

# Horsin' Around

## Operating Instructions

*C.P.U Version HA5*  
*Sound version A0*

Manual Revision • 5/27/2003

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BAY-TEK INC.  
1077 EAST GLENBROOK DRIVE  
PULASKI, WI 54162  
E-MAIL: [service@bay-tek.com](mailto:service@bay-tek.com)  
PHONE: (920) 822-3951  
FAX: (920) 822-8936

INTRODUCTION

Thank you for choosing *Horsin' Around*. This game has been designed to be fun to play, easy and reliable to operate. Its flexible programming makes it a winner in all types of locations.

*Horsin' Around* features:

- ❖ Instant programming changes
- ❖ Built in diagnostics and payout statistics
- ❖ Easy ticket loading
- ❖ Players can win tickets every time
- ❖ Crisp, clear digital sounds.

This game has been preset to pay out approximately 40 percent based on 1¢ tickets and 25¢ play. This should give excellent results. However, you should monitor the game payout statistics, especially in the first few weeks of operation, to establish the optimum setup for your location.

### GAMEPLAY

Players must use a pinball type plunger to shoot a ball into one of the holes located on the in a rotating turntable. The colored holes on the raised section of the turntable score the amount shown on the scoreboard for the corresponding horse. Hitting the Champion (#1 Horse) target also wins the progressive jackpot. Hitting one of the lower, unmarked holes also scores 3 tickets (default).

The "tickets owed" display adds tickets as they are won and subtracts them as they are dispensed. Should tickets run out, the display will show the remaining amount due the player and add tickets as play continues. When the ticket supply is replenished, the dispenser will automatically resume dispensing until the players' remaining tickets are dispensed.

### PROGRESSIVE JACKPOT SIGN OPTION

If you also have a *Horsin' Around Progressive Jackpot Sign*, setup and payout instructions are located in a separate manual shipped with the sign. Up to 6 *Horsin' Around* games can share a sign at once.

## DIPSWITCH SETTINGS

The programmable features of *Horsin' Around* are set with DIPswitches. Two of the three available DIPswitch banks are used for this game. The convention we will use to refer to DIPswitch settings here is BANK-POS format. For example, to refer to the first switch in the first bank of switches the reference would be DS1#1. DS1 designates the first switch bank and #1 indicates switch number 1.

### DS1

X = closed or on position      O = open or off position      • = default setting

Progressive Increment Event			Function
DS1	Pos. #1	Pos. #2	Action that increases the progressive jackpot
•	O	O	Disabled
	X	O	Inserting a coin
	O	X	Scoring in the lower, unmarked holes
	X	X	Scoring in the horse holes, except for Champion

Progressive Increment Amount			Function
DS1	Pos. #3	Pos. #4	Tickets added to progressive jackpot each increment
•	O	O	+1 every event
	X	O	+2 every event
	O	X	+3 every event
	X	X	+5 every event

Tilt Settings			Function
DS1	Pos. #5	Pos. #6	Action taken when a tilt is detected
•	O	O	Disabled, no action taken
	X	O	Tilt tripped immediately
	O	X	Tilt tripped after 3 consecutive detects

Attract Sounds		Function
DS1	Pos. #7	Controls game attract sounds
•	O	Attract sounds disabled
	X	Sounds played every 2 minutes

Unimplemented		Function
DS1	Pos. #8	This switch must be set to off for the game to function properly

Credit Accumulation		Function
DS1	Pos. #9	Controls how the ticket bank display operates (for state of New Jersey)
•	O	Credits do not accumulate
	X	Credits accumulate with each coin insertion

Unimplemented		Function
DS1	Pos. #10	This switch must be set to off for the game to function properly

### DS2

Unimplemented		Function
DS2	Pos. #1 - #10	All switches in DS2 must be set to off for the game to function properly

DS3

Score Table Selection

Function

DS3	Pos. #1	Pos. #2	Pos. #3	Pos. #4	Selects payouts for hitting horse targets
O	O	O	O	O	Table "A"
X	O	O	O	O	Table "B"
O	X	O	O	O	Table "C"
X	X	O	O	O	Table "D"
O	O	X	O	O	Table "E"
X	O	X	O	O	Table "F"
O	X	X	O	O	Table "G"
X	X	X	O	O	Table "H"
O	O	O	X	X	Table "I"
X	O	O	X	X	Table "J"
O	X	O	X	X	Table "K"
X	X	O	X	X	Table "L"
O	O	X	X	X	Table "M"
X	O	X	X	X	Table "N"
O	X	X	X	X	Table "O"
X	X	X	X	X	Table "P"

