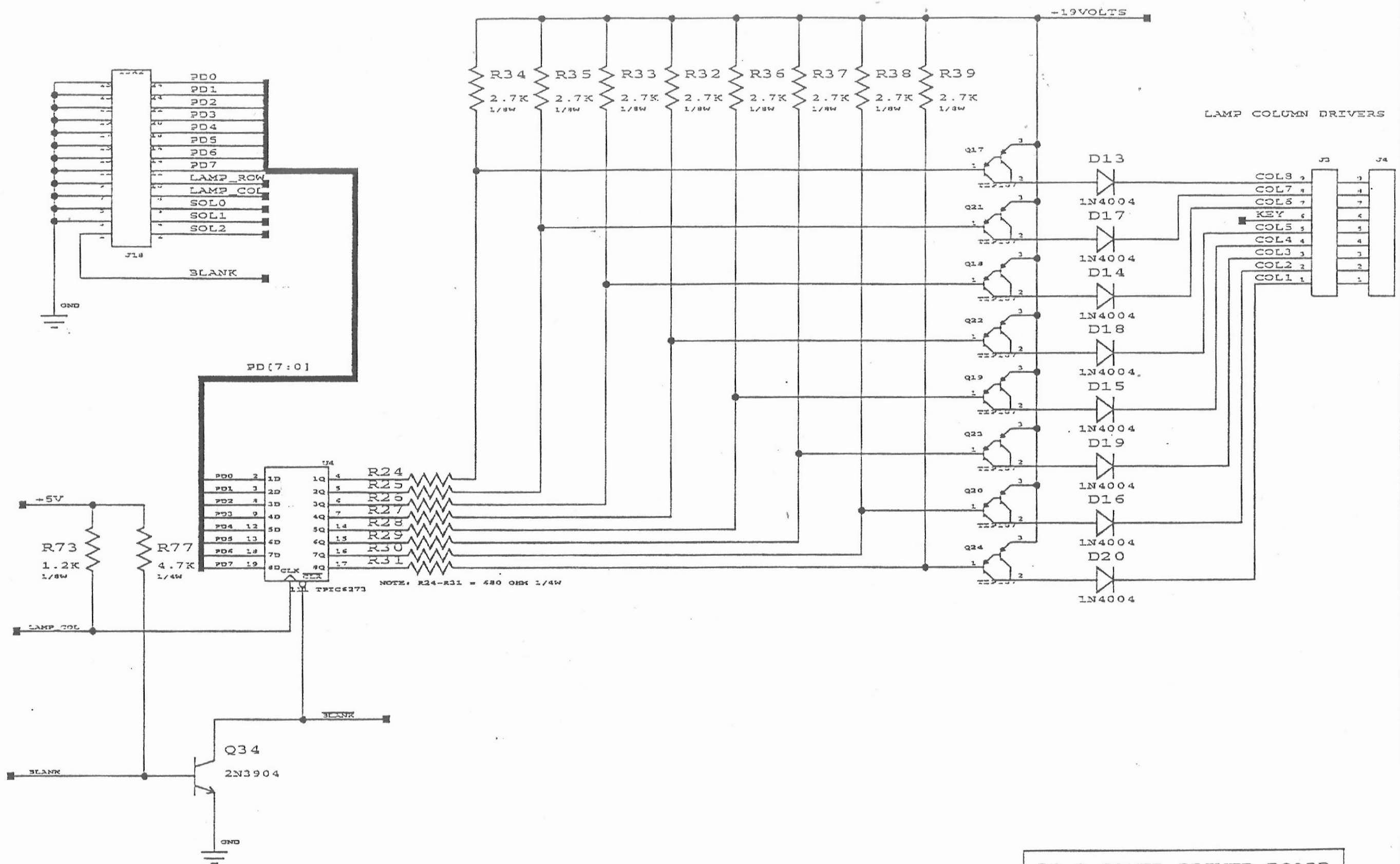


RD-1 SOUND BOARD
A-00043
FILTER
PAGE 5 OF 6

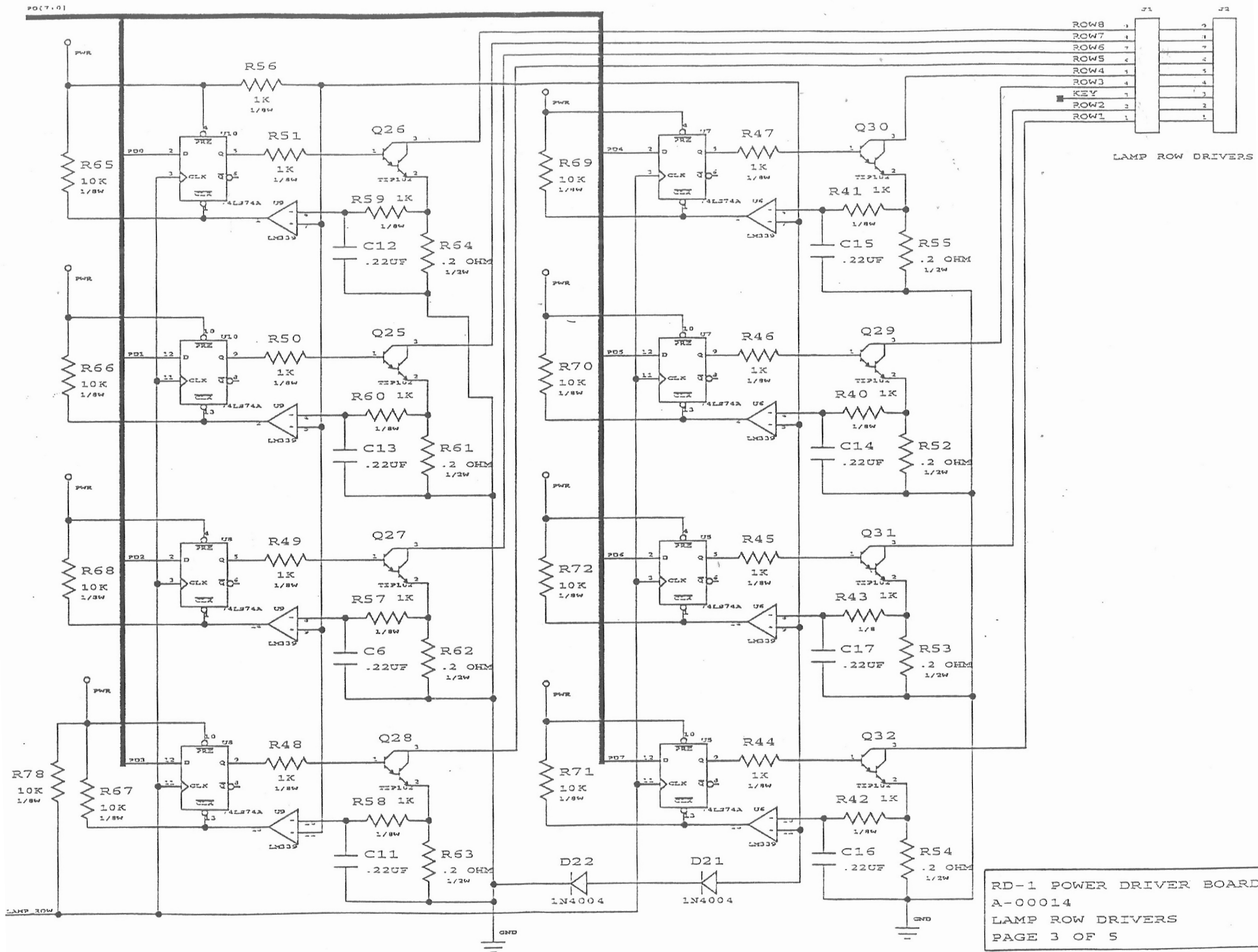


RD-1 SOUND BOARD
