Table of Contents
1. Safety Notices ................................................................................................................................. 3
2. FCC Compliance ............................................................................................................................... 3
3. Nicktoons Racing, Video Game ......................................................................................................... 3
  3.1. Game Background, The Characters ............................................................................................ 3
  3.2. Game Background, The Races .................................................................................................... 4
4. Connections to the PC ....................................................................................................................... 4
  4.1. DB15 Game Port Controls .......................................................................................................... 4
  4.2. Coin Door & Dollar Acceptor ..................................................................................................... 6
  4.3. DB9 Coin Counter/Switch on COM1 Serial port ........................................................................ 7
  4.4. USB Dongle ............................................................................................................................... 9
5. Game Adjustments & Calibrations ................................................................................................... 9
  5.1. 1ST Coinage for Game Play ....................................................................................................... 10
  5.2. 2ND Coinage for Game Play ...................................................................................................... 10
  5.3. 3RD and Additional Coinage for Game Play .............................................................................. 11
  5.4. Count Down To Insert Coin (Seconds) ....................................................................................... 11
  5.5. Attract Messages ....................................................................................................................... 12
  5.6. Difficulty per track & Easier Re-Race ....................................................................................... 12
  5.7. Free Play .................................................................................................................................. 13
  5.8. Allow Champion Tables ............................................................................................................ 13
  5.9. Reset Champion Tables ............................................................................................................ 13
  5.10. Allow Attract Mode Sounds .................................................................................................... 13
  5.11. Only Start at 1st Track ............................................................................................................. 13
  5.12. Factory Default ....................................................................................................................... 13
  5.13. Calibration buttons (Steering, Accelerator, Brakes, Fwd/Rev) ................................................. 13
  5.14. Diagnostics Button .................................................................................................................. 13
  5.15. OK button ............................................................................................................................... 13
  5.16. Cancel button .......................................................................................................................... 13
  5.17. Windows button ...................................................................................................................... 14
  5.18. The Diagnostics Dialog Box .................................................................................................... 14
  5.18.1. Pulse Meter Button ............................................................................................................. 14
  5.18.2. Calibration buttons (Steering, Accelerator, Brakes, Fwd/Rev) ........................................... 15
  5.18.3. OK button .......................................................................................................................... 15
  5.18.4. Cancel button ..................................................................................................................... 15
  5.18.5. Windows button .................................................................................................................. 15
6. Trouble Shooting ............................................................................................................................ 16
  6.1. Trouble shooting the Joystick connector .................................................................................. 16
7. Watch Dog and the I/O board .......................................................................................................... 17
  7.1. The Watch Dog (or WDT) (TBD) .............................................................................................. 17
8. Reloading Software & BIOS settings ............................................................................................... 18
  8.1. The BIOS settings for the ASRock M810LMR Mother board ....................................................... 18
  8.1.1. Main .................................................................................................................................... 18
  8.1.1.1. Floppy Driver .................................................................................................................... 19
  8.1.1.2. IDE Devices ...................................................................................................................... 19
  8.1.2. Advanced ............................................................................................................................. 19
  8.1.2.1. Chipset Configuration ...................................................................................................... 19
  8.1.2.2. Resource Configuration .................................................................................................... 19
  8.1.2.3. Peripheral Configuration ................................................................................................... 19
  8.1.2.4. System Hardware Monitor ............................................................................................... 19
  8.1.3. Security .................................................................................................................................. 19
  8.1.3.1. Power ............................................................................................................................... 20
  8.1.3.2. Boot ................................................................................................................................. 20
  8.1.3.3. Boot Device Priority ......................................................................................................... 20
  8.1.3.4. Exit .................................................................................................................................. 20
  8.2. Reloading software .................................................................................................................... 20
9. MAIN WIRING SCHEMATIC: ...................................................................................................... 21
10. AC SCHEMATIC: .......................................................................................................................... 22
1. Safety Notices
The following safety instructions apply to all game operators. We recommend that you read this page before setting-up Nicktoons Racing. Use the following safety guidelines to help protect the system from potential damage and to ensure your personal safety.