Score Tables (HA-ST2)

Function

Table	Horse 1 (Champion)	Horse 2 (Hi-Stepper)	Horse 3 (Thunder)	Horse 4 (Spirit)	Horse 5 (Rerun)
"A"	100	40	30	20	10
"B"	100	30	25	20	15
"C"	100	35	25	15	10
"D"	100	25	20	15	10
"E"	75	40	30	20	10
"F"	75	30	25	20	15
"G"	75	35	25	15	10
"H"	75	25	20	15	10
"I"	50	40	30	20	10
"J"	50	30	25	20	15
"K"	50	35	25	15	10
"L"	50	25	20	15	10
"M"	50	30	22	15	8
"N"	50	30	20	10	5
"O"	30	20	15	10	5
"P"	30	16	12	8	5

Lower Hole Scoring

DS1	Pos. #5	Pos. #6	Pos. #7	Hole 1	Hole 2	Hole 3	Hole 4	Hole 5
O	O	O	O	0	0	0	0	0
X	O	O	O	1	1	1	1	1
O	X	O	O	2	2	2	2	2
X	X	O	O	3	3	3	3	3
O	O	X	O	0	1	2	1	0
X	O	X	O	1	2	3	2	1
O	X	X	O	2	3	4	3	2
X	X	X	O	3	4	5	4	3

Shots Allowed

Function

DS3	Pos. #8	Ball launches allowed per credit
O		1 shot per credit
X		2 shots per credit

Unimplemented

Function

DS3	Pos. #9	Pos. #10	These switches must be set to off for the game to function properly
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## TICKET DISPENSER

*Horsin' Around* is equipped with a Deltronic Labs DL-1275 ticket dispenser. *Horsin' Around's* game board turns on the dispenser, which continues to dispense until the correct number of signals are received from the optical detector, which then causes the game board to shut off power to the motor.

Should the machine run out of tickets the motor will shut down immediately. Running out of tickets will not inhibit the further operation of the game. The customer may continue to play the game. The "Tickets Owed" display will continue to accumulate tickets until the ticket magazine is reloaded. When the ticket supply is replenished, dispensing will resume until the "Tickets Owed" display returns to zero. The "Tickets Owed" display will show the exact amount (plus one) of tickets owed to the customer. The plus one is the last ticket that was dispensed to the customer. The game board did not read that ticket since there wasn't any notch to detect.

## LOW TICKET INDICATOR

When the tickets remaining in the ticket magazine fall below approximately 500 the coin unit lamps begin flashing. This is the low ticket indicator for this game and can eliminate or at least reduce many ticket problems if the operators are informed of this feature.

## LOADING TICKETS

The ticket magazine is designed to hold four stacks of tickets. Do not attempt to load more than this because a certain amount of space is required above the ticket stack for the tickets to unfold as they are being dispensed.

1. Open the ticket access door.
2. Remove any remaining tickets from the magazine and place them to the side of the game. There is no need to unthread them from the dispenser.
3. Glue the top ticket of the first new stack to the bottom ticket of a second new stack and drop the second stack onto the first in the magazine and so on until the magazine is full
4. Glue the top ticket of the topmost new stack to the end of the remaining stack and replace the remaining stack into the ticket magazine.
5. If required, thread tickets into the dispenser, being careful to slip them through the gap in the optical sensor located on the dispenser PCB.
6. Blow the dust out of the ticket dispenser unit and close the ticket door.

Refer to both the maintenance section of this manual and the ticket dispenser manual, which is included with this package for additional information.

## DIAGNOSTICS AND TROUBLESHOOTING

Several button combinations can be used to either control or monitor some of the operating parameters of *Horsin' Around*. Special combinations of the Volume Up, Volume Down and Diagnostic Engage buttons are used to access and adjust these parameters.

### VOLUME ADJUST

The two dedicated buttons located inside the coin unit door control volume level. The upper button is for raising the volume level Volume UP and the lower button is for lowering it Volume DOWN. Each push of either of these buttons causes a sound to be played at the new level to help evaluate the change in volume. This variable is stored in battery backed RAM so it will be the same when power is cycled to the game.

