



Service Manual Rev 1.0

For Parts or Service contact

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CAUTION:

- The specifications of this product are subject to change without notice for reasons such as performance.
- The content of this game, its main devices and design are protected under each federal law concerning patent, copyright and other intellectual properties.
- Unauthorized reproduction of this document or any of its contents is strictly forbidden.

Safety Instructions

Safety instructions apply to operators and service personnel. Read these instructions before preparing the video game machine (VGM) for play. Other safety instructions appear throughout this manual.

WARNING: TRANSPORTING THE VIDEO GAME MACHINE (VGM).

The VGM contains glass and fragile electronic devices. Use appropriate care when transporting. Avoid rough handling when moving the VGM.

WARNING: DISCONNECT POWER.

Always turn the power OFF and unplug the VGM before attempting service or adjustments unless otherwise instructed. Installing or repairing components with the power switched ON can damage the components and void warranty.

WARNING: GROUND GAMES.

Avoid electrical shock! Do not plug in the VGM until you have inspected and properly grounded it. Only plug into a grounded, three-wire outlet. Do not use a “cheater” plug, or cut off the ground pin on the line cord.

WARNING: DO NOT INSTALL NEAR WATER JET

This VGM is not suitable for installation in an area where a water jet would be used. Do not use a water jet to clean the machine.

WARNING: AVOID ELECTRICAL SHOCKS.

This VGM does not utilize an isolation transformer. Internal cabinet AC is not isolated from the external AC line.

WARNING: HANDLE FLOURESCENT TUBE WITH CARE.

If you drop a fluorescent tube and it breaks, it will implode! Shattered glass can fly eight feet or more from the implosion.

WARNING: CHECK POWER SELECTOR, LAMP.

Set the 115/230 VAC selector switch on the power supply for the correct line voltage on the installation site. Verify that the fluorescent lamps are rated for the proper line voltage. NOTE: There are two fluorescent lamps in the marquee and one fluorescent lamp in the main cabinet.

WARNING: USE PROPER FUSE.

Avoid electrical shock! Replacement fuses must be identically rated to the original fuse!

WARNING: ATTACH CONNECTORS PROPERLY.

Be sure all connectors mate properly. If connectors do not slip in easily, do not force them. Connectors are often keyed and only connect one way. Check for correct orientation.

WARNING: USE EXTREME CARE WHEN HANDLING PC.

The PC contains sensitive components. Do not handle roughly. Call your distributor before servicing PC internal components. Ask about warranty information as it relates to the PC.

WARNING: IF POWER CORD IS DAMAGED

If the supply cord is damaged it must be replaced by a special cord or assembly available from the manufacturer or service agent.

WARNING: HAZARD TO EPILEPTICS.

A very small portion of the population has a condition that may cause them to experience epileptic seizures or have momentary loss of consciousness when viewing certain kinds of flashing lights or patterns that are present in our daily environment. These persons may experience seizures while watching some kinds of television pictures or playing certain video games. People who have not had any previous seizures may nonetheless have an undetected epileptic condition.

If you or anyone in your family has experienced symptoms linked to an epileptic condition (e.g., seizures or loss of awareness), immediately consult your physician before using any video games.

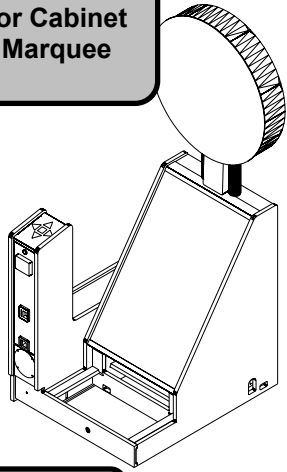
We recommend that parents observe their children while they play video games. If you or your child experience the following symptoms: dizziness, altered vision, eye or muscle twitching, involuntary movements, loss of awareness, disorientation, or convulsions, DISCONTINUE USE IMMEDIATELY and consult your physician.

FCC Compliance

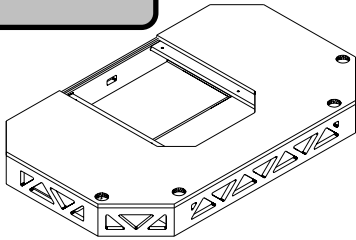
Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment 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.

