CheckPoint Rally™

Operator's manual

Designed by: **Entergament Inc.**

Exclusive Licensee: **NAMCO AMERICA INC**

Patents Pending

Important

Read PRECAUTIONS and INSTALLATION Sections before operating game

RF Notice

Note: This equipment uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Credits:

Game Concept/Design: Bryan Hansen

CPU Hardware/Software: KT Krone

INSPECTION & PARTS REPLACEMENT PROCEDURE

- Turn OFF the *CheckPoint Rally* power switch and unplug the power cord.
  - Failure to do so could result in electrical shock.
- When replacing parts, be sure to use parts of the correct specifications. Never use parts other than the specified ones.
  - Using improper parts could result in fire or equipment failure.
- Strictly refrain from disassembly and repair of parts that are not indicated in the manual.
- NAMCO will not assume any liability for damage to the product attributable to disassembly or repair of parts that are not indicated in this manual, and well as settings and remodeling.

OPERATION

- In case of abnormality
  - Turn OFF the *CheckPoint Rally* power switch.
  - Unplug the game's power cord.
  - Contact your nearest dealer.

MOVING AND TRANSPORTING

- When setting up, handling, inspecting, maintaining, moving or transporting this vending machine, follow the procedures and instructions set for this manual and perform such work safely.
- Do not remove any labels of "Warning", "Caution", etc. attached to this vending machine.
- If a new owner is to take possession of this game as a result of transfer, etc, be sure to give this manual to the new owner.

SPECIFICATIONS*

(1) Rated power supply:	110VAC +/- 10VAC (50/60 Hz)
(2) Maximum power consumption:	250W (110 VAC power supply)
(3) Maximum current consumption:	3A (110 VAC power supply)
(4) Capacity of coin box:	Approx. 2,650 US quarters or $660.00
(5) Dimensions:	Packed for shipping: Not available at time of publication.
	As installed: 57" H x 26" W x 48" D
(6) Weight:	Packed for shipping: Not available at time of publication.
	As installed: Not available at time of publication.

*Specifications subject to change without notice.

1.0 INTRODUCTION

CheckPoint Rally™ is a self-contained 1-player redemption game with integral coin mechanism and ticket dispenser. An alternate Merchandising version is also available. The game play, and feature set of the Merchandising version is identical to the redemption version described, however, any differences that do exist (e.g. tickets vs. prize awards) are described in a separate addendum to this manual.

Game play starts when the Player deposits coins and uses the credits to drive a small car through a number of Checkpoints to win redemption tickets.

Two different Games or Checkpoint sequences can be configured by the Operator. The first game is "ANY CHECKPOINT" wherein all Checkpoint lights are ON and the Player attempts to drive through as many checkpoints as he can within the allotted time. For each checkpoint hit, tickets are awarded in a manner configured by the operator. In one award scheme the first checkpoint awards 1 ticket, 2nd checkpoint 2 tickets, etc up to the 10th checkpoint, which awards 10 tickets. Other award schemes are possible as described later. An optional Jackpot and Minimum Tickets award can also be configured.

The second game is "RANDOM CHECKPOINT" wherein the CPU picks a random sequence of the 10 checkpoints. A flashing light indicates what checkpoint the Player should drive through. When this first random checkpoint is hit the light stops flashing, ticket(s) are dispensed and the next random checkpoint flashes. This sequence is repeated for the 10 checkpoints awarding tickets as the game progresses. The number of tickets dispensed for a successful checkpoint is configurable by the operator. An optional Jackpot can be configured and a Minimum Tickets award can be configured.

In addition to ticket awards, *Checkpoint Rally* has many features that can be configured by the Operator. These include Game-to-Play, Time-to-Play, Coins per Credit, Show/DEMO Free Play, and Attract Options.

The following sections describe the initial steps required to setup *CheckPoint Rally* for operation.

1.1 UNPACKING

Remove *CheckPoint Rally* from the shipping crate and place on level floor. Carefully remove the packing wrap and locate the keys for the back/front doors. The cabinet feet can be adjusted up/down to accommodate differing floor conditions.

If there is any noticeable damage to the *CheckPoint Rally* Game caused by the shipping process, the shipping company should be notified immediately. Have them thoroughly inspect the damage, and fill out a report to start the claims process.

1.2 POWER SOURCE

The internal power supplies of *CheckPoint Rally* can be used with any standard US or international voltage ranging from 90Vac - 240Vac without any configuration by the operator. Plug *CheckPoint Rally* into the power source.

Safety considerations for the power source include:

- Unplug the machine when servicing/replacing parts -- failure to do so could cause serious injury
- If the supply cord is damaged a qualified person must replace it before operating *CheckPoint Rally*
- Permanent bypass of any safety switches may cause serious injury
- A 3-prong grounded outlet must be used to power *CheckPoint Rally*
- Do not overload power circuits
- Do not use extension cords to run power to *CheckPoint Rally*

1.3 INITIAL TESTS

After unpacking and connection to a proper AC power source, turn *CheckPoint Rally* ON.

During the power-up sequence the two displays located on either side of the steering wheel are used to display test and calibration data. The CREDITS display is on the left, and the TIME display is on the right. Messages from the CPU will use both displays concurrently so be sure to check both to properly interpret the messages. In this manual, characters that are displayed on the CREDITS and TIME displays will be shown together as if displayed on a 4-character display with a space as a separator between the 2 displays.

Only summary discussion of the self-test sequence will be included here. More detailed discussions are contained in Section 3 – Game Play and Section 7 – TROUBLESHOOTING & TESTS.

After a few seconds after the power is applied the displays will initially show:

8	8	8	8

This checks that all segments of the display are working correctly. Approximately 1-second later this is followed by:

	1	x	x

where "1xx" is the software version number.

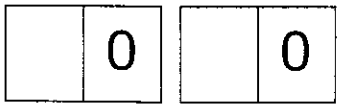
The *CheckPoint Rally* CPU performs a number of internal checks and CALibrations to make sure that the system is operating correctly, including searching for any "stuck switches" , and operating the various lights and motor. During this time the display will show :

C	A	L	

During this calibration period all of the Checkpoint lights will be cycled ALL-ON and ALL-OFF. Simultaneously two short sounds will be heard from the speaker. *Checkpoint rally* has "sound-on-sound" capability and the short sounds exercises each channel sequentially.

1.3.1 ERRORS DISPLAY

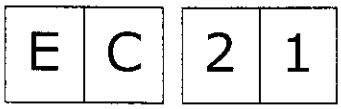
Checks are made of the various systems including game switches, playfield switches, ticket dispenser and coins mechanisms. If all switches and systems are found to be OK, then the CAL message will be replaced by:



which indicates '0' Credits and '0' Time.

If any switch is found to be "stuck", an Error Message to that fact will be displayed. The switches of each checkpoint are given unique numbers as detailed in APPENDIX B – SWITCH AND OUTPUT NUMBERS. If any mechanical or electronic switch is detected as stuck, the display will indicate an ERROR with the suspect switch using the above numbering convention.

For example if the Left Coin-IN switch (SW21) happens to be ON, the display will show:

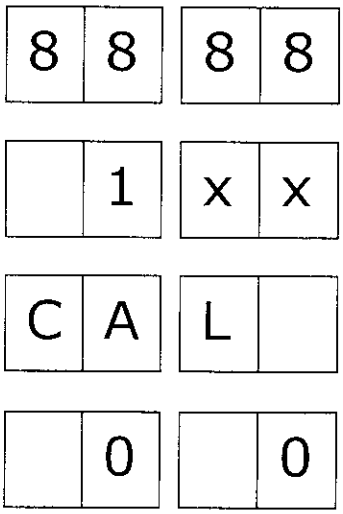


When an error is detected during CALibration, the CREDITS Display shows 'EC' (meaning Error during Calibration) and the TIME display shows the Error Number. This indicates that the game never made it through the initial CAL sequence and was never played after the game was turned on. During game play errors are reported with 'Er' on the displays.

These self-tests should be completed without any "Error Codes" appearing on the display. If any Error Codes appeared during these initial self-tests, please refer to the more detailed section on TROUBLESHOOTING to determine exact nature of the problem.

1.3.2 INITIAL TEST SUMMARY

In summary, after applying power and turning *CheckPoint Rally* ON, a properly functioning game will sequentially display:



Assuming the power-up tests ran without Errors, the next step is to CONFIGURE *CheckPoint Rally*. The next section will give detailed how to configure the game.

If any Errors were detected, refer to Section 7 – TROUBLESHOOTING & TESTS.

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2.0 GAME CONFIGURATION

CheckPoint Rally comes pre-configured with Factory Default Settings of the various Configuration features so that all that is needed for initial operation is to load tickets and supply power.

When changes to the Factory Default settings are desired, 3-switches located behind the coin-door are used to provide configuration input.

The 3 switches are used both in Configuration and also in Test and are abbreviated "C&T" switches on the schematic, and the game itself. They are named "START", "UP" and "DOWN". These switches are used to Start/End the C&T Menu System, change configuration values 'UP' and 'DOWN' and to otherwise start/stop tests.

The entire set of menu items for the Configuration and Test system is summarized in APPENDIX C -- CONFIGURATION and TEST. The menu items are numbered starting at 01 and continue through 99 and are displayed on the CREDITS display which is to the left of the steering wheel.

As can be seen in APPENDIX C, Configuration menu items start at '01', Audit Items start at '30' and Tests start at '40'.

This section will detail the Configuration features of *CheckPoint Rally*. The Audit items will be discussed in Section 4 – ACCOUNTING & AUDITS while the Test features are discussed in Section 7 – TROUBLESHOOTING and Tests.

