IMPORTANT THAT YOU READ THIS MANUAL PRIOR TO OPERATING.

ROUND 'N' ROUND

USER MANUAL

PHOENIX GAMES &AMUSEMENTS

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PREVENTIVE MAINTENANCE AND FIELD SERVICE

PURPOSE

The purpose of this manual is to assist you (the professional service technician) in the installation, operation, and servicing of Round 'N' Round.

This manual contains all the necessary information you will need to become properly familiar with this machine.

Our manual is self-explanatory, easy to use and acts as a reference guide.

Should you want additional information concerning this machine we provide the following telephone number, Phoenix Games & Amusements, (602) 894-8622.

PRODUCT *STATEMENT*

Phoenix Games & Amusements who provided the research, development and manufacturing on this game knows that products can only reach their maximum potential and gain the resultant customer satisfaction by being reliable and trouble free.

Therefore, we have taken extra steps and precautionary measures in the research and development, the quality control, and testing. The highest quality material and parts assembled by dedicated professional artisans.

BASIC DESCRIPTION OF GAME

Round 'N' Round is an exceptional and addicting action game. It is an exciting new redemption game that we believe will generate you additional income through your redemption counter.

It is a single player station game. Round 'N' Round is a non-violent skill oriented action game whose appeal is for all ages and genders.

The playing concept is simple and easily understood. Inserting coins or tokens automatically starts the game. The player only has to press the button to stop the wheel and score points worth 1 ticket per point. Round 'N' Round factory setting is 1 point equals 1 ticket.

SPECIAL FEATURES

This game highlights the following features:

- New equipment, not a clone or look-a-like.
- Skill play (a challenge concept).
- Large eye catching graphics.

- Modular component design.
- Error detection circuitry.
- Error display modes
- Ticket dispenser.
- Fully metered.

GAME PLAY INSTRUCTIONS

Coins or tokens inserted trip a coin-in switch that activates the following:

- Coin or token meter.
- Turns on various sound modes.
- Display's game information.

The play objective is to score as many points as possible by pressing the stop button and timing the ball to stop in the highest award setting. Game instructions are on each game.

AWARD DETERMINATION

Each game has a defined factory pre-set award schedule controlled by the microprocessor. The operator can change only the Jackpot award schedule using the keypad on the Controller PC Board. Additional "peel & stick" Jackpot award values are included (50, 75, & 100).

OVERALL MACHINE DIMENSIONS AND WEIGHT

Boxed Machine Weight : 240 pounds

Unboxed overall dimensions: 48" x 39" x 52"

ELECTRICAL SPECIFICATIONS

Line Voltage: 100 to 120 VAC Single Phase

Line Frequency: 60 HZ

TOTAL MAXIMUM CURRENT REQUIREMENT

Maximum current is 6.0 AMPS.

Current Protection: Individual fusing for each circuit

Power cord Receptacle: UL Rated

Power Supply: +12 Volt DC UL Rated

ENVIRONMENTAL

Temperature:	Operating:	32F to 95F oc to 35C
	Storage:	32F to 130F
Humidity (Relative) :	Operating:	10% to 90%
Non-Condensing	Storage:	0% to 95%

We made every effort to design and make this product operator or user friendly (easy to inspect and install).

SHIPPING AND MOVING THE UNIT

This product is modular in fashion and shipped partially assembled.

To assist *in* moving, the base frame and game cabinets of this machine we recommend furniture dollies.

IMMEDIATELY after delivery and uncrating, a physical inspection is necessary to ascertain any damage that occurred during shipping.

Everything (EXCEPT TICKETS) necessary to operate the machine is in the shipping container. You only need to supply basic hand tools for setup or installation.

Specifically you will need to uncrate the machine and proceed as follows:

* Check the exterior of the machine to verify that the machine is free from scratches, chips, blemishes and any mechanical damage.

* Check the top glass for scratches or cracks.

- Open the large rear door and inspect the CPU to verify that all connections are in tact. Check proper routing and security of the wires. THIS IS TO BE DONE BY AUTBORIZED SERVICE PERSONNEL ONLY.