 A-00043
 AMP
 PAGE 6 OF 6





RD-1 POWER DRIVER BOARD
 A-00014
 LAMP COLUMN DRIVERS
 PAGE 2 OF 5



RD-1 POWER DRIVER BOARD
 A-00014
 LAMP ROW DRIVERS
 PAGE 3 OF 5

50VDC

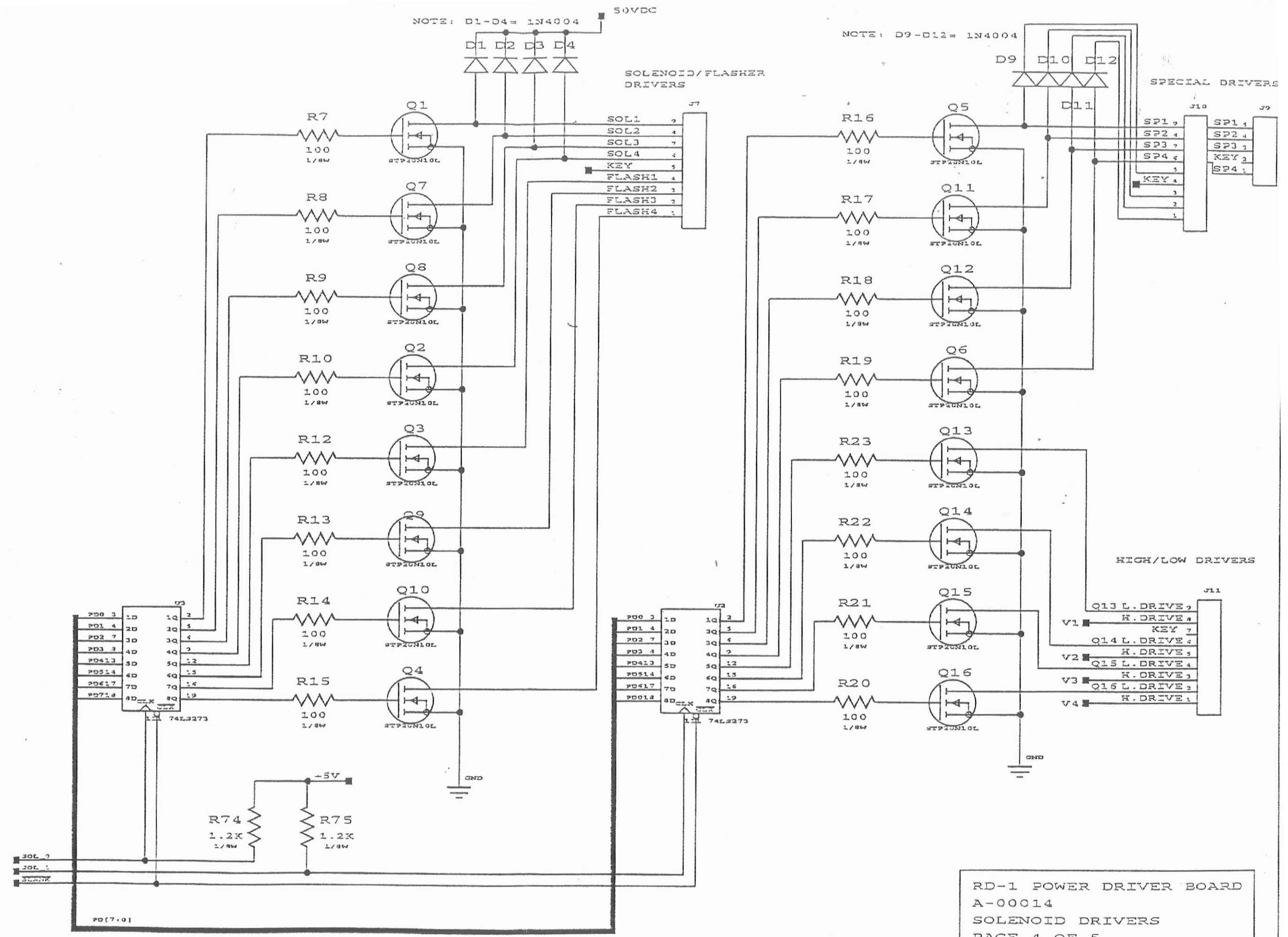
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NOTE: D9-D12= 1N4004