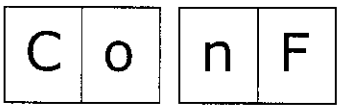
2.1 START CONFIGURATION

As will be seen, the START switch actually has 3 functions:

- START/Enter the configuration menu system
- Choose menu items (with short – about ½ second - depress/release)
- EXIT the configuration menu system (with long – greater than 2 second – depress/release)

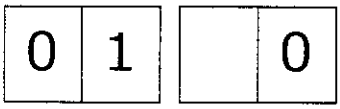
Even though this switch has several functions, for the purposes of this manual, the C&T START Switch will be simply referred to as the 'START switch'

To start the configuration system, open the coin door and locate the START switch. Press it once to enter C&T menu system. A short "beep" will be heard and the displays will show:



indicating ConFiguration mode.

After approximately 1-second the CREDITS Display will automatically show entry into the first Config/Test menu item:

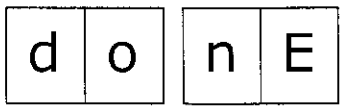


Once STARTed in the menu system, depressing/releasing the START Switch 'quickly' (about ½ second) will cycle through the C&T menu items sequentially showing 01, 02, 03, 04 etc. on the CREDITS display. These menu item numbers correspond to the first column in APPENDIX C – CONFIGURATION AND TEST.

As indicated in APPENDIX C, the first menu item, 01, is 'Pay Mode" and the '0' in the TIME display indicates the current Pay Mode is the normal 'Pay-for-Play'. This is the Factory Default as shown in APPENDIX C.

Details on how to change this value and other configuration options are given in subsequent paragraphs in this Section.

To EXIT the menu system at this point, or at any point within the menu system, simply press and hold down the START Switch for about 2-seconds. A beep will be heard along with a goodbye message:

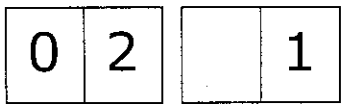


After approximately 2-seconds *CheckPoint Rally* will enter the ATTRACT mode and be ready for play.

This EXIT sequence is the same for all configuration menu items. When finished with any of the configuring, reading, or testing features, just depress the START Switch for 2 seconds and any settings will be saved and the game will return to ATTRACT mode.

2.2 NAVIGATING THE CONFIGURATION MENU

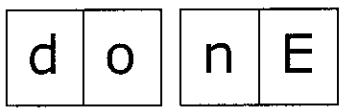
With '01' on the CREDITS display, "quickly" (about ½ second) depress/release the START switch and the CREDITS display will show '02' indicating Configuration menu item for 'Coins-per-Credit'. At this point the TIME display shows the current value for the number of Coins required for 1 credit. Since the Factory Default is '1', the display shows:



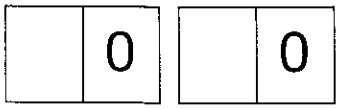
The UP, and DOWN switches can now be used to increase or decrease the value as needed. Referring to APPENDIX C, it shows that values of 1 – 99 are allowed. Depressing the UP switch causes the display to increment and pressing the DOWN switch will decrement the display.

At any point, at any menu item, depressing the START Switch for more than 2-seconds will save current items, display a 'donE' message, and return to ATTRACT mode.

Continuing to quickly depress/release the START Switch will sequentially cycle through all of the various configuration and test features. When the last menu item is encountered the menu system will start over at the beginning. Depressing START for 2-seconds at any point within the menu system causes an EXIT with a message:



And revert to Credits and Time Displays:



The next sections will detail the individual configuration and test options that are summarized in APPENDIX C.

2.3 CONFIG 01 -- PAY-MODE

This configuration feature allows *Checkpoint Rally* to be operated in one of two pay modes, Pay-For-Play and Free-Play/Demo.

Range of Values: 0, 1

Factory Default: 0 - Pay-for-Play

Options:

- 0 – Pay-For-Play : normal operation wherein coins are required to accumulate credits and tickets are awarded .
- 1 – Free-Play -- Show/DEMO mode: operation that allows game play without requiring coins. In this mode the Ticket Dispenser is disabled.

After setting the Show/DEMO mode, motion of the steering wheel is used to START play. Turning the steering wheel left, then right will start the playfield motor and game play. This action simulates a credit and the game starts.

When the game is over the Attract show sequence is initiated and the game again waits for steering wheel motion.

The Ticket dispenser is disabled during the DEMO mode. However, as tickets are awarded the Credits/Tickets display shows the 'phantom tickets' that are awarded and 'counts down' as if they are being dispensed. The simulated time between these phantom tickets is somewhat shorter than a normal ticket vend.

2.4 CONFIG 02 -- COINS-PER-CREDIT

This configures *CheckPoint Rally* coins/credit calculation.

Range of Values: 1-99 coins/credit

Factory Default: 1 coin/credit

Options:

- 1 – 99 -- Sets the number of coins required for 1-credit. If set at '1', coin entry immediately starts as the coin is accepted. If set higher than '1', the Credits Display will remain at '0' until the proper number of coins are deposited. In either case, coins can be deposited at any point during game play, attract mode, etc.

Note: When a configuration item, like this one, has a large range of values, the UP and DOWN switches can be held down continuously to rapidly increment/decrement the value.

2.5 CONFIG 03 -- TIME-TO-PLAY

The Time-to-Play configuration item permits the Operator to indirectly adjust the payout rate. Shorter times will result in few tickets being dispensed for a given play skill. Adjust this value Play to increase or decrease payout.

Payout is also affected by the "Game-to-Play" as described in the next section.

Range of Values: 5-99 seconds

Factory Default: 60

Options:

- 1 – 99 seconds of playing time. For either the ANY CHECKPOINT or RANDOM CHECKPOINT game, making this value LESS generally reduces the average total tickets/game that are awarded. Additionally, lower values reduce the likelihood of all checkpoints being hit and a Jackpot awarded.

When a configuration item, like this one, has a large range of values, the UP and DOWN switches can be held down continuously to rapidly increment/decrement the value.

2.6 CONFIG 04 -- GAME-TO-PLAY

CheckPoint Rally can be configured for one of two games.

Range of Values: 1, 2

Factory Default: 1 - Any Checkpoint

Options:

- 1 - ANY CHECKPOINT: at the start of play all checkpoint lights are lit. The Player then navigates the car through any checkpoint to accumulate tickets. The first checkpoint hit will award 1-ticket. The second checkpoint hit will award 2-tickets, etc. If all checkpoints are hit, a Jackpot may be awarded depending upon the Config 08 -- Jackpot Ticket setting described later. If no checkpoints are hit, a number of "Minimum Tickets" will be awarded. The setting for Minimum Tickets is described later in Config 09 – Minimum Tickets. This game is the "easier" of the two games and in conjunction with CONFIG 04 – Time-to-Play can be used adjust average tickets payout.

- 2 - RANDOM CHECKPOINT: at the start of play, one random checkpoint starts to flash. The Player is required to hit the flashing checkpoint to be awarded 1-ticket. After successfully hitting this first checkpoint, the light goes OFF, and a 2nd random checkpoint starts flashing. Success with this checkpoint gives a 2-tickets award. If all checkpoints are hit, a Jackpot may be awarded depending upon the Jackpot Ticket setting described later. If no checkpoints are hit, a number of "Minimum Tickets" may be awarded. Depending upon the setting of Minimum Tickets. Configuring Minimum Tickets is described in a later section. This game is the "more difficult" of the two and in conjunction with CONFIG 04 – Time to Play can be used adjust average tickets payout.

2.7 CONFIG 05 -- ATTRACT MODE

The *CheckPoint Rally* ATTRACT mode can have different combinations of Lights, Sounds, and Motion. The Attract Show is played at a frequency determined by the ATTRACT INTERVAL as described in the next section.

Range of Values: 0 - 3

Factory Default: 3 - Full Attract

Options:

- 0 - No Attract Show
- 1 - Lights Only
- 2 - Sounds Only
- 3 - Full Attract - Lights, Sounds, Motion

2.8 CONFIG 06 -- ATTRACT INTERVAL

The frequency of Attract Shows is configured with this menu item. If the ATTRACT MODE as described above is "0 - No Attract Show", this menu item value has no effect until Attract Shows are again enabled.

Range of Values: 1 - 99 minutes

Factory Default: 10 minutes

Options:

- 1 – 99 The CPU starts counting time as soon as the game has been through the CALibration sequence. When this ATTRACT INTERVAL has been reached the show starts for a pre-determined length of time. The length of the show is not adjustable. The type of show is configured by "ATTRACT MODE" as described earlier.

2.9 CONFIG 07 -- JACKPOT TYPE

Jackpot Tickets or Seconds are optionally awarded when the Player manages to hit all 10 checkpoints in either the ANY CHECKPOINT or RANDOM CHECKPOINT games. The amount of Tickets/Seconds awarded is a random number between the 'Jackpot Maximum' and the 'Jackpot Minimum' values as discussed in the next sections.

If Jackpot Type is set to 'Tickets', the amount of tickets-to-pay is immediately increased by a random number between the Max and Min values as the 10th checkpoint is crossed. Ticket payment continues during the Jackpot sound/light show.

If this item is set to 'Time', the time-to-play is immediately increased by a random number between the Max and Min values as the 10th checkpoint is crossed and the player is alerted to that fact by an audio message. If any checkpoints are crossed during this extended time, tickets are dispensed at the 10th checkpoint rate – i.e. 10 tickets/checkpoint until time runs out again.

Range of Values: 0, 1

Factory Default: 0 - Award Tickets

Options:

- 0 Award Tickets
- 1 Award Time (seconds)

2.10 CONFIG 08 -- JACKPOT MAXIMUM

Jackpot Tickets or Seconds (depending upon Jackpot Type discussed above) are optionally awarded when the Player manages to hit all 10 checkpoints in either the ANY CHECKPOINT or RANDOM CHECKPOINT games. The amount of Tickets/Seconds awarded is a random number between this 'Jackpot Maximum' and the 'Jackpot Minimum' discussed in the next section.