- Use with only 115 volts/60Hz
- To help prevent electric shock, plug the system power cables into properly grounded power sources. These cables are equipped with 3-prong plugs to help ensure proper grounding. Do not use adapter plugs or remove the grounding prong from a cable. If you must use an extension cable, use a 3 wire cable with properly grounded plugs.
- To help protect your system from sudden, transient increases and decreases in electrical power, use a surge suppressor, line conditioner or uninterruptible power supply (UPS).
- Do not spill food or liquid on your system.
- Do not push any objects into the openings of the system. Doing so can cause fire or electric shock by shorting out interior components.
- Keep your game far away from radiators and heat sources.
- Do not block cooling vents.
- Before working on the machine be sure to unplug it.
- Be sure to use fuses that meet the specified rating. (5A, 250V Fast-blow). Using fuses exceeding the specified rating can cause a fire and electrical shock.
- When working around the monitor, be extremely careful. Monitors parts are subject to high tension voltage. Even after turning off power, some portions are still subject to high tension voltage. Monitor repair and replacement should be performed only by technical personnel who have knowledge of electricity and technical expertise.

2. FCC Compliance
Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions 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.

3. Nicktoons Racing, Video Game
Nicktoons Racing operates on a PC with a Windows XP embedded operating system.

3.1. Game Background, The Characters
The characters in the game come from various Nickelodeon cartoon shows.

1) SpongeBob (SpongeBob, SquarePants)
2) Patrick (SpongeBob, SquarePants)
3) Mystery Rider (Shh!, this is Plankton from SpongeBob, SquarePants)
4) Ickis, (Real Monsters)
5) The Beavers: Daggett & Norbert (The Angry Beavers)
6) Cat & Dog (CatDog)
7) Tommy (The RugRats)
8) Angelica (The RugRats)
9) Arnold (Hey Arnold)
10) Helga (Hey Arnold)
11) Eliza (The Wild Thornberrys)
12) Darwin (The Wild Thornberrys)

Nicktoons has a web site:
http://www.nick.com/all_nick/nicktoons/

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Page 3
3.2. Game Background, The Races

There are 12 different races

1st Cup Races
1) Reptar Raceway (The RugRats)
2) Dam Prix (The Angry Beavers)
3) Rancid Raceway (CatDog)
4) Bikini Bottom Blowout (SpongeBob, SquarePants)

2nd Cup Races
5) Beaver Fever (The Angry Beavers)
6) Race Madness
7) Nearburg Rally (CatDog)
8) Safari Speedway (The Wild Thornberrys)

3rd Cup Races
9) Monster Mania (Real Monsters)
10) Pickles Parkway (The RugRats)
11) Gritty City Circuit (Hey Arnold)
12) Bongo Bangup (The Wild Thornberrys)

4. Connections to the PC

There are 9 connections to the PC:
- The DB15 Game Port Controls
- The DB9 RS232 serial port (COM1) (connector on motherboard)
- The DB25 Printer port (LPT1)
- The 4 pin PC power supply cable
- The reset connector (connector on mother board)
- The Audio Connector
- The Video Connector
- The Keyboard
- The Mouse
- USB Dongle

4.1. DB15 Game Port Controls

The controls connected to the DB15 game port are:
- The “Steering Wheel”, using a 100K linear taper Potentiometer.
- The “Accelerator Pedal”, using a 100K linear taper Potentiometer.
- The “Brake Pedal”, using a 100K linear taper Potentiometer.
- The “Forward/Reverse” shifter switch, with a 100K resistor across its terminals.
- The “Speed Burst” push button.
- The “Power Up” push button.
- The “Jump” push button.
- The “Horn” push button.
Table 1, Game Connector

<table>
<thead>
<tr>
<th>DB15 Pin</th>
<th>Description (Pots are 100K ohms)</th>
<th>Control</th>
<th>Other Wire</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Red</td>
<td>+5V DC</td>
<td>Main 5VDC</td>
<td></td>
</tr>
<tr>
<td>2 Brn</td>
<td>Joystick A Button 1</td>
<td>Horn Switch</td>
<td>Gnd</td>
</tr>
<tr>
<td>3 Pink</td>
<td>Joystick A X Axis</td>
<td>Steering Wheel Pot</td>
<td>5VDC</td>
</tr>
<tr>
<td>4 Blk</td>
<td>Ground</td>
<td>To button</td>
<td></td>
</tr>
<tr>
<td>5 Blk</td>
<td>Ground</td>
<td>To Horn</td>
<td></td>
</tr>
<tr>
<td>6 Orn</td>
<td>Joystick A Y Axis</td>
<td>Accelerator Pot</td>
<td>5VDC</td>
</tr>
<tr>
<td>7 Blu</td>
<td>Joystick A Button 2</td>
<td>Speed Burst Sw</td>
<td>Gnd</td>
</tr>
<tr>
<td>8 Purple</td>
<td>(Do not use)</td>
<td>(Do not use)</td>
<td></td>
</tr>
<tr>
<td>9 Tan</td>
<td>5V DC NA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 Vio</td>
<td>Joystick B Button 1</td>
<td>PowerUp Sw</td>
<td>Gnd</td>
</tr>
<tr>
<td>11 Wht/Blk</td>
<td>Joystick B X Axis</td>
<td>Brake Pot</td>
<td>5VDC</td>
</tr>
<tr>
<td>12 LtGrn</td>
<td>Midi Tx or Ground</td>
<td>(Do not use)</td>
<td></td>
</tr>
<tr>
<td>13 Wht</td>
<td>Joystick B Y Axis</td>
<td>Reverse Sw</td>
<td>5VDC</td>
</tr>
<tr>
<td>14 Gra</td>
<td>Joystick B Button 2</td>
<td>Jump Sw</td>
<td>Gnd</td>
</tr>
<tr>
<td>15 RedWht</td>
<td>Midi Rx or 5V DC</td>
<td>(Do not use)</td>
<td></td>
</tr>
</tbody>
</table>