Assembly Components

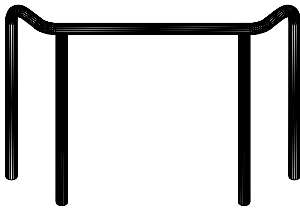
Monitor Cabinet with Marquee



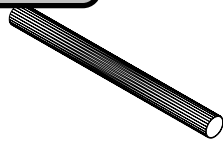
Putt Floor



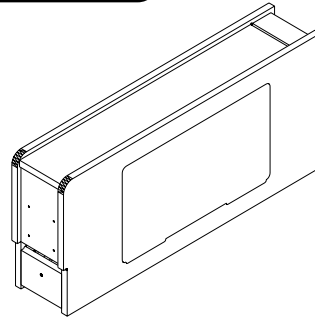
Handrail



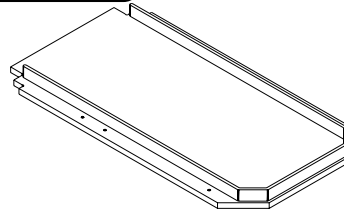
Monitor Guard Bar



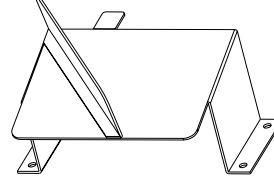
Ball Mech Cabinet



Green



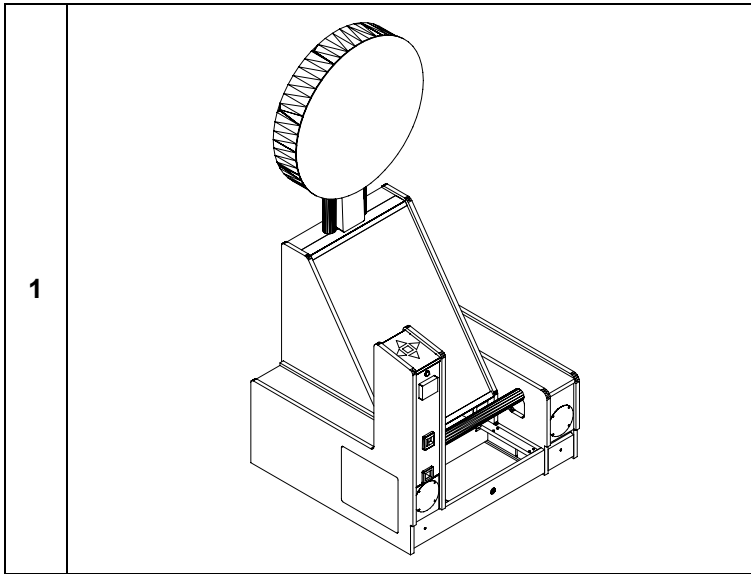
Ball Chute



Hardware

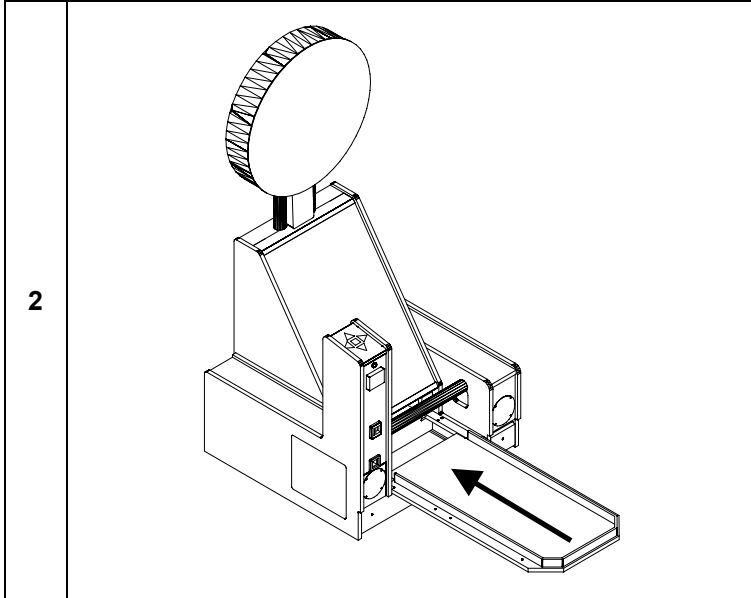
- (10) 1/4-20 x 1-1/2" Hex Head Bolts
- (4) 1/4-20 x 2-1/4" Hex Head Bolts
- (12) 1/4" x 5/8" OD Flat Washers
- (4) #8 x 1/2" Black Phillips Pan Head
- (4) 3/4" Black Mounting Dome Plug