Jackpots are turned OFF by simply setting this menu item to "zero". The zero value turns OFF Jackpots even if Jackpot Minimum (discussed in the next section) has a non-zero value. Jackpots will also be OFF if this Jackpot Maximum item is set LESS than the Jackpot Minimum.

If the "Jackpot Type" is 'Tickets', the amount of tickets-to-pay is immediately increased by a random number between the Max and Min values as the 10th checkpoint is crossed. Ticket payment continues during the Jackpot sound/light show.

If the "Jackpot Type" is 'Time', the time to play is immediately increased by a random number between the Max and Min values as the 10th checkpoint is crossed. If any checkpoints are crossed during this extended time period, tickets are awarded at the 10th checkpoint rate – i.e. 10 tickets/checkpoint until time runs out again.

Range of Values: 0 - 99 Tickets/Seconds

Factory Default: 0 Tickets/Seconds

Options:

- 0 - Jackpots are turned OFF by setting this value = 0 independent of the Jackpot Minimum setting.
- 1 – 99 turns ON the Jackpot (if larger than Jackpot Minimum)

2.11 CONFIG 09 – JACKPOT MINIMUM

Jackpot Tickets or Seconds (depending upon Jackpot Type discussed above) are optionally awarded when the Player manages to hit all 10 checkpoints in either the ANY CHECKPOINT or RANDOM CHECKPOINT games. The amount of Tickets/Seconds awarded is a random number between this 'Jackpot Maximum' and the 'Jackpot Minimum' discussed in the next section.

If the "Jackpot Type" is 'Tickets', the amount of tickets-to-pay is immediately increased by a random number between the Max and Min values as the 10th checkpoint is crossed. Ticket payment continues during the Jackpot sound/light show.

If the "Jackpot Type" is 'Time', the time to play is immediately increased by a random number between the Max and Min values as the 10th checkpoint is crossed. If any checkpoints are crossed during this extended time, tickets are awarded at the 10th checkpoint rate – i.e. 10 tickets/checkpoint until time runs out again.

Range of Values: 0 - 99 Tickets/Seconds

Factory Default: 0 Tickets/Seconds

Options:

- 0 – 99 Minimum Tickets/Time

Note: If this Jackpot Minimum value is set GREATER than the Jackpot Maximum discussed in the previous section, then this has the effect of turning Jackpots OFF. The random calculation and awarding of Jackpot Tickets/Time only occurs when the Jackpot Maximum is found to be greater or equal to the Jackpot Minimum.

2.12 CONFIG 10 -- MINIMUM TICKETS

This feature allows a minimum number of tickets to be dispensed even though the Player has not crossed any checkpoint.

Range of Values: 0 - 99 Tickets

Factory Default: 0 Tickets

Options:

- 0 - Awarding Minimum Tickets is turned OFF by setting value = 0.
- 1 – 99 turns ON the Minimum Tickets Award with this many tickets

When a configuration item, like this one, has a large range of values, the UP and DOWN switches can be held down continuously to rapidly increment/decrement the value.

2.13 CONFIG 11 – TICKETS AWARD TYPE

This feature controls how tickets are awarded. An "Ascending" rate starts at 1 ticket when the first checkpoint is crossed, 2 for the second checkpoint, 3 for the third checkpoint, etc.

A "Constant" rate can be set that gives the same amount of tickets for each checkpoint crossing. The amount of tickets given for each crossing is set by CONFIG 12 – CONSTANT PAY RATE described in the next paragraph.

A "Constant Rate Skip" can be chosen that provides a constant number of tickets, but skips every other checkpoint. The amount of tickets given is set by CONFIG 12 – CONSTANT PAY RATE described in the next paragraph. For this Ticket Award Type, tickets are awarded on checkpoints 1, 3, 5, 7, 9 . If a Jackpot award is set for the game, the 10th checkpoint awards a Jackpot.

Range of Values 0 – 2

Factory Default: 0

Options:

- 0 – Ascending Rate
- 1 – Constant Rate
- 2 - Constant Rate Skip

2.14 CONFIG 12 – CONSTANT PAY RATE

When the Pay Rate Type as described in Section 2.13 is set at Constant Rate, or Constant Rate Skip, the number of tickets awarded is determined by the value set in this menu item.

Range of Values: 1 – 99 Tickets

Factory Default: 1 Tickets

Options:

- 1 – 99

2.15 CONFIG 19 -- USE BILL ACCEPTOR

A Bill Acceptor can be connected to *Checkpoint Rally* either in lieu of the Coin Mechs, or in addition to the Coin Mechs. Section 6 – Optional Equipment gives details on how to add and configure the Bill Acceptor.

Range of Values: 0 - 99

Factory Default: 0

Options:

- 0 – indicates no bill acceptor is attached.
- 1 – 99 indicates a bill acceptor is attached and the number of coins for each bill acceptor pulse is given by this value.

Note: The Bill Acceptor must be configured to output 1-pulse/dollar.

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3.0 GAME PLAY

CheckPoint Rally is an intuitive driving game that can be rapidly learned by the Player. Two game versions are available – "Any Checkpoint" and "Random Checkpoint". Either can be selected as explained in Section 2.6 – Game-To-Play.

With "zero" credits, *CheckPoint Rally* enters the "attract" mode. The ATTRACT INTERVAL determines how often the Attract Show will play. The Attract Mode may be configured for differing types such as Lights Only, Sound Only or Full Attract, or may be totally disabled. See Section 2.7 and 2.8 for details on how to configure the Attract sequence.

In the Full Attract mode, a *Checkpoint Rally* theme is played and the checkpoint lights flash on the playfield. The Attract Show is played at an interval determined by the ATTRACT INTERVAL value.

The ATTRACT sequence continues indefinitely until a sufficient number of coins are entered. The number of coins required earn a credit and to start the game depends upon the 'Coins-To-Play' configuration value. Coins may be entered at anytime during the attract mode, or at anytime during game play. If coins are entered during the middle of game play, they will be accumulated for use in the next game sequence.

As soon as a sufficient number of coins are entered, the ATTRACT Show stops, and the playfield lights are configured for game play. If the Game-to-Play is "ANY CHECKPOINT", all checkpoint lights are ON simultaneously. If the game is "RANDOM CHECKPOINT" then 1 random checkpoint is flashing.

Movement of the Steering Wheel starts the playfield motor and the Time display starts to decrement.

3.1 ANY CHECKPOINT GAME PLAY

In the "Any Checkpoint" game, all checkpoints are initially ON at game start. The object is to drive and hit as many checkpoints as possible in the allotted time.

As each checkpoint is hit, that light goes out and tickets are awarded. How the tickets are awarded is determined by the "Tickets Award Type" setting as described in Section 2.13. For example if the Ticket Award Type is "Ascending" then the first checkpoint is awarded 1-ticket, the second checkpoint is awarded 2-tickets, up to 10 tickets for the 10th checkpoint. For this award type, if all of the checkpoints are hit during the game, the Player has received a total of 55 tickets. Other award types can give the same number of tickets per checkpoint, or skip every other checkpoint, as described in Section 2.13.

If enabled, an optional Jackpot can be awarded in addition to the game tickets. Jackpot Max and Min values are set as described in Sections 2.10 and 2.11 and the SaturnIII Game Controller chooses a random Jackpot Award in-between these two values. The Jackpot is disabled with a value of 0.

If the Player has not hit any checkpoint during game play, an optional amount Minimum tickets can be awarded. Minimum ticket award can be from 1 – 99 tickets. Minimum tickets is disabled with a value of 0.

This game is relatively 'easy' to win tickets as compared to the RANDOM CHECKPOINT game discussed next. In either game, average ticket awards can be changed by increasing or decreasing the amount of time given to play.

Section 2 – GAME CONFIGURATION gives details on how to change the game, the Time-to-Play, Award Type, Jackpot Max/Min, and Minimum tickets.

3.2 RANDOM CHECKPOINT GAME PLAY

In this game the CPU first generates a random list of checkpoints that the Player must negotiate in sequence. As the game starts, the first checkpoint is ON/Blinking with all other checkpoint lights OFF.

As each checkpoint is hit, that light turns OFF, tickets are awarded, and the next light in the list is turned ON/Blinking. This continues until all checkpoints have been hit or time runs out.

How the tickets are awarded is determined by the "Tickets Award Type" setting as described in Section 2.13. For example if the Ticket Award Type is "Ascending" then the first checkpoint is awarded 1-ticket, the second checkpoint is awarded 2-tickets, up to 10 tickets for the 10th checkpoint. If all of the checkpoints are hit during the game, the Player has received a total of 55 tickets. Other award types can give the same number of tickets per checkpoint, or skip every other checkpoint, as described in Section 2.13.

If enabled, an optional Jackpot can be awarded in addition to the game tickets. Jackpots can range from 1 - 99 tickets. The Jackpot is disabled with a value of 0.

If the Player has not hit any checkpoint during game play, an optional amount Minimum tickets can be awarded. Minimum ticket award can be from 1 - 99 tickets. Minimum tickets is disabled with a value of 0.

This game is relatively 'hard' to win tickets as compared to the ANY CHECKPOINT game discussed next. In either game, average ticket awards can be changed by increasing or decreasing the amount of time given to play.

Section 2 - GAME CONFIGURATION gives details on how to change the game, the Time-to-Play, Award Type, Jackpot Max/Min Tickets, and Minimum tickets.

3.3 JACKPOTS

Jackpots can be enabled or disabled as desired by setting the appropriate value as described in Section 2.10. Also described in Sections 2.10 and 2.11 are Jackpot Max and Min values. These Max/Min values are used by the SaturnIII game controller to randomly calculate a Jackpot value that lies within these limits.