Table 2, DB15 Controls Wiring

<table>
<thead>
<tr>
<th>Steering Wheel</th>
<th>Accelerator</th>
<th>Brake</th>
<th>Reverse Switch</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pin1 Pin 2</td>
<td>Pin1 Pin 6</td>
<td>Pin11</td>
<td>Pin13 Pin1</td>
</tr>
<tr>
<td>100K Linear Pot, about 50K ohms when centered</td>
<td>100K Linear Pot, about 0 ohms when pedal released</td>
<td>100K Linear Pot, about 0 ohms when pedal released</td>
<td>100K Resistor (Brn, Blk, Yel)</td>
</tr>
</tbody>
</table>

Horn Pin2 Pin4 | Speed Burst Pin7 Pin4 | PowerUp Pin10 Pin4 | Jump Pin14 Pin4
4.2. Coin Door & Dollar Acceptor

Both the coin switches and the Mars Electronics International AE2451U3 Dollar Bill acceptor (http://www.meiglobal.com/) are hooked up in parallel. The switch contacts to use for the coin switch are the common (COM) and the Normally open (N.O.) terminals. If the wrong coin switch terminal is used coins will not generate credits and the dollar acceptor will not generate credits. The Bill Acceptor should be set to send 4 pulses per dollar with a long pulse length.

Table 3, Mars AE2451U3 Bill Acceptor, 9-pin Connector

<table>
<thead>
<tr>
<th>Pin</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>NEUTRAL INHIBIT (Not used)</td>
</tr>
<tr>
<td>2</td>
<td>NEUTRAL ENABLE (Not used)</td>
</tr>
<tr>
<td>3</td>
<td>HOT ENABLE (Not used)</td>
</tr>
<tr>
<td>4</td>
<td>115 VAC HOT (POWER)</td>
</tr>
<tr>
<td>5</td>
<td>24 VAC HOT (POWER) (Not used)</td>
</tr>
<tr>
<td>6</td>
<td>115 / 24 VAC NEUTRAL</td>
</tr>
<tr>
<td>7</td>
<td>CREDIT RELAY (N.O.) (to coin Switch)</td>
</tr>
<tr>
<td>8</td>
<td>CREDIT RELAY (COMM.) (to coin Switch)</td>
</tr>
<tr>
<td>9</td>
<td>Reserved (Not used)</td>
</tr>
</tbody>
</table>
4.3. DB9 Coin Counter/Switch on COM1 Serial port

The Coin counter and coin switch are hooked up to COM1 Serial port via the Mother Board D815EFV / D815EPFV. It also gets +12VDC from the computers power cable for disk drives (see next table). Table 4, ASRock M810LMR Mother board, COM1 port connector

<table>
<thead>
<tr>
<th>Table 5, COM1 DB9 Coin Counter &amp; Coin Switch Circuit</th>
</tr>
</thead>
<tbody>
<tr>
<td>RI</td>
</tr>
<tr>
<td>(Key)</td>
</tr>
</tbody>
</table>
If another motherboard is used with a DB9 or a DB25 connector; here are the pin-outs.