### DISPLAY OPERATING PARAMATERS

A series of support routines are provided to check for bad LED's or display segments, display game payout statistics, display the installed software version etc. Pressing Volume UP, Volume DOWN and the Diagnostic Engage button simultaneously while the game is in an idle state starts these routines. While in this mode, each press of the Volume UP button advances to the next set of displayed parameters. This is a five step process and the Credit portion of the display becomes a counter to indicate which step you are in. Note that this mode will automatically return to normal operation after 3 minutes have elapsed so there is no chance of the game being stuck in this mode. Each step of the sequence is explained here starting with the three button combination that starts the sequence.

#### STEP 0 – PAYOUT STATISTICS

The Horse Values are replaced with the number of times each horse has been hit since the last reset. The "Last Win" portion of the display shows the percentage payout based on 1¢ tickets and 25¢ play. Therefore if you are operating with different values it is best to use the ticket per coin number to evaluate your payout. The "Tickets Owed" portion shows the average tickets per coin rounded to the nearest tenth. "Credits" display 0 at this stage of the sequence.

#### STEP 1 – POSITION DISPLAY

The current Carousel and Turn Table rotational position are displayed. The "Last Win" display shows the number of each carousel horse as they pass the front window. This will read from 1 to 5 as the carousel rotates. The "Tickets Owed" display shows the number of each hole in the Turn Table as it passes over the exit. This shows 1 through 10 as the turntable rotates. These displays are useful for verifying that the game is correctly keeping track of the position of the rotating components. "Credits" display 1 at this stage of the sequence.

#### STEP 2 – COUNTS PER REVOLUTION

The "Last Win" area shows the number of counts per revolution for the carousel while "Tickets Owed" displays the number of counts per revolution for the turntable. The normal range for these readings is between 365 and 373. If the displayed value is

outside these limits the optical index sensors should be checked for proper focal distance, that they are perpendicular to the bottom of the turntable or carousel and that the index reflectors are shiny and in good condition. Refer to the maintenance and adjustments section for a more detailed explanation of proper sensor adjustment and operation. "Credits" display 2 at this stage of the sequence.

### STEP 3 – LAMP TEST

All LED's and digit segments are turned on during this test. Use it to verify that there are no burned out LED's or faulty drive components in the display. To protect driver circuits from overload this routine automatically returns to normal game operation after 30 seconds if the user does not press the Volume UP again.

### STEP 4 – BACK TO NORMAL

Exit maintenance routines and return to normal game operation at the point it was interrupted. The control program will also do this after 3 minutes have elapsed.

### SELF TESTS AND ERROR CODES

Self-diagnostic tests are a basic part of the *Horsin' Around* control software and are continually performed while the game is operating. If any of these tests are failed the display will show the error code to indicate the area of failure. "Err" will be displayed in the "Last Win" window and a 2 digit code will be displayed in the "Credits" portion of the display the rest of the display will be blank. Note that if this occurs during game play, the game will first attempt to dispense any tickets owed to the player if it is able. Six different error codes are possible and are discussed here along with the cause or causes and recommended cures.

#### Err 01

This error occurs when the control software fails to reset an internal "watchdog" timer. This is a catastrophic failure and causes a total shutdown of the game. The only way to recover from this failure is to remove A/C power from the game for 5 seconds or so and then power-up again. In the majority of cases the error will return within the first few seconds of reapplying power because a hardware component has failed on the main control board.

**Err 02**

Issued if the CPU encounters an illegal op-code while executing the control program. Again this is a catastrophic failure and causes a total shutdown of the game. The only way to recover from this failure is to remove A/C power from the game for 5 seconds or so and then power-up again. In the majority of cases the error will return within the first few seconds of reapplying power because a hardware component has failed on the main control board.

**Err 03**

Caused by loss of system clock signal. This is also a catastrophic failure and causes a total shutdown of the game. The only way to recover from this failure is to remove A/C power from the game for 5 seconds or so and then power-up again. In the majority of cases the error will return within the first few seconds of reapplying power because a hardware component has failed on the main control board.

For error codes 01 through 03 you should contact the factory for assistance. Make a note of the error code and any sub-codes that may have been displayed which will help diagnose the problem.

**Err 04**

This error is displayed when a signal is detected from the turntable exit Ball Sensor Board but a ball was not launched into the game. There are three possible causes for this malfunction.

1. Improper alignment of the LED and phototransistor located on the Ball Sensor Board. Both the LED and phototransistor should lie against the surface of the PCB and point directly at each other.
2. A bad or weak LED that is unable to sufficiently illuminate the phototransistor.
3. A bad output on the Ball Sensor or bad input on the main control board. The output of the Ball Sensor is an open collector transistor and should go low when the sensor is blocked. The inputs on the main board are pulled to +5 volts, so when the sensor is not blocked the output will be at or very close to 5 volts.