3.4 CREDITS/TICKETS DISPLAY

The 2-digit 7-segment display to the left of the steering wheel has a dual-use. When there are "zero" tickets to be dispensed, this display shows CREDITS. When tickets are in the process of being dispensed, this display shows the number of Tickets that are yet to be paid.

3.5 JACKPOT DISPLAY

The 2-digit Jackpot Display is located on the back wall of the playfield. This display indicates the value of a Jackpot that can optionally be awarded when a player manages to cross all 10 checkpoints either in the ANY CHECKPOINT or RANDOM CHECKPOINT games.

If the 'Jackpot Type' is set to 'Tickets' this display shows the number of additional tickets that will be dispensed upon crossing all 10 checkpoints. If the Jackpot Type is set to 'Time' this display indicates 'the number of seconds that will be added to the Time display so as to extended the play time.

If Jackpots are turned OFF, this display will be blank. During the power-up/CALibration sequence, this display will show '88' to show all segments working.

4.0 ACCOUNTING & AUDITS

CheckPoint Rally has hard meters for both Coin and Ticket Audits. This section provides details on the hard meters, and the software count of the number of jackpots that have been hit.

4.1 HARD METERS

Two 7-digit mechanical counters are located just inside the coin door. The meters count Coins-In (left meter) and Tickets Dispensed (right meter) and cannot be reset.

4.2 AUDIT 30 -- NUMBER OF JACKPOTS

A Jackpot is awarded when the player hits all of the checkpoints in the allotted time. The SaturnIII game controller keeps a running count of the number of Jackpots that have been hit even if Jackpots are turned off as described in Section 2.10. If Jackpots are turned off, periodically monitoring this value can give the operator an indication of how well the players are playing and accordingly can set Time-to-Play shorter or longer.

The reference to "Audit 30" etc. is simply a continuation of the Config & Test Menu system previously described. Enter the Menu System as described in Section 2.1 and continue on to show "30" in the credits display. Hit the UP or DOWN button to show the number of Jackpots. Depress the START button for 2 seconds to exit the audit.

Large numbers of awarded Jackpots in a given time can indicate the game settings (e.g. Time to Play) are set on the generous side. Small amounts of Jackpots can indicate that the game is set too tight and the players are not negotiating all of the checkpoints.

The Game-to-Play setting as described in Section 2.6 also has an effect on number of Jackpots. The "Any Checkpoint" game version is significantly easier to play than "Random Checkpoint" and thus more Jackpots can be expected with "Any Checkpoint".

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5.0 MAINTENANCE

5.1 CARS

CheckPoint Rally is supplied with car especially designed for use in the game. It should perform well for life of the game. However, over time, if the car becomes sluggish car may and not respond or perform as well as new dust off the nap pad located on the bottom of the car.

5.2 SWITCHES

All of the checkpoint switches are 'Hall-Effect' switches and will normally last the life of the game. The only mechanical switches in the game are the Coin-In switches located in the coin mechs. Occasionally the lever arms of these coin-in switches can get bent due to stuck coins etc. Replace as required.

Tests for all switches are described in Test 40 in Section 7.3 Test 40 -- Switches

5.3 LIGHTS

Except for the marquee fluorescent lights, all of the lights and displays in *CheckPoint Rally* are LED based and therefore should give years of reliable service -- it is unlikely that they will "burn out". If a light is apparently malfunctioning, first check the cabling before replacing the light.

The checkpoint lights on the playfield can be quickly checked in a couple of ways. When *CheckPoint Rally* is first turned on and enters the CALibration mode, all of the playfield lights are first turned ON, and then OFF. This cycle takes a couple of seconds so any lamp this is not working can easily be seen.

Another quick way is to Configure the game to play "ANY CHECKPOINT". This game will start with all lights ON and any bad light can be easily detected. The lights stay ON for the duration of the game so light and cable inspection can be done.

For more extensive testing the lights can be cycled ON/OFF in any manner by using Test 41 as described in Section 7.3 Test 41 -- Switches.

The various fluorescent lights are standard and can be replaced as required.

5.3 DISPLAYS

The 7-segment displays in *CheckPoint Rally* are LED based and therefore should given years of reliable service -- it is unlikely that they will "burn out". If a display is malfunctioning, first check the cabling before replacing the display.

The checkpoint lights on the playfield can be quickly check in a couple of ways. Additionally,

When *CheckPoint Rally* is first turned on the displays are loaded with 'all eights' (8888) so that all segments can be simultaneously checked.

For more extensive testing the lights can be cycled ON/OFF in any manner by using the test described in Section 7.5 – Test 42.

5.4 MOTOR

The motor used in *CheckPoint Rally* is a 12 volt motor with speed control provided by the game controller.

There are no user maintenance items for the motor. Replace it upon malfunction.

Motor tests are available in Test 43 Section 7.6 – Test 43.

5.5 STEERING WHEEL

The Steering Wheel assembly houses a 5Kohm potentiometer that is read by the SaturnIII game controller to control direction and speed of the motor.

If testing determines that the potentiometer is defective, a replacement can be installed.

No other user maintenance items are available for the steering wheel.

Tests for the Steering Wheel are described in Section 7.5 – Test 44.

5.6 CABINET & PLAYFIELD

The cabinet does not require any special treatment other than occasional cleaning with a mild cleaning solution. The Plexiglas front panel can be cleaned with Windex or similar window solution.

The playfield motor is connected to the playfield though a ball-bearing assembly. Occasional light oil on the bearing is recommended.

The movement of the car across the playfield may leave some particles that can hinder movement. Occasionally blow or wipe dust off the playfield to allow cars to move freely without restriction.

6.0 OPTIONAL EQUIPMENT

6.1 BILL ACCEPTOR

CheckPoint Rally is shipped with a double-coin door as standard. A Bill Acceptor can be added in the field to be used in addition to the coin inputs. The Bill Acceptor must be able to output 1-pulse per dollar, and have a credits output that is "active low".

Four steps are required:

1. Configure the SaturnIII game controller to recognize the Bill Acceptor as described in Section 2.15 . Enter a value that indicates the number of coins that each dollar is worth.

2. Configure the Bill Acceptor to output 1-pulse per dollar

3. Review the Coins-per-Credit setting as described in Section 2.4 to make sure this is the desired value.

4. Connect the Bill Acceptor to the SaturnIII game controller on Connector P34 – "Coins". Pin 1 is the (+) credits input, Pin 5 is the (-) credits input (Ground)

7.0 TROUBLESHOOTING AND TESTS

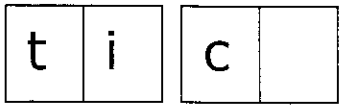
CheckPoint Rally has a number of troubleshooting and diagnostic features that can be used to determine machine performance and also to diagnose various equipment problems.

7.1 ERROR CODES

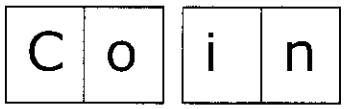
Error codes are displayed using both the Credits and Time displays. A full list of all error codes and some tips on how to correct the problem are given in APPENDIX A – Error Codes.

When an error is detected during the CALibration sequence, the CREDITS Display shows 'EC' (meaning Error during Calibration) and the TIME display shows the Error Number. This indicates that the game never made it through the initial CAL sequence and was never played after the game was turned on. During game play errors are reported with 'Er' on the displays.

Two common 'errors' are given special treatment when detected. When tickets need replenishing, the displays show:



And when a malfunction is detected in the coin mechs, the displays show:



All other errors are shown as described above with either 'EC' or 'Er' as part of the code.

7.2 TESTS

Many of the *CheckPoint Rally* components can be tested using the 3 Configure & Test Switches. Refer to Section 2 – CONFIGURATION to review how to use these switches to Enter and Navigate through the menu system. The Test Menu is an continuation of the Configuration & Test menu system.

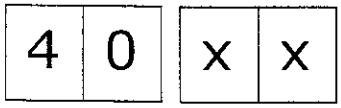
The entire set of menu items for the Configuration and Test system is summarized in APPENDIX C -- CONFIGURATION and TEST. The menu items are numbered starting at 01 and continue through 99 and are displayed on the CREDITS display which is to the left of the steering wheel.

As can be seen in APPENDIX A, Configuration menu items start at '01', and Tests start at '40'

7.3 TEST 40 -- SWITCHES

This test feature allows the testing of any switch in the system in addition to identifying any stuck switches.

Upon entering Test 01, the display shows:



Where "XX" can be blank, or filled with Switch Number (SWxx).

If it is blank, that indicates that no stuck switches have been found and the system is ready for the operator to test any switch.

If a number appears, this indicates that SWxx is stuck -- i.e. "closed" or "ON".

Each switch has a unique number and are summarized in APPENDIX B - SWITCH & OUTPUT NUMBERS.

As a switch is detected "ON", the display indicates the SW # along with a audible "beep". If the switch is continuously ON, he beep will continue at about 3/second until the switch is found to be "OFF". This allows cables/switches to be checked without having to continually watch the display.

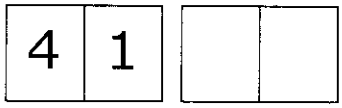
If more than 1 switch is ON simultaneously, the switch with the HIGHEST SW# will be identified in the display.

Note that all of the switches at the 10 Checkpoints are "Hall-Effect" switches. These solid-state switches are very reliable and are seldom the problem when the stuck switch test indicates a problem with switch numbers SW00 through SW09. Note that a car that is stuck underneath a checkpoint will display as a stuck switch.

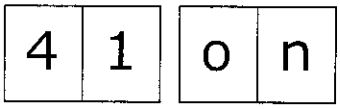
7.4 TEST 41 -- LIGHTS

The checkpoint LED's exercised by this test.