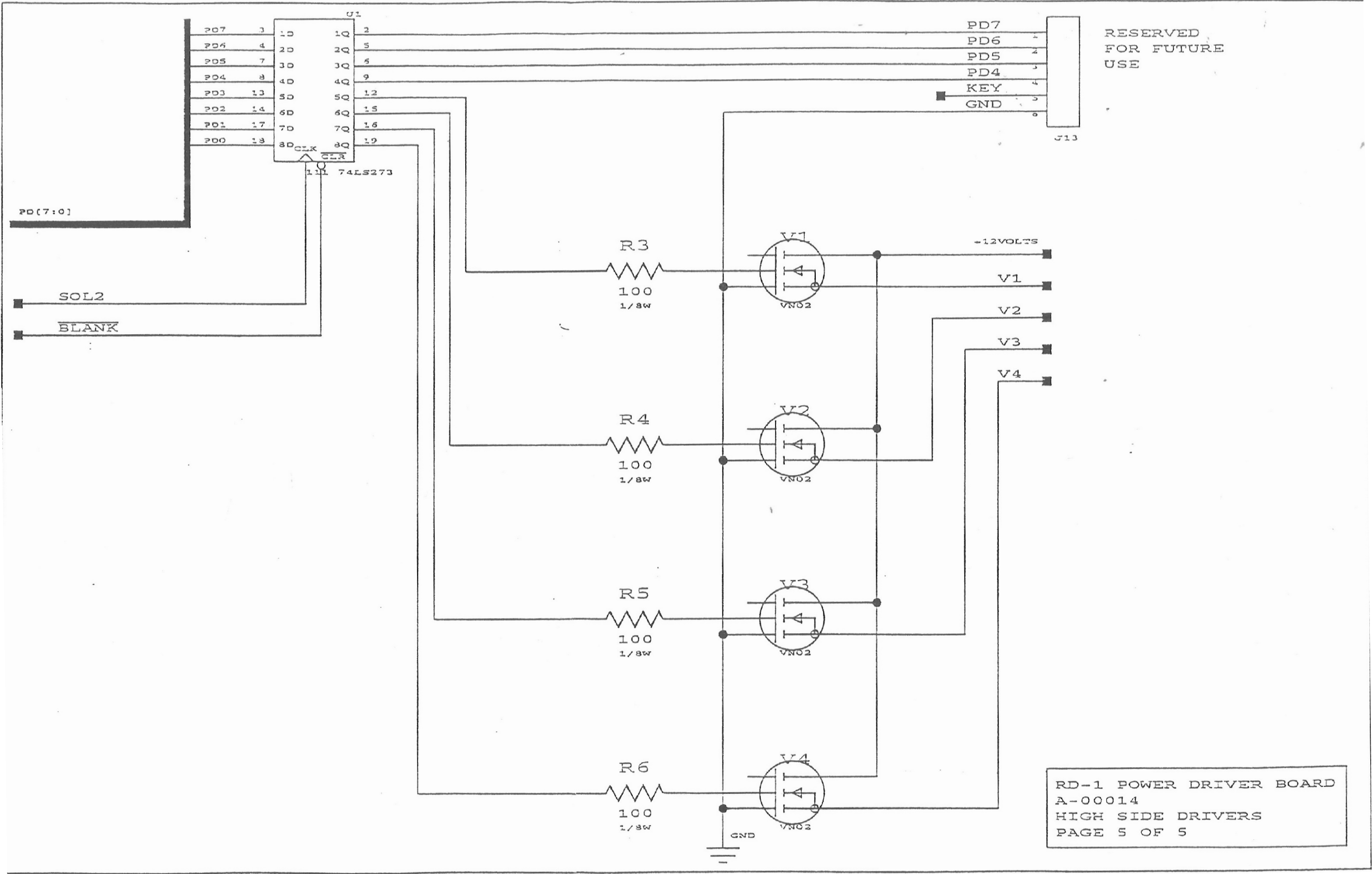
SOLENOID/FLASHER DRIVERS

SPECIAL DRIVERS

HIGH/LOW DRIVERS



RD-1 POWER DRIVER BOARD
 A-00014
 SOLENOID DRIVERS
 PAGE 4 OF 5



RESERVED
FOR FUTURE
USE

RD-1 POWER DRIVER BOARD
A-00014
HIGH SIDE DRIVERS
PAGE 5 OF 5