**Err 05**

This error is displayed when a signal is detected from the plunger Ball Sensor Board but a ball was not kicked into the game. There are three possible causes for this malfunction and are all the same as the causes listed in the error 04 explanation.

**Err 06**

If the ball is not detected at the plunger after ten kick attempts the game will display this error and then wait for 5 minutes before resetting this error and retrying to kick the ball to the plunger.

**GAME MAINTENANCE**

*Horsin' Around* has very few moving parts so maintenance is minimal. A routine inspection of the game should include checking for and removing any debris in the plastic ball tracks, stepper motors, and drive gears. Periodic lubrication of the length of the plunger shaft is also needed. The ball bearing races used are pressure packed with grease when manufactured and with the low rotational speed of the game components should not need any attention.

**STEPPER MOTORS**

DO NOT LUBRICATE EVER!

**DRIVE GEARS**

DO NOT LUBRICATE EVER!

**TICKET DISPENSERS**

The tickets can be a major source of dust to the dispenser unit. It should be blown out every time tickets are added to the game to prevent dust accumulation from obstructing the optical sensor used to read the notch between the tickets. Over time, the paper dust will be attracted to the lubricants used in the mechanism, creating a gummy mess that eventually slows or even stops the dispenser operation. Keep these units clean and re-lubricate them regularly. The control software does keep track of the timing characteristics of the notch detector output and will self compensate for a slowing dispenser unit but there are practical limits to the amount of compensation that can be implemented. So it is best to keep these units as clean as possible and lubricate them regularly.

**CLEANING**

Clean the inside of the track that the ball rolls in periodically to remove any residue that may accumulate on the surfaces where the ball is in contact.

WARNING: only use cleaners that are safe for plastics since some of the components of "*Horsin' Around*" are made of "Acrylic™" and "Lexan™" both of which are very sensitive to solvents.

**WARRANTY INFORMATION**

Bay Tek Inc. warrants to the original purchaser that the game will be free of defects in workmanship and materials for a period of six months from the date of manufacture.

Bay Tek Inc. will without charge other than shipping, repair or replace the defective product or component parts upon a phone call to the Factory Service Department. Serial number and manufacture date identification will be requested over the phone for replacement purposes and in most cases a warranty replacement part will be shipped the same day. You will also be issued an RMA number for the return of the defective part(s), which can be shipped, back to Bay Tek Inc. in a reasonable time period.

This warranty does not apply in the event of any misuse or abuse of the product, or as a result of any unauthorized repairs or alterations. This warranty does not apply if the serial number is altered, defaced or removed from its original position.

**REPAIR OF OUT-OF-WARRANTY UNITS**

Should your game need servicing, determine the serial number and the manufacture date from the game, and call 920-822-3951. An estimate of repair or replacement charges will be quoted to you for approval. You may then request immediate shipping of replacement parts, or you may opt to send the defective part in to be repaired. If you choose to send the damage part in you will be charged for: labor (billed in half hour increments), the parts required for repair, and the return cost of shipping. Should you choose the latter, include the following:

- a. Name, address and phone number including area code.
- b. Game serial, manufacture date, and software version.
- c. A purchase order number, work order number or signed authorization to perform service.
- d. Description of problem relating to the damaged part.
- e. What method of return shipping

Most returned parts are repaired and shipped back the same day received, using the same mode of transportation under which they were received unless something else is specified. Repairs are warranted for parts and labor for a period of thirty days from the date sent back into service.

For faster service, record your game information here.