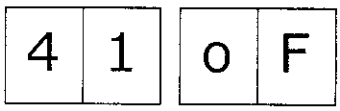
Upon entering the lights test menu item, all of the lights are OFF display shows:



Depressing the UP switch causes the lights to turn ON and the display indicates:



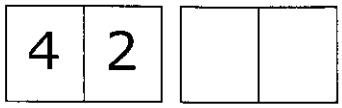
Depressing the DOWN switch turns the lights OFF and the display indicates:



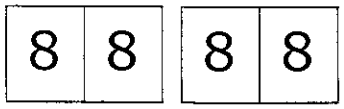
This sequence can be repeated as desired. Use the START Switch to exit this menu item.

7.5 TEST 42 -- DISPLAYS

Upon entering this test the display shows the test number 42:



Depressing the UP switch causes the display to show "all eights" (8888).



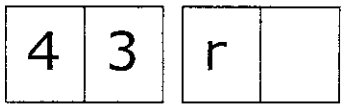
Depressing the DOWN switch turns all segments of the display OFF shown as:

This sequence can be repeated as desired. Use the START Switch to exit this menu item.

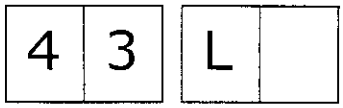
7.6 TEST 43 -- MOTOR

During game play the motor runs Left, Right, or Stopped as determined by the position of the steering wheel. For this Test, The UP and DOWN switches are used to control the direction of the motor. UP is 'Right' and DOWN is 'Left'

When entering this test, the motor is initially OFF. When the UP switch is depressed, the playfield motor starts at Half-Speed in a "Right Turn". The TIME display shows 'rH" to signify Right-turn, Half-Speed .



When the DOWN Switch is depressed, the motor direction is reversed and the display shows:



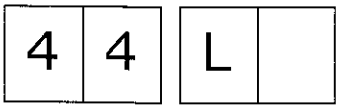
Exit this test in the usual way by depressing the START switch

7.7 TEST 44 -- STEERING WHEEL

In this test the steering wheel is continuously monitored by the CPU and displays 'Left' or 'Right' and 'OFF' information similar to the previous test - Test 43.

This test will continuously display which position the steering wheel is currently in by displaying an 'r' for Right, 'L' for Left, and a '0' for OFF (near the middle of steering wheel movement).

For example, if the steering wheel is measured to be turned to the Left, the display will show:



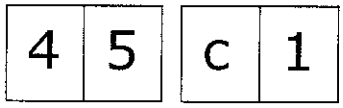
A properly operating steering wheel will display all three conditions : r, L, and 0

Exit this test by depressing the START switch

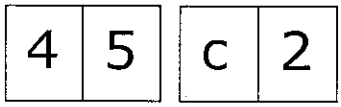
7.8 TEST 45 -- SOUND

Depressing UP will play random game sounds on the Channel 1 while DOWN plays random game sounds on the Channel 2. The game volume control is located on the CPU board and adjusts both channels simultaneously.

As channel 1 sounds are playing the display shows a 'c1' to indicate channel 1 is playing:



As channel 2 sound are playing the display shows:

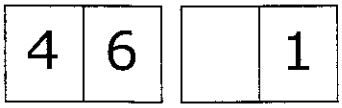


Additionally, a sound test is executed during the CALibration sequence *when CheckPoint Rally* boots up. A sound is first played through the first channel sound system, then through the 2nd channel. The presence of both sounds indicate a properly operating sound system.

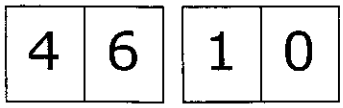
7.9 TEST 46 -- TICKET DISPENSER

The ticket dispenser can be checked with this test without affecting the Tickets Counter/Meter. The DOWN and UP keys allow either 1 ticket or 10 tickets to be dispenses.

Upon entering the test the display shows. The '1' shows that 1 ticket will be dispensed if for each time the DOWN key is depressed.



If the UP key is depressed the display changes to:

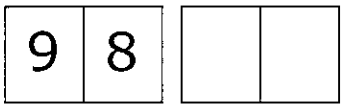


Which indicates that 10 tickets will be dispensed each time UP is depressed. Depressing DOWN once again will revert back dispensing of 1-ticket for each depression of the DOWN key.

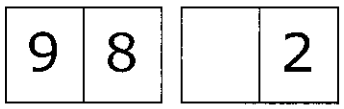
To Exit this test, depress the START button for longer than 2 seconds.

7.10 RESET FACTORY DEFAULTS

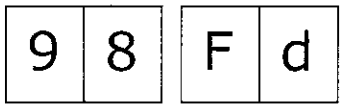
Original Factory Defaults can be re-programmed into the game controller by navigating to the menu item that shows '98' as shown below:



To make accidentally restoring the defaults difficult to do, the UP key has to be depressed 3-times in succession. Depressing the UP key once, then twice time will show a '1' and then a 2 right-most display as shown:



After the 3rd time the UP Key is pressed, the display shows "Fd" for "Factory Defaults"

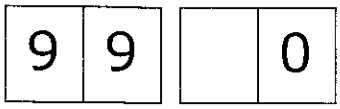


Indicating that Factory Defaults have been restored.

7.11 BURN-IN (FACTORY USE ONLY)

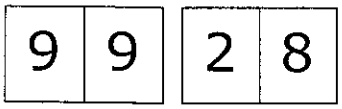
This item is normally for factory use only and is only listed here for reference. Consult factory for use of this item.

With '99' showing on the displays, hit UP switch to start the burn-in sequence. Once in burn-in, the display will show :



The burn-in sequence is a random selection of motor ON/OFF, and lights ON/OFF. Depressing the UP switch will start the burn-in cycle. The DOWN switch can be used to 'pause' the burn-in to allow components to be checked without actually exiting the burn-in. When in the pause state, the UP button is used to resume the burn-in cycle. To exit burn-in, depress START for more than 2 seconds.

The two digits to the right displays a running total of the number of cycles burn-in has run. One cycle is 10 minutes and the total burn-in time can be calculated. For example if the display shows:



This means that 28 '10 minute' cycles have run. 28 * 10 = 280 minutes = 4.6 hours.

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APPENDIX A – ERROR CODES

The CREDITS and TIME displays are used to show error codes during the CALibration sequence, and during game play. For most errors, the actual ERROR CODEs (numbers from 00 – 99) are shown on the TIME display. Errors detected during the Power-Up/Calibration sequence are displayed with "EC" on the CREDITS display with the actual error code displayed on the TIME display. Errors detected during game play are shown with "Er" on the CREDITS display and error code on the TIME display. The "EC" and "Er" arrangement allows the operator to know if the problem was detected on Power-Up before the game play started, or was encountered during actual game play.

A couple of special "errors" are shown in an alpha-only format rather than the alphanumeric format described above. Ticket errors are shown with "tic " , and coin switch errors are shown as "Coin". These relatively common "errors" are more easily identified with an alpha format.

ERROR CODES DURING Power-Up/Calibration Sequence

Error #	Problem Area	Problem Detail	Possible Causes	Action to Reset Error Code
EC00 through EC31	Stuck Switch	A normally OFF switch was detected as ON. If a CheckPoint switch is detected ON, the CPU attempts to move the car and clear the switch by turning the motor full ON in one direction and then full ON in the other direction.	(1) Car is stuck and cannot be moved from CheckPoint (2) Bad switch (3) Shorted cable	Determine Which switch is problem by locating it on schematic. The Error Code corresponds to the SWxx number on the schematic. Fatal Error – Rally will not continue.
"tic"	Ticket Dispenser	If a ticket notch is not detected, the ticket dispenser is turned on for 3 seconds to search for the notch. If notch is not found this error is displayed. Note: Detection of this error is DISABLED when in "Show/DEMO" mode	(1) Ticket Jammed (2) Bad Ticket Dispenser/Opto	Remove jammed ticket, change Ticket Dispenser. Fatal Error – Rally will not continue.
"Coin"	Coin Switch	One (or both) coin switches were detected "ON"	(1) Coin is stuck (2) Bad Switch (3) Shorted Cable	Remove jammed coin. Fatal Error – Rally will not continue.

ERROR CODES DURING GAME PLAY

Error #	Problem Area	Problem Detail	Possible Causes	Action to Reset Error Code
"tic"	Ticket Dispenser	Either a ticket notch was not found, or a "continuous notch" was found meaning that no tickets were detected.	Usually indicates that the game is out of tickets. Possibly a ticket notch was not detected	Put in more tickets, Remove jammed ticket, change Ticket Dispenser. Fatal Error – Rally will not continue.
"Coin"	Coin Switch	One (or both) coins switches are detected as ON.	(1) Coin stuck (2) Bad Switch	

APPENDIX B – SWITCH & OUTPUT NUMBERS

The following table summarizes the Rally Switch Numbers (SWxx) that can appear as part of the Error Code for a stuck switch. Also included for reference are Output Numbers (OP#). The Switch and Output numbers correspond to references as shown on the Rally Schematic . Unused Switch and Outputs numbers are shown as '-----'

SW #	Name	OP#	Name
00	CheckPoint 1	0	CheckPoint 1 Light
01	CheckPoint 2	1	CheckPoint 2 Light
02	CheckPoint 3	2	CheckPoint 3 Light
03	CheckPoint 4	3	CheckPoint 4 Light
04	CheckPoint 5	4	CheckPoint 5 Light
05	CheckPoint 6	5	CheckPoint 6 Light
06	CheckPoint 7	6	CheckPoint 7 Light
07	CheckPoint 8	7	CheckPoint 8 Light
08	CheckPoint 9	8	CheckPoint 9 Light
09	CheckPoint 10	9	CheckPoint 10 Light
10	-----	10	-----
11	-----	11	-----
12	-----	12	-----
13	-----	13	-----
14	-----	14	-----
15	-----	15	-----
16	Config & Test - START	16	------
17	Config & Test - UP	17	------
18	Config & Test - DOWN	18	-----
19	Playfield Movement	19	Ticket Motor Enable
20	Bill Acceptor Pulse	20	Coin-In Counter
21	Coin-In Left	21	Tickets Paid Counter
22	Coin-In Right	22	-----
23	Ticket Notch	23	-----
24	-----	24	-----
25	-----	25	-----
26	-----	26	-----
27	-----	27	-----
28	-----	28	-----
29	-----	29	-----
30	-----	30	-----
31	-----	31	-----