### Table 6, COM1 Serial port Coin Meter connection

<table>
<thead>
<tr>
<th>Computers Male Connector</th>
<th>DB9 Pin</th>
<th>DB25 Pin</th>
<th>Description</th>
<th>Computer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 NC</td>
<td>8</td>
<td>DCD, Data Carrier Detect</td>
<td>Input</td>
<td></td>
</tr>
<tr>
<td>2 NC</td>
<td>3</td>
<td>Rx, Receive Data</td>
<td>Input</td>
<td></td>
</tr>
<tr>
<td>3 Brn</td>
<td>2</td>
<td>Tx, Transmit Data</td>
<td>Output</td>
<td></td>
</tr>
<tr>
<td>4 Vio</td>
<td>20</td>
<td>DTR, Data Terminal Ready</td>
<td>Output</td>
<td></td>
</tr>
<tr>
<td>5 Blk</td>
<td>7</td>
<td>GND, Common Ground</td>
<td>Ground</td>
<td></td>
</tr>
<tr>
<td>6 Blk</td>
<td>6</td>
<td>DSR, Data Set Ready</td>
<td>Input</td>
<td></td>
</tr>
<tr>
<td>7 NC</td>
<td>4</td>
<td>RTS, Request to Send</td>
<td>Output</td>
<td></td>
</tr>
<tr>
<td>8 Vio</td>
<td>5</td>
<td>CTS, Cleat to Send</td>
<td>Input</td>
<td></td>
</tr>
<tr>
<td>9 Wht</td>
<td>22</td>
<td>RI, Ring Indicator</td>
<td>Input</td>
<td></td>
</tr>
</tbody>
</table>

Note: COM1 ports are mostly DB9 (9 pin) connectors. But sometimes computers have the older DB25 (25 pin) connector. In the case of a DB25 COM1 port, a standard 25 pin to 9 pin adapter would be supplied with the game.
4.4. **USB Dongle**
Always plug in the Nicktoons Racing USB dongle. This allows the game to start and play games.

5. **Game Adjustments & Calibrations**
To start the Game Adjustments & Calibrations menu, press F1 on the keyboard during the Attract Mode. To access the F1 key open the top coin-door; the keyboard is mounted on the left wall of the cabinet. The F1 key is indicated with a service label and can be accessed without removing the keyboard. The mouse is located on the top of the cashbox.

<table>
<thead>
<tr>
<th>Male Pins</th>
<th>Pin</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Red</td>
<td>5VDC</td>
<td></td>
</tr>
<tr>
<td>2. Blk</td>
<td>Ground</td>
<td></td>
</tr>
<tr>
<td>3. Blk</td>
<td>Ground</td>
<td></td>
</tr>
<tr>
<td>4. Yel</td>
<td>12VDC</td>
<td></td>
</tr>
</tbody>
</table>
5.1. 1ST Coinage for Game Play
To start a game. This is the amount of \( X \) coins needed to add \( Y \) play time (in seconds). There is an additional message (up to 35 characters) that can be displayed above the “Insert \( X \) coins to start” message. See section 5.5 “Attract Message” for message limitations. Below is an example of the message “1ST COINAGE MESSAGE”

5.2. 2ND Coinage for Game Play
If the player wishes to continue the game for the first time. This is the amount of \( X \) coins needed to add \( Y \) play time (in seconds). There is an additional message (up to 35 characters) that can be displayed above the “Insert \( X \) coins to continue” message. See section 5.5 “Attract Message” for message limitations. This message
temporarily stops the game to ask from more coins. Below is an example of the message “2ND COINAGE MESSAGE” if the amount of coins is non-zero.

![2nd Coinage Message](image)

If the amount of coins in this coinage setting is 0, the player will be awarded free Bonus Time. This coinage is the only one that lets you set “0 coins” for a “Bonus Time” amount of free time. This “Bonus time” is always awarded. And is usually displayed dynamically while the player is still racing. (except if the player has already put in money or pre-paid for additional time). The 2nd coinage message is displayed as follows:

![Bonus Time](image)

### 5.3. 3RD and Additional Coinage for Game Play
If the player wishes to continue the game for the second time or any additional time thereafter; this is the amount of X coins needed to add Y play time (in seconds). The game is temporarily stopped to ask for more coins. There is an additional message (up to 35 characters) that can be displayed above the “Insert X coins to continue” message. See section 5.5 “Attract Message” for message limitations. Below is an example of the message “3RD COINAGE MESSAGE”.

![3rd Coinage Message](image)

### 5.4. Count Down To Insert Coin (Seconds)
This is the amount of time for the player to insert a coin to continue a game. (10-30 seconds)
5.5. Attract Messages
This is 2 lines of text, up to 35 characters for each line, to be displayed during the attract mode. Messages are limited to certain characters, listed in the table below. If you try to use a character that is not supported, it will be converted into a space (except for letters which will be converted to upper case).