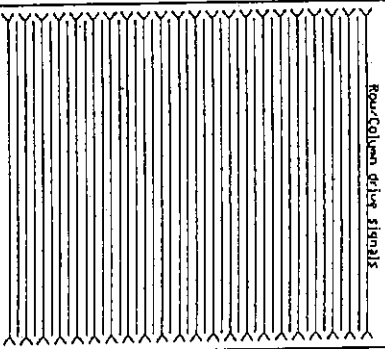
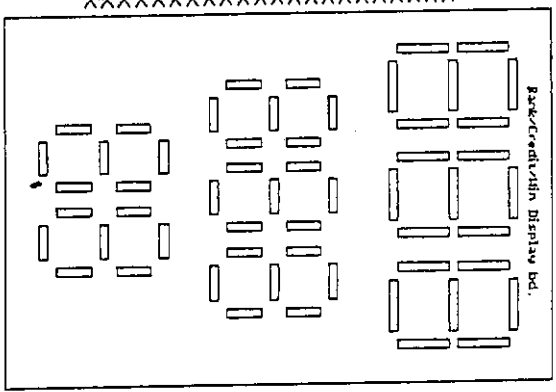
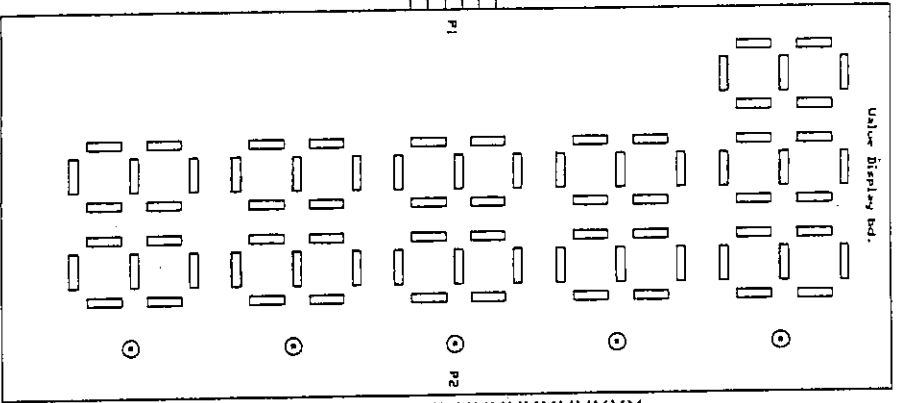
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MGC Serial # MGC \_\_\_\_\_

Serial number & Date Mfg. \_\_\_\_\_



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SCK	BLK
MSB1	YFL
STB 0	BLU
CLB	ORC
*120	RED1(B1)
Ground	RED2(B2)
	Ground

Note: All conductor size 22 gawg unless otherwise noted.

TOLERANCE	PAGE 2 of 2		SCALE	DRWN BY:	CHUCK DAVIER	
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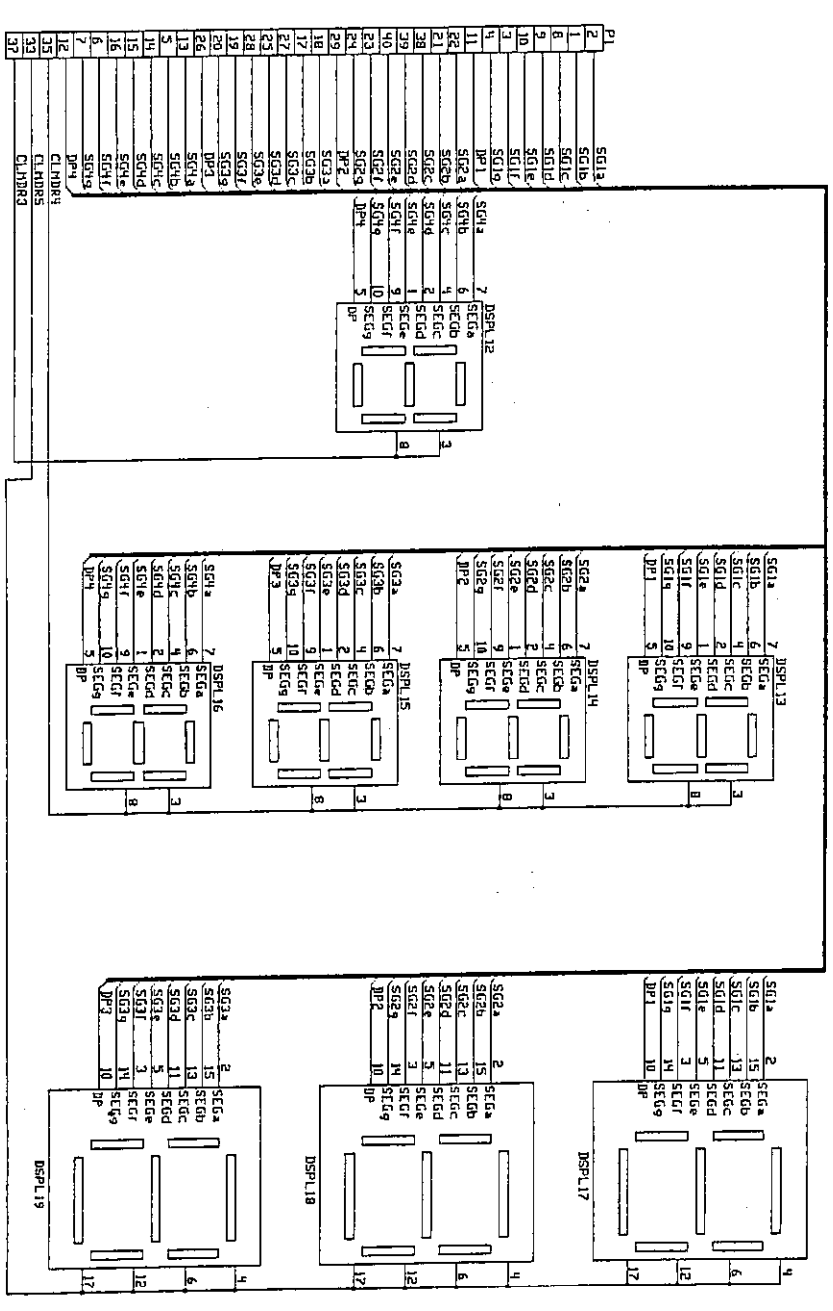
Seidel Amusement  
Machine Company, Inc.