APPENDIX C – CONFIGURATION AND TEST MENU ITEMS

C&T Menu Item	Configuration / Test Name	Factory Default Value	Menu Item Description
01	Pay Mode	0 – Pay-for-Play	0 – Pay-for-Play 1 - Free-Play (Show/Demo) with NO Tickets Dispensed
02	Coins-per-Credit	1 Coin / Credit	1 – 99 coins per Credit
03	Time-to-Play	60 seconds	5 – 99 seconds for each game
04	Game-to-Play	1 – Hit Any Checkpoint	1 – Hit Any Checkpoint 2 – Hit Random Checkpoint
05	Attract Mode	3 – Sounds/Lights/Motion	0 – no attract mode 1 – Lights only 2 – Sounds only 3 – Full Attract – Sounds/Lights/Motion
06	Attract Interval	10 minutes	0 – continuous show 1 - 99 minutes between Attract Shows
07	Jackpot Type	0 - Dispense Tickets	0 – Dispense Tickets for Jackpot 1 – Add Time for Jackpot
08	Jackpot Maximum	0 Tickets/Seconds	0 – 99 Tickets or Seconds (depending on Jackpot Type above)
09	Jackpot Minimum	0 Tickets/Seconds	0 – 99 Tickets or Seconds (depending on Jackpot Type above)
10	Minimum Tickets	0 Minimum Tickets	0 - 99 Minimum Tickets Dispensed per Game
11	Ticket Award Type	0 Ascending	0 – Ascending – 1st Checkpoint 1 Ticket, 2nd Checkpoint 2 Tickets, 3rd Checkpoint 3 Tickets, etc. 1 – Constant Number of Tickets per checkpoint 2 – Constant Number of Tickets for every other checkpoint (i.e. pay 1st checkpoint, skip next checkpoint, pay 3rd checkpoint, skip next etc.)
12	Constant Ticket Rate	1 Ticket	1 – 99 Tickets awarded per checkpoint if Ticket Award Type set to Constant Number Type
19	Bill Acceptor	0 – none installed	0 – no Bill Acceptor Installed 1 – 99 Coins counted for each dollar (assumes 1- active LOW pulse per dollar)
30	Number of Jackpots	n/a	0000 - 9999 for display only. Values cannot be changed or cleared

APPENDIX C – CONFIGURATION and Test Menu Items (continued)

40	Switch Test	n/a	Shows switch number of any switch that is found to be "ON". Values range from 00 – 31. A list of switch numbers can be found in APPENDIX B
41	Lights Test	n/a	Use UP and DOWN switches to turn playfield lights ON and OFF
42	Display Test	n/a	Use UP and DOWN switches to turn display ON and OFF. When ON, the display shows 'all eights' 8888
43	Motor Test	n/a	Use UP and DOWN switches to turn motor ON and OFF. This test exercises the motor at Full Speed
44	Steering Wheel Test	n/a	The display shows the calculated position of the steering wheel. Shows 'left' and 'right' in addition to the 4 possible speeds in each direction. If the steering wheel is serviced or replaced, Calibration 60 as discussed below must be done.
45	Sound Test	n/a	Use UP switch to exercise Sound Channel 1. Use DOWN switch to exercise Sound Channel 2
46	Ticket Dispenser Test	n/a	Use UP and DOWN switches to set the number of tickets to be dispensed.
60	Steering Wheel Calibration	Steering Wheel was calibrated at the factory. Calibration constants were stored for the particular steering wheel installed at that time.	This procedure is usually not required once the factory calibration has been completed. However, if the steering wheel has been serviced or replaced, this Calibration procedure should be used to insure proper steering wheel operation. See Section 7.7 for calibration details.
98	Restore Factory Defaults	n/a	See Section 7.10 for details on Restoring Factory Defaults
99	Burn-In	n/a	(factory use only)

*feature not installed in prototype software

APPENDIX D – SCHEMATIC

APPENDIX E – PARTS LIST

TICKET REDEMPTION VERSION

Part #	Description		
CR05-11339-00	CPU		
CR58-11338-00	Motor, DC Drive		
CR59-11363-00	Cars		
CR32-11365-00	Magnet		
CR95-11345-00	Cabinet Lens		
CR95-11346-00	Bonus Lens		
CR95-11347-00	Bonus Assembly		
SQ05-10773-00	PCB, Credits Display		
SQ05-10774-00	PCB, Time Display (Bonus)		
CR57-11366-00	Starburst Hat Light, Clear		
CR40-11353-00	Decal, Marquee, Styrene		
CR40-11354-00	Decal, Marquee, Upper		
CR95-11348-00	Plex, Marquee, Upper		
CR95-11348-01	Plex, Marquee, Lower		
CR95-11361-00	Plex, Marquee		
CR40-11352-00	Decal, Cabinet Side, Upper		
CR40-11351-00	Decal, Cabinet Side, Lower		
CR40-11355-00	Decal, Control Panel, Silkscreen		
VG54-09405-01	Speaker, 4", 4 Ohm, 25 W		
CR40-11349-01	Decal, Track 1A		
CR40-11349-02	Decal, Track 1B		
CR40-11349-03	Decal, Track 1C		
CR40-11349-04	Decal, Track 1D		

CR40-11350-02	Decal, Track 2		
CR40-11350-03	Decal, Track 3		
CR40-11350-04	Decal, Track 4		
CR40-11350-05	Decal, Track 5		
CR40-11350-06	Decal, Track 6		
CR40-11350-07	Decal, Track 7		
CR40-11350-08	Decal, Track 8		
CR40-11350-09	Decal, Track 9		
CR40-11350-10	Decal, Track 10		
CR40-11350-11	Decal, Track 11		
CR95-11342-01	Track 1		
CR95-11342-02	Track 2		
CR95-11342-03	Track 3		
CR95-11342-04	Track 4		
CR95-11342-05	Track 5		
CR95-11342-06	Track 6		
CR95-11342-07	Track 7		
CR95-11342-08	Track 8		
CR95-11342-09	Track 9		
CR95-11342-10	Track 10		
CR95-11342-11	Track 11		
CR40-11356-00	Decal, Left Flag		
CR40-11356-01	Decal, Right Flag		
CR40-11357-00	Decal, Winner		
CR40-11358-00	Decal, Bonus		
CR40-11359-00	Decal, Sensor, Checkpoint		
CR05-11340-00	PCB, Magnet Sensor		

SQ79-10775-00	Opto, GP1A05A		
CR95-11343-00	Upper Checkpoint		
CR95-11344-00	Lower Checkpoint		
CR59-11364-00	Bearing		
CR20-11369-00	Panel Latch Clamp		
CR80-11367-00	Steering Wheel Assembly, 270 deg		
CR80-11368-00	Wheel, Maximum Hoop		
VG88-08776-00	Power Supply, 200W		
VG82-08251-00	Ticket Dispenser Assy		Entropy TD-963-CR
VG83-10878-00	Ticket Bin w/Level Sensor Switch		

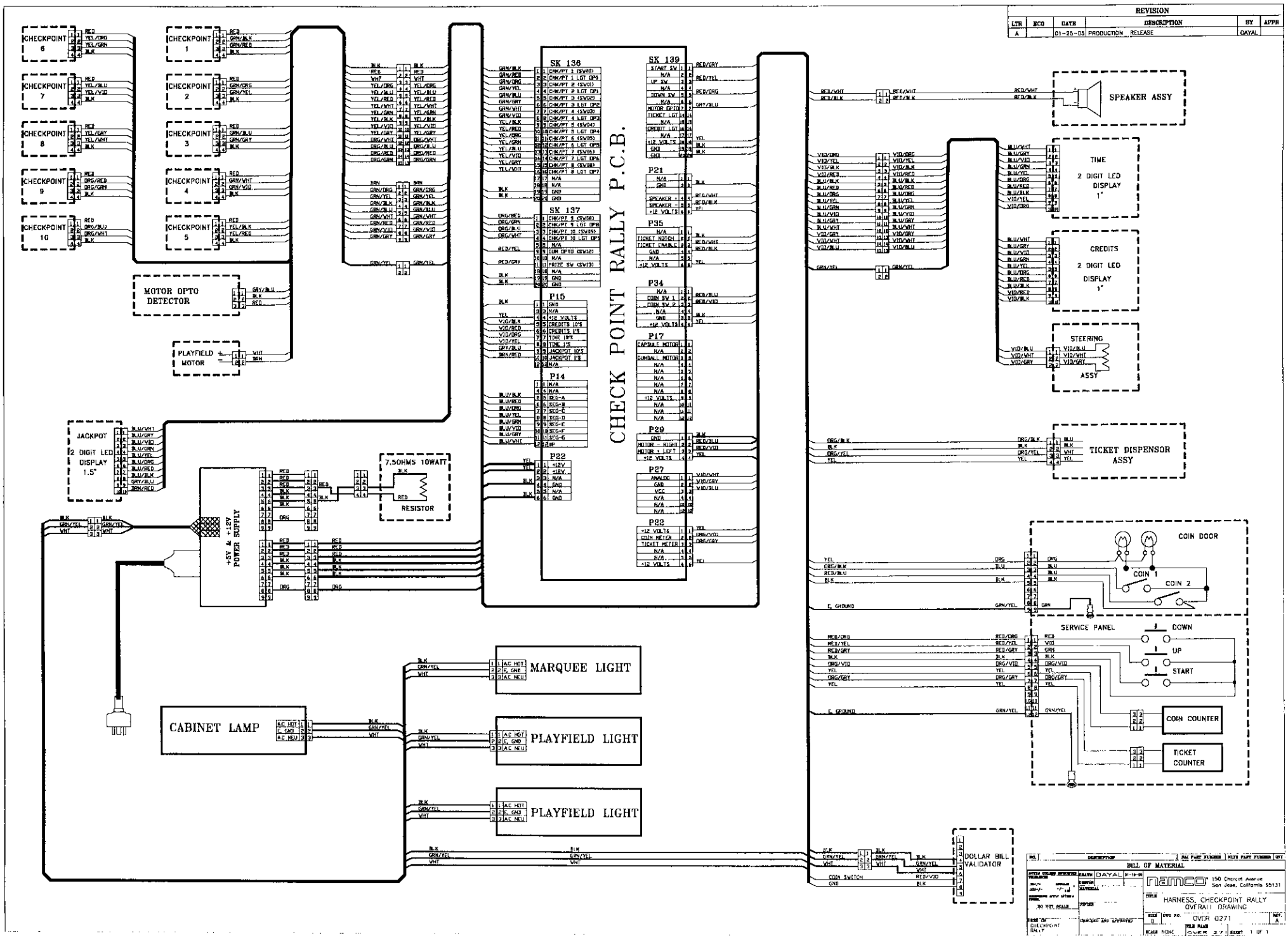
APPENDIX E – PARTS LIST (CONTINUED)