Table 9, Supported Text Characters

<table>
<thead>
<tr>
<th>Character</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 9</td>
<td>Numbers 0 to 9</td>
</tr>
<tr>
<td>A to Z</td>
<td>Upper case letters A to Z</td>
</tr>
<tr>
<td>(Space)</td>
<td>Space</td>
</tr>
<tr>
<td>&amp;</td>
<td>Ampersand</td>
</tr>
<tr>
<td>'</td>
<td>Single quote</td>
</tr>
<tr>
<td>.</td>
<td>Period (or decimal point)</td>
</tr>
<tr>
<td>?</td>
<td>Question Mark</td>
</tr>
<tr>
<td>:</td>
<td>Colon</td>
</tr>
</tbody>
</table>

Below are examples of how the text is displayed in the attract mode:

5.6. Difficulty per track & Easier Re-Race
These are the difficulties of all 12 tracks. The most noticeable “difficulty” is that all the computer opponents are faster or slower than normal. 100% means that the computer opponents speed is the same as the home PC Game. Below is a table and a relative degree of difficulty. Remember that if this adjustment is above 100%, the computer players will be faster than the player, forcing the player to use speed bursts, jump, and powerup buttons.
Table 10, Difficulty Percentage Description

<table>
<thead>
<tr>
<th>Percent</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>25%</td>
<td>Minimum Very Easy</td>
</tr>
<tr>
<td>80%</td>
<td>Easy</td>
</tr>
<tr>
<td>90%</td>
<td>Medium Hard</td>
</tr>
<tr>
<td>100%</td>
<td>Hard</td>
</tr>
<tr>
<td>110%</td>
<td>Very Hard</td>
</tr>
<tr>
<td>150%</td>
<td>Maximum Extremely Hard</td>
</tr>
</tbody>
</table>

If the “Easier Re-Race” check box is checked, each additional re-race of the same track is made 10% easier (down to the Minimum 25%)

5.7. Free Play
Check this Box for all games to be free.

5.8. Allow Champion Tables
Check this box to allow the game to maintain 3 tables (the top 5 fastest players in each table) of the champion players per cup.

5.9. Reset Champion Tables
Press this button to reset 3 tables of champions to their initial values. Remember that the table is only reset if you press the “OK” button on the main adjustments Dialog box.

5.10. Allow Attract Mode Sounds
Check this box if it is OK to make sounds during the attract mode.

5.11. Only Start at 1st Track
Check this box to always start at the first track (cup 1, track 1). This will bypass the cup or difficulty selection screen. This adjustment is intended for locations with younger players that might not understand that higher cups are more difficult.

5.12. Factory Default
Press this button to show the Default adjustments and reset the Champion Tables. This does NOT effect any Calibration data. In order to use these default adjustments, press the OK button. To forget about these default adjustments, press the cancel button.

5.13. Calibration buttons (Steering, Accelerator, Brakes, Fwd/Rev)
Press any of these button to re-calibrate the Steering Wheel, Accelerator Pedal, Brake Pedal, Forward/Reverse shifter. Instructions are provided to release and depress the pedals or in the case of the steering wheel to center the wheel, turn it to the extreme right & left. Remember that these new calibrations are only saved if you press the “OK” button on the main adjustments Dialog box.

5.14. Diagnostics Button
Press this button to enter the Diagnostics dialog Box. See chapter 5.18 The Diagnostics Dialog Box.

5.15. OK button
Press this button to Save all changes (adjustments, reset champion table, and calibration data) then return back to the game.

5.16. Cancel button
Press this button to Cancel any changes (adjustments, reset champion table, and calibration data) and return back to the game.
5.17. **Windows button**
Press this button to Cancel any changes (adjustments, reset champion table, and calibration data) and exit the game to go to Windows DOS.

5.18. **The Diagnostics Dialog Box**
This is started by the Diagnostic button from the Adjustment Dialog Box. Major problems, like connectors disconnected, are prompted to be connected when the game starts.

![Figure 1, Diagnostic Dialog Box](image)

The Boxes for the Switches turn green when the switch is closed, and go back to gray when the switch is opened. A sound is made when the switch opened and closed. The Rectangles for the 100K potentiometers fill up green when the potentiometer reaches its CALIBRATED full value (not necessarily 100K). And are empty (gray) when they are at 0 ohms. The Gas and Brake pedals typically use about 1/3 to 1/2 a full turn of the potentiometer and will never reach their full 100K ohm value. Note, the displayed value in the dialog box (after calibration) implies the calibrated full range. Sounds are made when the potentiometer reaches Maximum and Minimum calibrated values. The steering wheel also has a center position sound and bar graph pauses in the center position; this is normal.