* Mount the header box by the four carriage bolts included.

WHEN CHOOSING A LOCATION FOR THE GAME, PLEASE NOTE:

* This machine is for indoor use only. Outdoor use is not recommended and will void all warranties.

• Avoid locations in direct sunlight, high temperature, humidity, violent vibrations, dust, etc.

* Operate this machine on a flat surface. The cabinet includes leveler feet.

* Provide adequate ventilation and insure that it meets environmental specifications.

ASSEMBLY OF COMPONENTS

The following information is to aid you in the installation of this machine and any assembly that it entails. For field service and preventive maintenance guide please refer to the proper section.

1. Move the game to its final location.

2. Load tickets in ticket dispenser.

3. Plug game AC electrical cord into a properly grounded 120 VAC outlet.

4. Game is now ready to play.

NOTE

YOUR GAME HAS BEEN PRESET AT THE FACTORY FOR RECOMMENDED SCORING VALUES. TO CHANGE THE JACKPOT VALUE, REFER TO PAGE 11 OF THIS MANUAL.

CLEARING THE RAM OR RESETTING TEE MICROPROCESSOR

During the initial setup of the machine, or when replacing an old set of game programs, the RAM resets automatically when powered up.

AC BOARD AND FUSES

Access to the AC Printed Circuit Board and fuses is through the rear door by authorized service personnel only.

FUSE RATINGS

All fuses are 4 AMP. Use the properly rated fuses for each component. Warranty for product is void if improperly fused.

COIN-IN SWITCHES

Attached to the coin or token verifier, this switch activates the game and puts it into play.

AWARD SWITCHES

The eight award switches are part of the stationary main playfield board. These switches trigger inputs to the microprocessor to keep track of the player's skill level (points scored).

TICKET DISPENSER UNITS

1. This describes the basic electronic operation of Deltronic Ticket Dispenser Model DL-1275.

When the control unit calls for a ticket award, the motor in the dispenser activates. The opto beam breaker senses a notch in the ticket and sends back a signal to the control unit. This increments the ticket counter and the motor turns off when complete.

2. This describes the basic mechanical operation of the Deltronic Ticket Dispenser Model DL-1275

Tickets move through the ticket chute by means of a power driven roller that is spring loaded against an idler roller. The power driven roller has two neoprene o-rings and under normal operating conditions are the only contact with the tickets. The power driven roller mounts on the output shaft of the motor gear train assembly. The motor assembly mounts to the pivot bracket assembly in the two oilite bearings. The motor assembly has its swing limited by a single pin engaged in the brake sprag. The brake sprag engages the roller as an anti-theft device. The free swing of the motor assembly is in the direction of torque, which releases the brake sprag. Attempting to pull tickets from the machine with power off, the torque reverses and the brake sprag is operational. Also, pulling tickets will cause the pivot bracket assembly to apply pressure to the power driven roller against the ticket idler roller greater than the pre-set spring load. This causes the o-rings to depress and the course knurled surface of the roller then grips the tickets. One ounce of pull applies 20 lbs of pressure on the rollers.

3. Loading of tickets

Tickets enter the rear of the ticket chute and pushed forward. The power driven roller will be spring loaded against the idler roller and tickets will not pass until the rollers are clear of each other. This happens by using the thumb and index fingers, one placed on the block to which the spring attaches, the other on the pivot bracket assembly, then squeeze. Push the tickets

through until you see the edge of the ticket. ALIGN THE **NOTCH IN TEE CENTER OF THE OPTIC SENSOR.**

4. Ticket dispenser controller board

Attached to the ticket dispenser is a transistor motor controller that provides dynamic braking to ensure accurate and repeatable ticket stopping after issuing any number of tickets. Ticket sensing is by means of an opto beam breaker sensor. Also included is signal conditioning which provides high electrical noise immunity. The output of the ticket sensing circuitry is the equivalent to a single pole double throw switch.