CHUCK E. CHEESE - TICKET REDEMPTION VERSION

Part #	Description		
CR05-11339-00	CPU		
CR58-11338-00	Motor, DC Drive		
CR59-11363-00	Cars		
CR32-11365-00	Magnet		
CR95-11345-00	Cabinet Lens		
CR95-11346-00	Bonus Lens		
CR95-11347-00	Bonus Assembly		
SQ05-10773-00	PCB, Credits Display		
SQ05-10774-00	PCB, Time Display (Bonus)		
CR57-11366-00	Starburst Hat Light, Clear		
CR40-11353-00	Decal, Marquee, Styrene		
CR40-11354-00	Decal, Marquee, Upper		
CR95-11348-00	Plex, Marquee, Upper		
CR95-11348-01	Plex, Marquee, Lower		
CR95-11361-00	Plex, Marquee		
CR40-11352-00	Decal, Cabinet Side, Upper		
CR40-11351-00	Decal, Cabinet Side, Lower		
CR40-11355-00	Decal, Control Panel, Silkscreen		
VG54-09405-01	Speaker, 4", 4 Ohm, 25 W		
CR40-11349-01	Decal, Track 1A		
CR40-11349-02	Decal, Track 1B		
CR40-11349-03	Decal, Track 1C		
CR40-11349-04	Decal, Track 1D		

CR40-11350-02	Decal, Track 2		
CR40-11350-03	Decal, Track 3		
CR40-11350-04	Decal, Track 4		
CR40-11350-05	Decal, Track 5		
CR40-11350-06	Decal, Track 6		
CR40-11350-07	Decal, Track 7		
CR40-11350-08	Decal, Track 8		
CR40-11350-09	Decal, Track 9		
CR40-11350-10	Decal, Track 10		
CR40-11350-11	Decal, Track 11		
CR95-11342-01	Track 1		
CR95-11342-02	Track 2		
CR95-11342-03	Track 3		
CR95-11342-04	Track 4		
CR95-11342-05	Track 5		
CR95-11342-06	Track 6		
CR95-11342-07	Track 7		
CR95-11342-08	Track 8		
CR95-11342-09	Track 9		
CR95-11342-10	Track 10		
CR95-11342-11	Track 11		
CR40-11356-00	Decal, Left Flag		
CR40-11356-01	Decal, Right Flag		
CR40-11357-00	Decal, Winner		
CR40-11358-00	Decal, Bonus		
CR40-11359-00	Decal, Sensor, Checkpoint		
CR05-11340-00	PCB, Magnet Sensor		

SQ79-10775-00	Opto, GP1A05A		
CR95-11343-00	Upper Checkpoint		
CR95-11344-00	Lower Checkpoint		
CR59-11364-00	Bearing		
CR20-11369-00	Panel Latch Clamp		
CR80-11367-00	Steering Wheel Assembly, 270 deg		
CR80-11368-00	Wheel, Maximum Hoop		
VG88-08776-00	Power Supply, 200W		
VG82-00138-00	Ticket Dispenser Assy, Deltronic		DL-275
VG83-10878-00	Ticket Bin w/Level Sensor Switch		


REVISION
LTR | ECO | DATE | DESCRIPTION | BY | APPR
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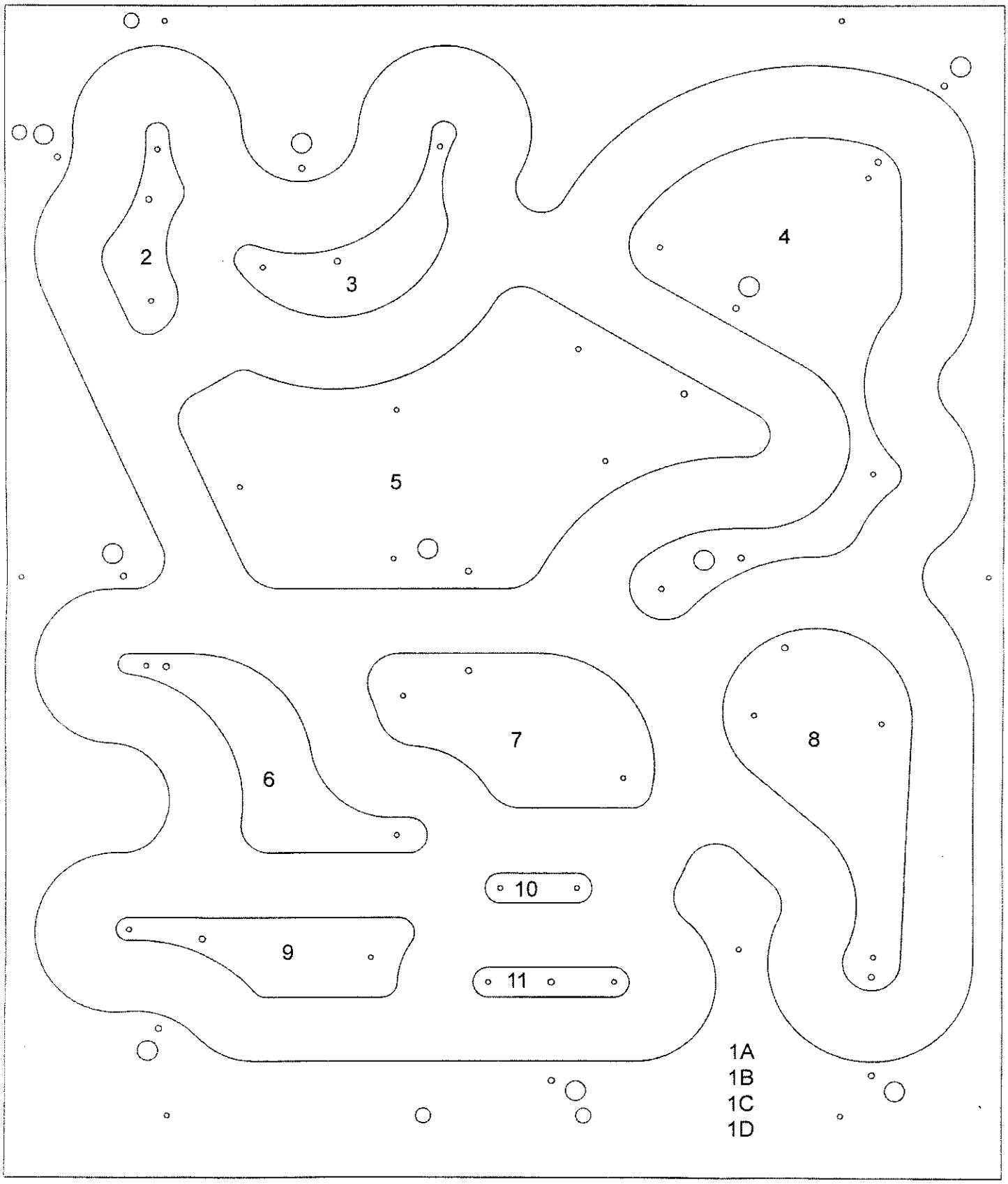
CHECK POINT RALLY P.C.B.
SK 136
SK 137
SK 139
P15
P14
P22
P21
P35
P34
P17
P29
P27
P22
CHECKPOINT 6
CHECKPOINT 1
CHECKPOINT 7
CHECKPOINT 2
CHECKPOINT 8
CHECKPOINT 3
CHECKPOINT 9
CHECKPOINT 4
CHECKPOINT 10
CHECKPOINT 5
MOTOR OPTO DETECTOR
PLAYFIELD MOTOR
JACKPOT 2 DIGIT LED DISPLAY 1.5"
+5V & +12V POWER SUPPLY
7.5OHMS 10WATT RESISTOR
CABINET LAMP
MARQUEE LIGHT
PLAYFIELD LIGHT
PLAYFIELD LIGHT
SPEAKER ASSY
TIME 2 DIGIT LED DISPLAY 1"
CREDITS 2 DIGIT LED DISPLAY 1"
STEERING ASSY
TICKET DISPENSOR ASSY
COIN DOOR
COIN 1
COIN 2
SERVICE PANEL
DOWN
UP
START
COIN COUNTER
TICKET COUNTER
DOLLAR BILL VALIDATOR
BILL OF MATERIAL
namco 150 Charcot Avenue San Jose, California 95131
HARNESS, CHECKPOINT RALLY OVERALL DRAWING
DWG NO. OVER 0271
REV. A
SCALE NONE
SHEET 1 OF 1