Horsin' Around Wiring



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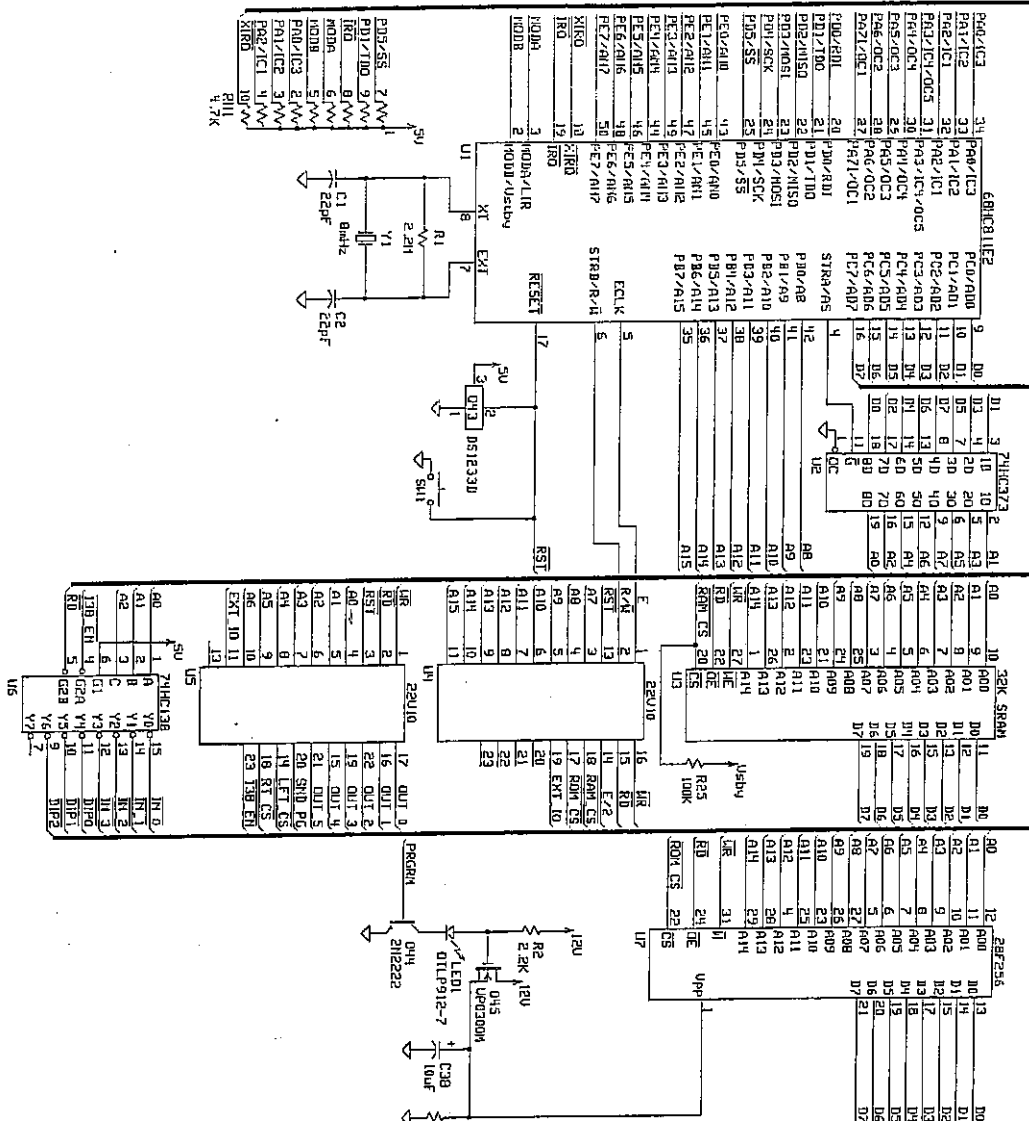
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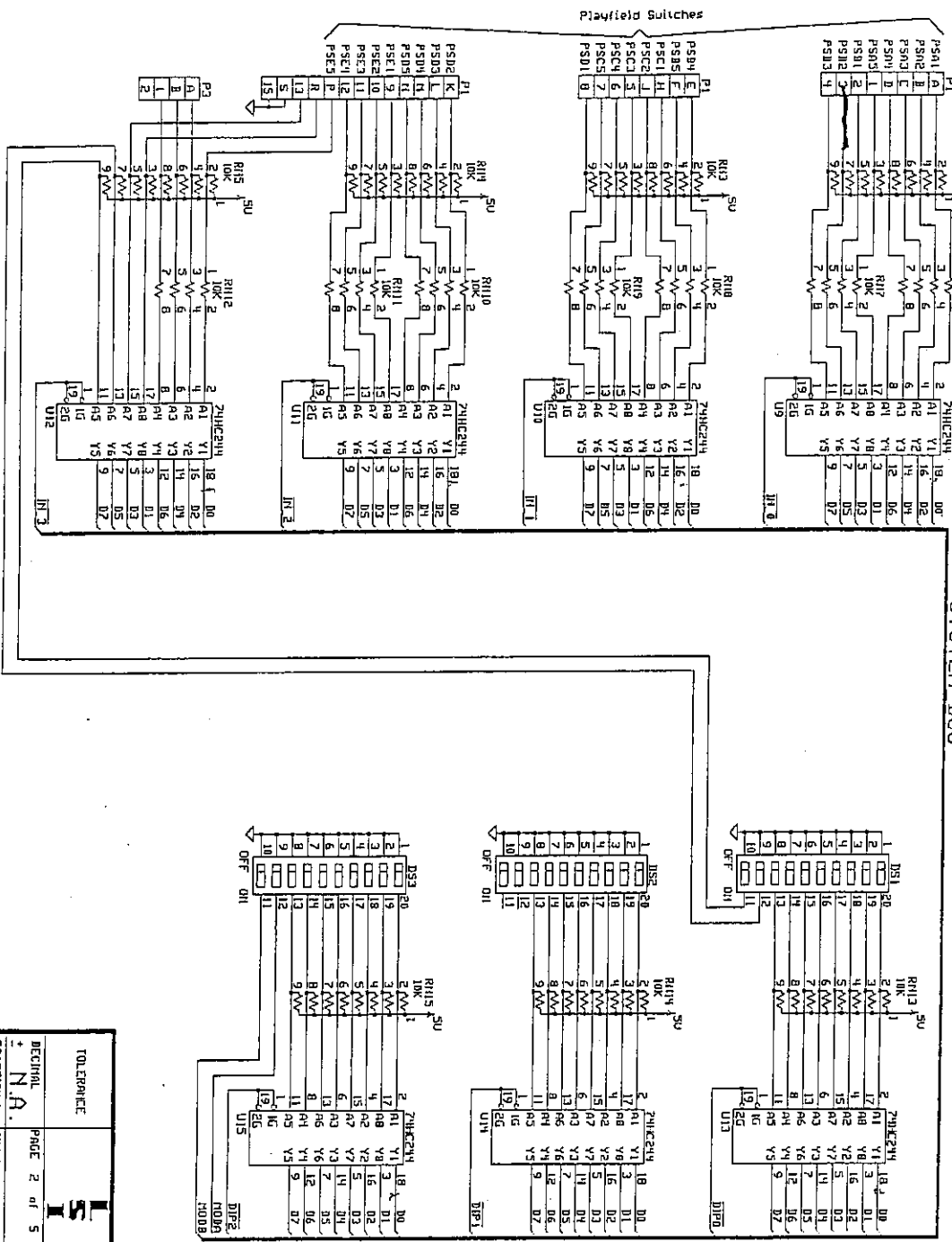
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TITLE Horsin Around Display		TITLE Horsin Around Display	
SCALE NONE		SCALE NONE	
DRAWN BY: Chuck Oiler		DRAWN BY: Chuck Oiler	
APPROVED BY: NONE		APPROVED BY: NONE	