The status line(s) print OK or a typical corrective action, like plug in the connector. In extreme cases, a Windows OS error number is displayed.

5.18.1. **Pulse Meter Button**
Press this button to advance the coin meter by 1 count per press.
5.18.2. Calibration buttons (Steering, Accelerator, Brakes, Fwd/Rev)
Press any of these buttons to re-calibrate the Steering Wheel, Accelerator Pedal, Brake Pedal, Forward/Reverse shifter. Instructions are provided to release and depress the pedals or in the case of the steering wheel to center the wheel, turn it to the extreme right & left. Remember that these new calibrations are only saved if you press the “OK” button on the main adjustments Dialog box.

5.18.3. OK button
Press this button to Save all changes (adjustments, reset champion table, and calibration data) and then return back to the game.

5.18.4. Cancel button
Press this button to Cancel any changes (adjustments, reset champion table, and calibration data) and return back to the game

5.18.5. Windows button
Press this button to Cancel any changes (adjustments, reset champion table, and calibration data) and exit the game to go to Windows OS.
6. Trouble Shooting

In case something happens to the software on the Hard Drive or other problems, a boot CD has been included to reload all software. See chapter 8 “Reloading Software & BIOS settings” if your problem is not easily resolved. In most cases the plugs just have to be re-connected.

Table 11, Trouble Shooting Table

<table>
<thead>
<tr>
<th>Description of Problem</th>
<th>Possible solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turn on game and the message “USB Dongle Problem: Please plug in the USB Dongle for Nicktoons Racing…” appears in a dialog box with the buttons OK &amp; Cancel.</td>
<td>Your USB dongle is un-plugged. Find the Nicktoons Video game USB dongle and plug it into any USB port on the PC. Or if it is already plugged into game unplug it and re-plug it in. Then power cycle the game.</td>
</tr>
<tr>
<td>Turn on game and the message “Please connect Coin Meter to COM1 port for this game.” appears in a dialog box with the buttons OK &amp; Cancel.</td>
<td>The coin (switch &amp; meter) connector is un-plugged. Find the coin connector and plug it into the COM1 port of the game. Or if already plugged into game unplug it and re-plug it in. Then power cycle the game.</td>
</tr>
<tr>
<td>Turn on game and the message “Please plug the Control Plug into the Joystick Connector on the PC” appears in a dialog box with the buttons OK &amp; Cancel.</td>
<td>The controls connector is un-plugged or a 100K potentiometer is disconnected. Find the controls connector and plug it into the Joystick port of the game (typically a 15 pin female connector) on the PC. Or if already plugged into game unplug it and re-plug it in. Then power cycle the game. If it still fails, see the chapter 6.1 “Trouble shooting the Joystick Connector”</td>
</tr>
<tr>
<td>While playing the game or during the attract mode, the players controls do not respond and a message “The controls seem to be unplugged. Please re-plug the controls into the Joystick connector on the PC and press OK.” appears.</td>
<td>See above solution.</td>
</tr>
<tr>
<td>I insert a coin during the game, but no credits or sound is generated.</td>
<td>Press “F1” to enter the adjustments page and press the “Diagnostics” button. If the box for the coin switch is red, look at the RS232 status line for recommended action. If it is not red, then press the coin switch to see if the software can read the switch. If the coin box does not turn green when the switch is closed, look for a broken wire or mechanical switch.</td>
</tr>
</tbody>
</table>

6.1. Trouble shooting the Joystick Connector

Typically, the 100K linear taper potentiometers vary from 0 ohms to 100K ohms. If any of the 4 potentiometers have an open circuit, then all the joystick controls will not operate. An ohm meter between pins 1 & 2, pins 1 & 6, pins 1 & 11, and pins 1 & 13 on the male plug should always have 0 to 100K ohms.
7. Watch Dog and the I/O board
The I/O board contains solenoid drivers, audio amplifier, and a watch dog circuit (to reset the PC if the PC gets locked). The CPU reset signal (Reset#) is accessed via a connector on the mother board.

<table>
<thead>
<tr>
<th>Table 12, ASRock M810LMR Mother board, System panel connector</th>
</tr>
</thead>
<tbody>
<tr>
<td>The 2 pin watch dog connector is plugged into this connector on the top pins reset# and GND, (reset# is connected to the purple wire, GND is the empty pin).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dummy (Key)</th>
<th>Reset#</th>
<th>GND</th>
<th>HLED-</th>
<th>HLED+</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>GND</td>
<td>PWRBTN#</td>
<td>PLED-</td>
<td>PLED+</td>
</tr>
</tbody>
</table>

The Watch Dog circuit also receives signals from parallel port (DB25 connector) and it is plugged into the parallel port connector.