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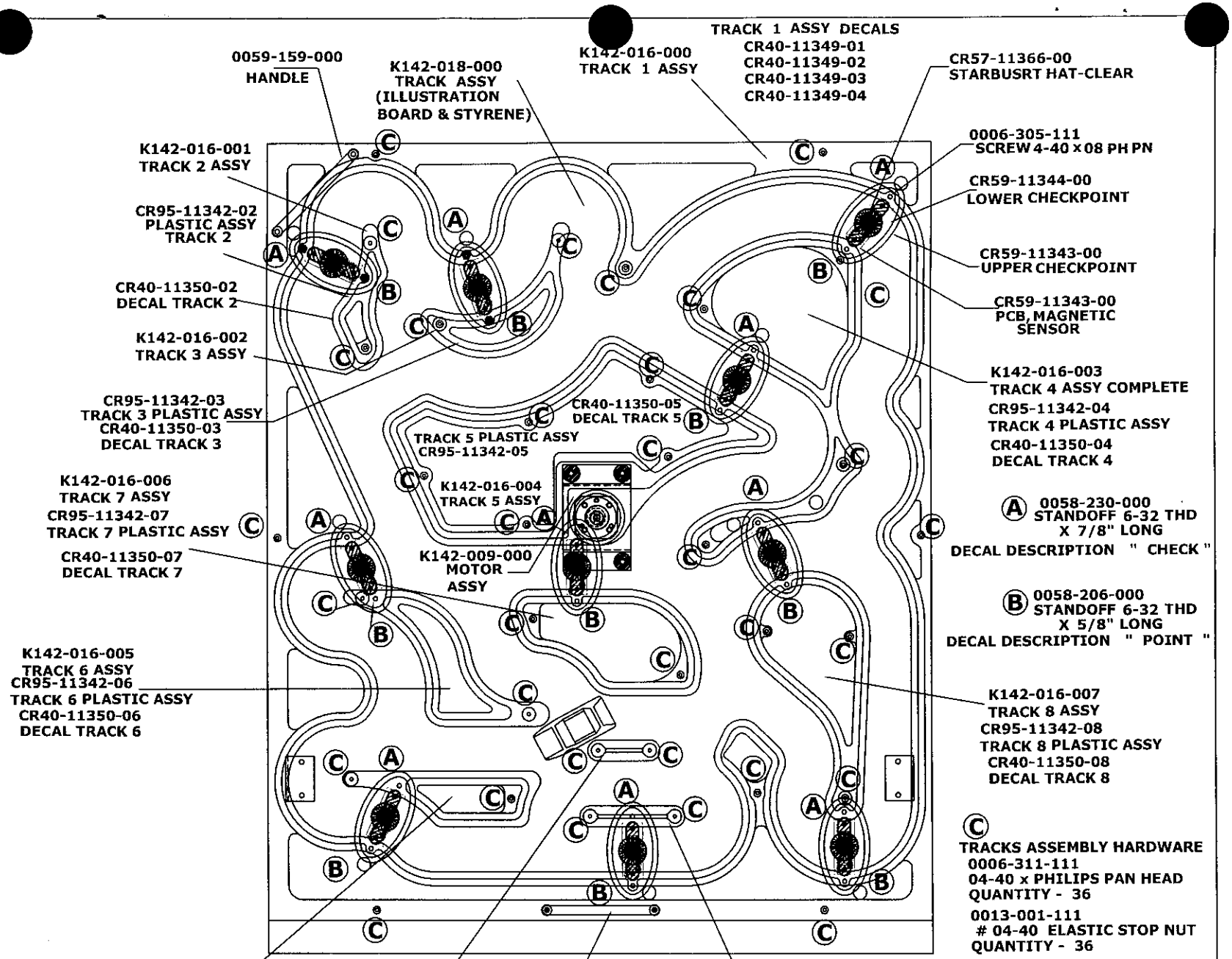

PRODUCTION TRACK ASSY DWG

REVISIONS				
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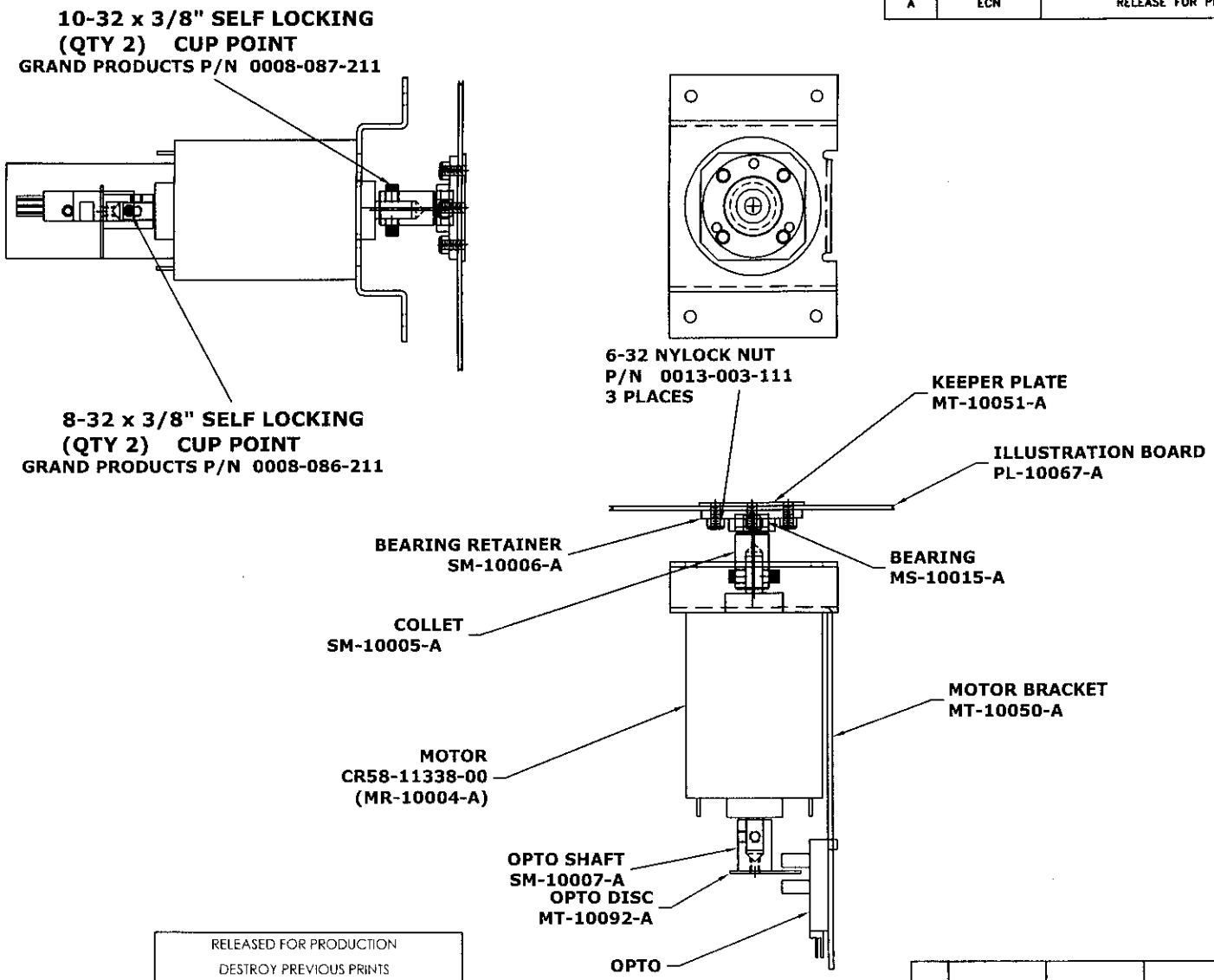

RELEASED FOR PRODUCTION
DESTROY PREVIOUS PRINTS
ENG. WWW - SUPP. ENG. _____ - DATE: 12-30-04

ITEM	CAD FILE NO.	PART NO.	VENDOR NO.	DESCRIPTION	QTY.
					1

PARTS LIST

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES ARE:
ONE PLACE .X ±.030
TWO PLACE .XX ±.010
THREE PLACE .XXX ±.005
FOUR PLACE .XXXX ±.0005
ANGULAR ±1°

DO NOT SCALE DRAWING

GAME DESIGNER: BRYAN HANSEN
PROJECT ENG.:
PROJECT NO.:
DRAWN: BRYAN HANSEN — DATE: 2/4/04
CHECKED — DATE:
APPROVED — DATE:
FILE NAME: MTASSY

Entergament Inc.

TITLE: MOTOR ASSY.

SIZE | PART NO.: K142-009-000

SCALE: FULL | USAGE | PART WEIGHT | SHEET OF

WARRANTY

Seller warrants that its printed circuit boards and parts thereon are free from defects in materials and workmanship under normal use and service for a period of ninety (90) days from the date of shipment. Seller warrants that its video displays (in games supplied with video displays) are free from defects in material and workmanship under normal use and service for a period of thirty (30) days from the date of shipment. None of the Seller's other products or parts thereof are warranted. Seller's sole liability shall be, at its option, to repair, replace, or credit Buyer's account for such products which are returned to Seller during said warranty period, provided:

a) Seller is promptly notified in writing upon discovery by Buyer that said products are defective.

b) Such products are returned prepaid to Seller's plant; and

c) Seller's examination of said products discloses to Seller's satisfaction that such alleged defects existed and were not caused by accident, misuse, neglect, alteration, improper repair, improper installation, or improper testing.

In no event shall Seller be liable for loss of profits, loss of use, incidental or consequential damages.

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Reorder number: CR45-11362-00

Rev A. RELEASED January 2005