HA DISP12X (Trkot) (R)

# SYSTEM BUS



SYSTEM BUS



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FRACTIONAL	N.A.
ANGULAR	N.A.
DATE	10-15-97
PRICE 2 of 5	
TITLE	MGC II Input Section
SCALE	None
DRAWN BY:	Chuck Orlow
APPROVED BY:	
PRESENTING NUMBER	mgc2_1.sch

MGC-9106



SYSTEM BUS

Audio Passthrough Bus

Right Channel Bus

Left Channel Bus

ISM46295

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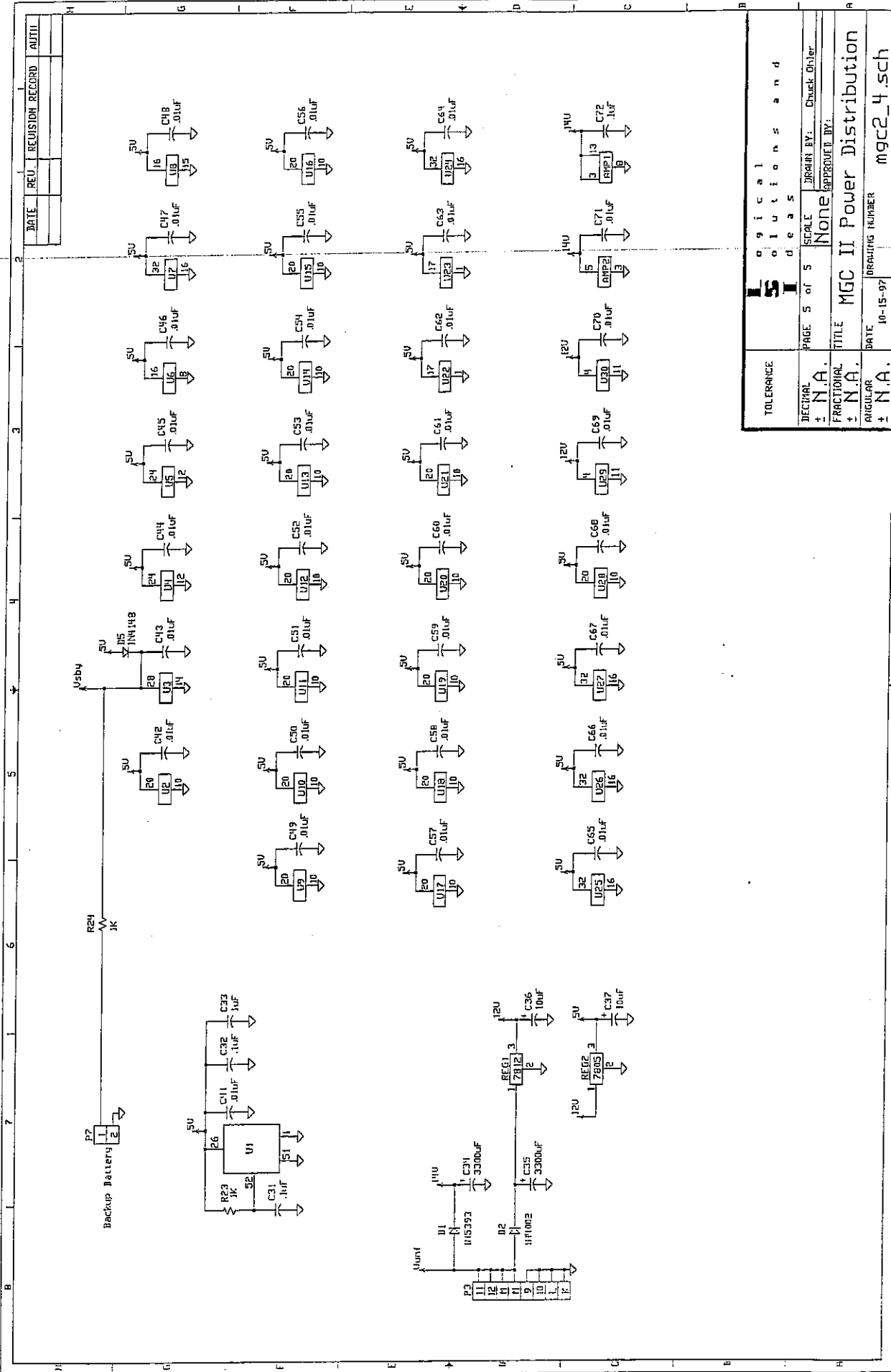
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MGC-9106