5. Roller tension spring

The roller tension spring keeps constant tension on the tickets, which insures proper delivery and prevents tickets from being pulled through when the dispenser is idle. To increase tension, loosen screw and move spring forward. Proper tension prohibits pulling tickets from the dispenser.

6. Ticket guide spring

The ticket guide spring insures that the notches in the tickets pass through the opto beam breaker sensor. To increase tension, loosen screw and move outer spring upward. This changes the tension on the inner spring. Tickets should be snug between the spring and slide plate but not deformed by excess tension. This spring is adjusted at the factory for 1-3/16" wide tickets.

7. Ticket stop adjustment

The ticket stop adjustment allows positioning of tickets while the machine is off. The ticket should protrude through the slot approximately 1/16". The ticket dispenser PC board mounts with two screws and two slotted holes. Loosening the screws and moving the board forward will allow the tickets to stop further out beyond the edge of the slot.

8. Conditions which could cause a "HELP" display

a. Dispenser out of tickets.
b. Insufficient tension on roller tension springs
c. Tickets stopping back to far in slot causing ticket jam
d. Ticket guide spring not guiding tickets
e. Dirt on opto beam breaker
f. Missing notches on tickets
g. Defective dispenser controller board or motor.

Tickets are available through National Ticket Company in Shamoiin, Pennsylvania (717) 648-6803

PROGRAMMING INSTRUCTIONS

Access to the CPU is through the main cabinet rear door. The programming LCD is on the upper left corner of the CPU.

CPU Key Pad arrangement

PROGRAM	NEXT	ENTER	INCREASE
1	2	3	4
5	6	7	8
RUN	LAST	EXIT	DECREASE

When the unit powers up, the accounting functions will automatically display on the LCD display on the main CPU board.

Simply press key #2 labeled "NEXT" to bring up each of the three accounting readouts. The accounting displays are:

1. Coins (Number of coins played)
2. Tickets (Number of tickets dispensed)
3. T/C ratio (Coins played/Tickets dispensed ratio)

In addition to the accounting features there are four programs you may access.

By simply pressing Key #1 labeled "PROGRAM" you can elect on of the following programs:

1. Set Parameters
2. Set Cost$ - Game
3. Set Sound Levels
4. Test Functions - L.E.D., Sound, Memory, Ticket, and others

SET PARAMETERS PROGRAM

Once you have keyed up the "Set Parameters" program on the LCD display, press key #2 labeled "NEXT" to scroll through each of the programmable parameters.

The following appears as you press key #2 "NEXT" while you are in the "Set Parameters" program. The following settings come from the factory where a 0 or 1 set the parameter. 0 is off; 1 is on.

1. Game Time = 120 seconds
2. Attract Theme Repeat = 45 seconds
3. Award #1 Score = 100 **programmable** (0-999) jackpot.

4. Award #2 Score = 3 **non programmable.**

5. Award #3 Score = 4 **non programmable.**

6. Award #4 Score **= 6 non programmable.**

7. Award #5 Score = 8 **non programmable.**

8. Award #6 Score **= 12 non programmable.**

9. Award #7 Score = 15 **non programmable.**

10. Award #8 Score **= 25 non programmable.**

11. Minimum Tickets Awarded = 01

12. Ticket Sound On? = 1 (0 = No, 1 = Yes)

13. Enable Tickets? = 1 (0 = No, 1 = Yes)

14. Points per Ticket = 1

15. Reset Tickets or Coins = 0 (0 = Off, 1 = On)

To change the above parameters once you have selected an item from one number to another, simply press the Key #4 labeled "INCREASE" or Key #6 labeled "DECREASE".

To move the cursor(**it blinks on the digit it will change)** to the left or right you must press Key #3 to move the cursor to the left and Key #6 to move the cursor to the right.

Once set to the desired amount press Key #2 "NEXT" to go to the next option.

Once you set the option to your satisfaction you must press Key #5 labeled "RUN" twice to return to the run or operational mode.

This is the end of the "Set Parameters" program.

TEST FUNCTION PROGRAM

This program allows you to test auxiliary equipment and switches to insure they are operating properly.