7.1. The Watch Dog (or WDT)
There are 3 switches (S1, S2, & S3) and 3 LED’s (CR1, CR2, & CR3).

- **Switch S1** - Enable/Disable watch dog
- **Switch S2** - Reset the PC.
- **Switch S3** - Set power on “watch dog reset counter” to 0.

- **Green LED CR1** – power on “reset counter” (medium ¾ sec blinks, Heartbeat (slow 1 second blinks), or CPU Reset active (fast ½ sec blinks)
- **Red LED CR2** - Watch dog disabled (when solid on), 2 blink rates when watch dog is being petted.
- **LED CR3** – Not used

When the game is turned on, the Green LED CR1 blinks the amount of times the watch dog circuit has reset the game (Note: switches do not operate during this state). If this “watch dog reset counter” is zero, it blinks both CR1 (Green) & CR2 (Red) one at a time. In state 2 and 3, the switches are continuously monitored when LED CR1 blinks at the heartbeat rate (Regular, 1 beat/second), except where noted.

Pressing (and holding) Switch S1 will toggle between the Enable (Red LED CR2 blinking or off) or disable (Red LED CR2 is solid on). Note: The disabled state of watch dog is “remembered” even when power is turned off, then on again. So it is possible to never enable watch dog.
Pressing Switch S2 (when watch dog is enabled) will start a PC reset (Green LED CR1 will fast blink).

Pressing Switch S3 will set the power on “watch dog reset counter” to 0 blinks.

<table>
<thead>
<tr>
<th>State</th>
<th>Heartbeat LED (Green CR1)</th>
<th>Disabled LED (Red CR2)</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) if ZERO resets stored</td>
<td>Alternate blink with Disabled LED</td>
<td>Alternate blink with Heartbeat LED</td>
<td>Indicates '0' resets have been done by the WDT, state 2 is next.</td>
</tr>
<tr>
<td>(1) If &gt; 0 reset stored</td>
<td>Blink 150ms ON, 600ms OFF</td>
<td>OFF</td>
<td>The number of blinks by Heartbeat LED indicate the number of resets that have been done by the WDT. Operator FORCED Resets are NOT counted in this number, state 2 is next.</td>
</tr>
<tr>
<td>(2) IDLE</td>
<td>Regular, 1 beat/second</td>
<td>OFF</td>
<td>upon PC Boot-UP will sit in IDLE for 10 minutes before looking for the PC to pet it, state 3 is next.</td>
</tr>
<tr>
<td>(3) PC Pet the dog</td>
<td>Regular, 1 beat/second</td>
<td>Blink <em>half fast</em></td>
<td>Indicates that the PC, cabling, and WDT circuit are working properly.</td>
</tr>
<tr>
<td>(3) PC Pet the dog</td>
<td>Regular, 1 beat/second</td>
<td>blink <em>superfast</em></td>
<td>Indicates that the PC, cabling, and WDT circuit are working properly.</td>
</tr>
<tr>
<td>(3) RESET PC (WDT or SW2)</td>
<td>Fast</td>
<td>OFF</td>
<td>The PC is the process of being RESET by WDT. State 1 is next</td>
</tr>
<tr>
<td>(3) Set Count=0 (SW3)</td>
<td>Fast</td>
<td>OFF</td>
<td>Indicates that any stored RESETS are set to ZERO</td>
</tr>
<tr>
<td>(3) WDT DISABLED (SW1)</td>
<td>Regular, 1 beat/second</td>
<td>ON</td>
<td>WDT is disabled and not looking for any characters on parallel port. PC cannot be reset from this state. state 4 is next.</td>
</tr>
<tr>
<td>(4) WDT ENABLE (SW1)</td>
<td>Regular, 1 beat/second</td>
<td>OFF</td>
<td>From WDT disabled, so LED's will end up in IDLE for 5 seconds. state 2 is next.</td>
</tr>
</tbody>
</table>

8. Reloading Software & BIOS settings

In case something happens to the software on the Hard Drive, a boot CD has been included to reload all software. Also included is the BIOS settings if the BIOS settings are lost. To get into the BIOS on the ASRock M810LMR Mother board, press F2 during the power on self test.

WARNING: Turn the watch dog off (press & hold Switch S1 until LED CR2 is solid ON) or else if you take too long, it will reset the PC! When you are done with reloading the software & the BIOS settings, turn watch dog back on (press & hold Switch S1 until LED CR2 is off or blinking).