Press Key #1 until it displays "TEST FUNCTION" on the LCD display, next press Key #2 to bring up one of the following items to test.

1. LED Display Test

2. Sound Test

3. Memory Test

4. Ticket Test

To test items 1 to 4 once you are in the test program, just press Key #2 "NEXT" until you come to the item you want to test, then press Key #3 "ENTER".

This is the end of the "Test Function " program.

PREVENTATIVE MAINTENANCE

This introduction begins with a DICTIONARY definition. Webster defines -maintenance" as: The act of maintaining; the state of being maintained; or the upkeep of property or equipment.

PHOENIX GAMES & AMUSEMENTS defines maintenance as it applies to our business as: To maintain our products in the best possible condition for our customers who are the most important people in our business.

There are two types of maintenance repairs. They are PREVENTATIVE MAINTENANCE and FIELD SERVICE.

Preventative Maintenance refers to taking advance measures against something that is possible or probable.

Field Service refers to the action taken to correct a problem that caused or might cause the breakdown of a machine.

Typical problems requiring Field Service are defective verifier, power supply problems, etc.

The following indicates the differences between Field Service and Preventive Maintenance.

Preventive Maintenance	**Field Service**
* Is predictable	* Is not Predictable
* Is performed at your convenience	* Often handled on an emergency basis
* Is relatively inexpensive	• Is generally more expensive
* Requires a short period of time to perform	* Removes product from service for longer periods

When a problem arises, it is important that you properly diagnose what the problem is prior to repairing or replacing anything. Some problems are traceable to a single cause while other problems might have several causes. This guide is not all inclusive of the problems that can occur; only of common types found for this type of equipment. First question to be asked is: is the problem of an electrical or mechanical or both in nature?

PREVENTIVE MAINTENANCE SCHEDULE

* Clean optic eye on ticket mechanism
* Clean coin in verifier
* Spray playfields lightly with static guard

GENERAL CLEANING WHAT TO USE

a. Glass and clear or mirrored plastic panels -- use window cleaning solutions.

b. Chrome finished parts -- use window cleaning solutions

c. Formica cabinet outside -- use all purpose cleaner and then use furniture polish (Old English or equivalent).

TROUBLE SHOOTING GUIDE

The following guide is to assist you in making a fast diagnosis should a problem arise. Think in terms of, what is the complaint, what is the probable causes, and what corrective action can I take.

Complaint - Scoring port fails to register points scored
Cause - Either defective switch or bad connection
Correction - Check switch and wires

First determine - What is the nature of the complaint. Is it one that effects the player position or the entire machine?

Second determine - Is the complaint one that is of a single cause or can it be from multiple causes.

Third determine - All corrections and repair work professionally done to maintain the integrity of the machine's quality and service life.

We cannot over emphasize the importance of understanding the electrical circuitry and mechanics that make up this machine. This knowledge will extend the service life of the machine and bring greater profitability to you the owner.

TROUBLESHOOTING

CAUTION: High voltage is present in some areas of the game, power supply, drive motor and A/C relay board. You must unplug

the A/C line cord before performing any troubleshooting. Failure to do this may cause serious injury to yourself and damage the circuitry of the machine.

PROBLEM	RECOMMENDATION
No Display	1. Make sure power is applied to game 2. Make sure power is applied to CPU 3. Replace display with good display
Display missing segments	1. Replace display 2. Inspect sockets
Double scoring	1. Adjust switch 2. Replace the switch
Missing scores	1. Adjust switch 2. Replace the switch
Will not coin-up	1. Inspect coin mechanism switch 2. Make sure unit is programmed properly 3. Check wiring to coin mechanism 4. Replace controller
Gives more than one ticket per point	1. Adjust tension spring 2. Replace o-ring on drive roller 3. Replace brake sprag 4. Replace drive roller

IMPROPER SCORING

Each of the twenty nine switches on the playfield should score points. Therefore, it should be easy to determine which is malfunctioning. Simply drop a ball on the appropriate hole. The first switch that scores improperly needs replacement. An intermittent switch can give misleading results. In this case, test with several balls to determine which switch needs adjusting or replacement.

NO SOUND

If no music occurs during the play of the game, check the volume control adjustment on the CPU. Then check the cable connections from the CPU to the speaker. Next check the speaker for damage. Replace speaker if necessary. Then replace the CPU board. If this is not the problem, then return the unit as per instructions of Phoenix Games & Amusements.

COUNTERS DO NOT WORK

Check the cable connection from the counters to the logic board. Replace the counter with a good counter. If it still does not work, then replace the logic board. Return the unit for repair as per instructions of Phoenix Games & Amusements

LAMP OR NEON LIGHTS DO NOT LIGHT

Check fuse to unit, then check to make sure power is present to lamps. If the lamp does not light, check to insure a proper seat in the socket. If the neon lights do not flash properly, check to insure power to circuit and drivers, if faulty replace. Do not replace lamps while power is on. Use only the proper replacement bulbs. Remove bulb by the glass portion of the bulb only. ***For*** **replacement neon tubes call Phoenix Games & Amusements.** Do not place any tool in the socket while the power is on. This could cause serious injury to yourself and damage expensive circuitry.

COIN COUNTERS AND TICKET METERS

WHAT ARE THEY

Counters are mechanical and electronic devices placed on the machine to count coins put through coin verifiers, tickets paid out to players

WHERE ARE THEY

The mechanical counters are behind the coin door inside the cabinet. Electronic ones are on the CPU, LCD.

The Mechanical counters are:

COIN/TOKEN	TICKET/CARD

SAFETY

All precautions taken by PHOENIX GAMES & AMUSEMENTS make this product as safe to play and repair as possible.

The lights, hoppers and power supply are electronically separate for additional safety.

We use only UL and CSA approved components. All wiring meets UL code.

REPLACEABLE PART LIST

ELECTRONIC/ELECTRICAL		MACHINE PARTS	
DESCRIPTION/NAME	PGA PART #	DESCRIPTION/NAME	PGA PART #
CPU 7001.01	A 1000	BRAKE DRIVE SHAFT ASSY	R 3000
PROGRAM CHIP	R 1000-I		
SOUND CHIP	R 1000-Z	SHEET METAL PARTS	
AC BOARD 7002.00	R 1010		
POWER SUPPLY 12V 6.0 AMP	R 1020	TURNTABLE PADDLES	R 4000
TICKET DISPENSER DL 1275	R 1030		
SPEAKER	R 1040	HARDWARE	
COIN/TICKET METER	R 1050		
SWITCH, SCORING	R 1060	MOTOR PULLEY	R 5000
VERIFIER COIN ASSEMBLE	R 1070	BRAKE PULLY	R 5010
POWER CORD	R 1080	BRAKE FLANGE BEARING	R 5020
STOP BUTTON	R 1090	LOCKS	R 5030
MOTOR 30 RPM	R 1100		
LED'S	R 1110	ASSEMBLIES	
BRAKE MOTOR	R 1120		
NEON DRIVERS	R 1130	BEACON ASSEMBLY	R 6000
110 TO 12V CONVERTER	R 1140	LIGHT ASSEMBLY	R 6010
PLASTIC/ GLASS		SPECIAL ITEMS -- NEON	
HEADER BOX GRAPHIC	R 2000	RED NEON CLEAR TUBE	R 7000
CIGARETTE GUARD GRAPHIC	R 2010	GREEN NEON YELLOW TUBE	R 7010
SLANT BOARD PLASTIC	R 2020	BLUE NEON CIRCULAR WHITE	R 7020
PLAYFIELD GLASS PANEL	R 2030		
BALL, RED	R 2040		

WARNING

The preceding servicing instructions are for use by QUALIFIED PERSCNNEL ONLY. To avoid personal injury or damage to the equipment, do not perform any servicing other than that specified in this manual. Direct any questions concerning the servicing of this machine to PHOENIX GAMES & AMUSEMENTS at (602) 894-8622.

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