8.1. The BIOS settings for the ASRock M810LMR Mother board

The menus are selected by the left & right arrow keys. To select item in any menu use the up & down keys. The bottom 2 lines on the BIOS screen describe the operation of the other keys. The last known BIOS was “AMIBIOS NEW SETUP UTILITY – VERSION 3.31a”.

But this will change...

8.1.1. Main
8.1.1.1. Floppy Driver
Floppy Drive A = Not installed
Floppy Drive B = Not installed
Floppy Drive Swap = Disabled
Floppy Driver Seek = Disabled

8.1.1.2. IDE Devices
Primary IDE Master = {your C: drives name, i.e. Maxtor 2F020L0}
Type = Auto
32 Bit transfer = OFF
Ultra DMA = Disable
Primary IDE Slave = Not Installed
Secondary IDE Master = {your CD drive, i.e. GCR-8523B}
Secondary IDE Slave = Not installed
PCI IDE BusMaster = Enabled
S.M.A.R.T. for Hard disks = Enabled

8.1.2. Advanced
CPU Host Frequency = By Jumper
SDRAM Frequency 133Mhz

8.1.2.1. Chipset Configuration
PCI Delay Transaction = Disabled
OnChip VGA Frame Buffer Size = 16MB
USB controller = Enabled
USB Device Legacy Support = Enabled
SDRAM CAS Latency = Auto

8.1.2.2. Resource Configuration
PCI Latency Timer (PCI clocks) = 32

8.1.2.3. Peripheral Configuration
OnBoard FDC = Auto or Disabled
OnBoard Serial Port = Auto or 3F8/COM1
OnBoard Infrared port = Disabled
OnBoard Parallel port = Auto or 378
Parallel Port Mode = EPP+ECP
EPP Version = 1.9
Parallel port IRQ = 7
Parallel Port DMA Channel = 3
OnBoard Midi Port = Enabled
MIDI Port I/O address = 330h-333h
OnBoard Game Port = Enabled
OnBoard IDE = Both
OnBoard LAN = Enabled
OnBoard AC’97 Audio = Auto
OnBoard MC’97 Modem = Disabled

8.1.2.4. System Hardware Monitor
(Nothing is settable here)

8.1.3. Security
(Read only) Supervisor Password Is = Clear
(Read only) User password Is = Clear
Set Supervisor Password = [Enter] {Do not set a password!}
Password Check = Setup
8.1.3.1. **Power**  
- Restore on AC/Power Loss = Power On  
- Ring-in Power on = Disabled  
- PCI Device Power On = Disabled  
- RTC Alarm Power On = Disabled

8.1.3.2. **Boot**  
- Quick Boot Mode = Enabled  
- Boot Up Num-Lock = On  
- Boot To OS/2 = NO  
- Boot to Network = Disabled

8.1.3.3. **Boot Device Priority**  
(The order should be CD drive, then Hard drive. The position is not important. Here is an example)  
1\(^{	ext{st}}\) = CD/DVD-0:  
2\(^{\text{nd}}\) = IDE-0: {your C: drives name, i.e. Maxtor 2F020L0}  
3\(^{\text{rd}}\) = Disabled  
4\(^{\text{th}}\) = Disabled  
- Try other Boot Devices = Yes

8.1.3.4. **Exit**  
These settings allow you to save or discard your changes

8.2. **Reloading software**  
If the BIOS setting are intact, insert the Boot CD into the CD drive and boot the machine. Follow instructions from the boot CD. This will erase the hard drive Nicktoons(C:) and reload all software and revert all adjustments back to factory settings (nothing is saved). After reloading the game (and removing the CD), power cycle the game, wait for it to start, then press F1 and ALWAYS calibrate your 4 controls! You can also modify your adjustments (if any). Do not forget to turn watch dog back on (press & hold Switch S1 until LED CR2 is off or blinking).

For assistance with your game call (708)780-0070, ask for technical support.
9. MAIN WIRING SCHEMATIC:
10. AC SCHEMATIC:

5 Amp 250V

CHICAGO GAMING COMPANY
4616 W. 19th. Street  Cicero Illinois 60804  708-780-0070

DATE:  05-20-03  DRAWN BY:  BRIAN

TITLE:  MAIN WIRING SCHEMATIC

PROJECT:  Nicktoons Racing Video

REVISION:  0.01

CAD REF:  NTRwiring.DWG  SCALE:  None

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Page 22