Assembly Instructions

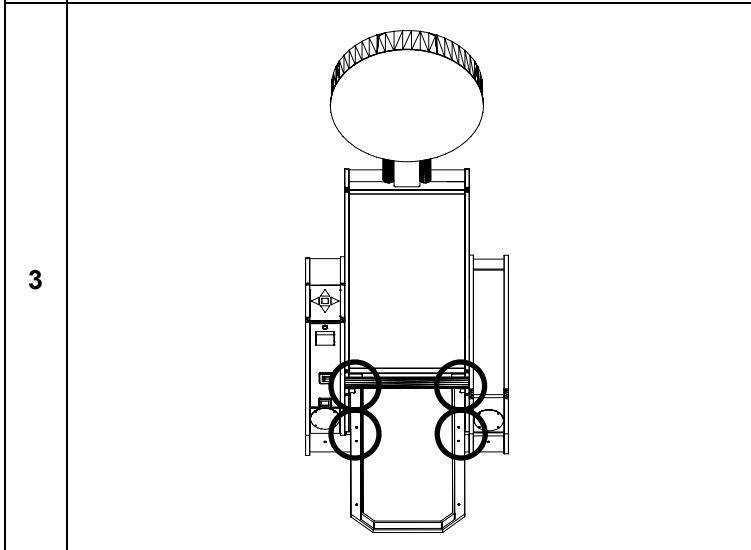


WARNING!
CABINET MUST BE
LEVEL FOR GAME TO
FUNCTION

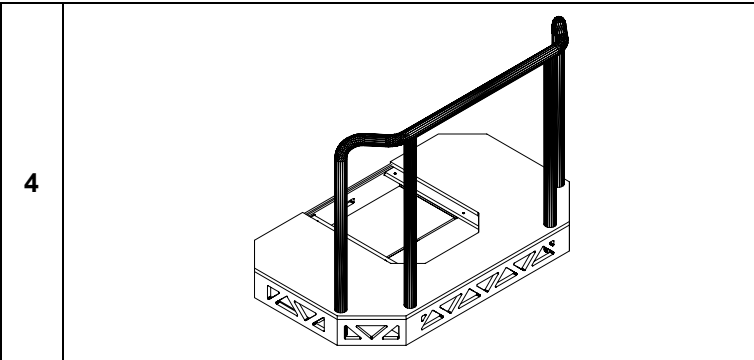
Level the **Monitor Cabinet**.



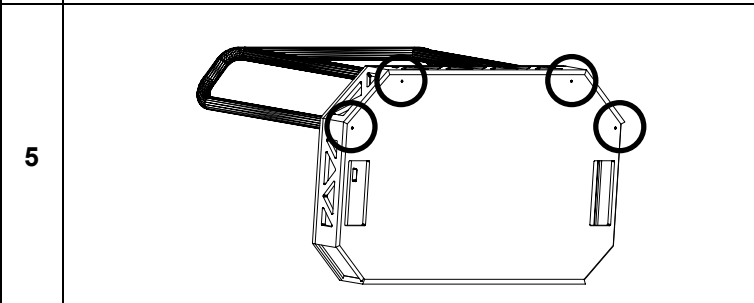
Put the **Green** in position on the
Monitor Cabinet.



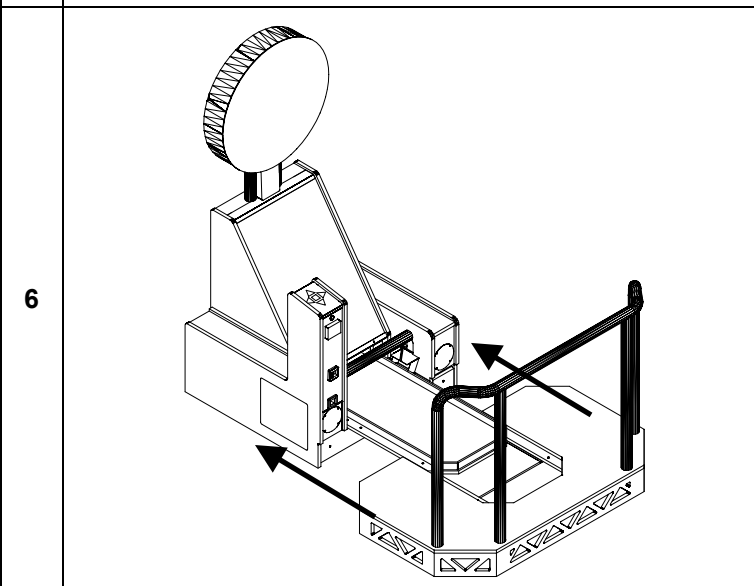
Using (4) of the $\frac{1}{4}$ -20 x 1-1/2" **bolts** and $\frac{1}{4}$ " **washers** provided, secure the **Green** to the **Monitor Cabinet**. Use black hole plugs to cover holes after bolts have been installed.



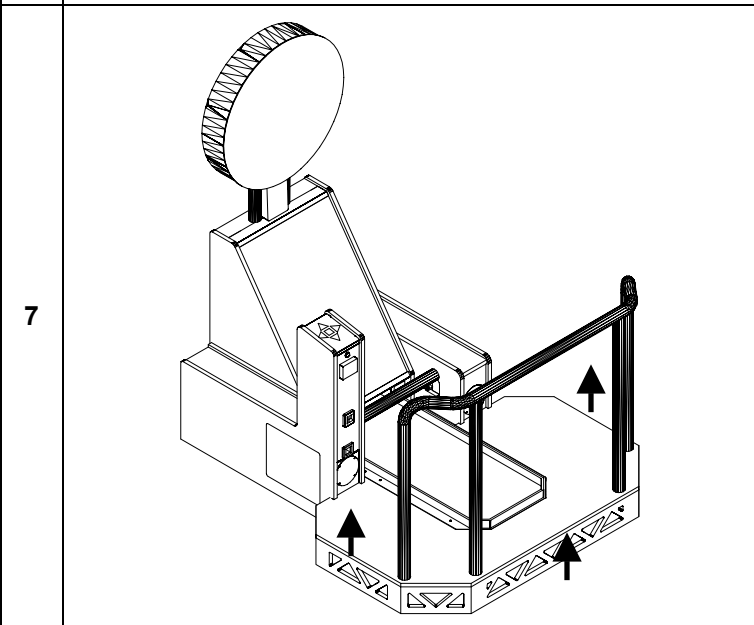
Place the **Handrail** in the mounting holes on the **Floor**.



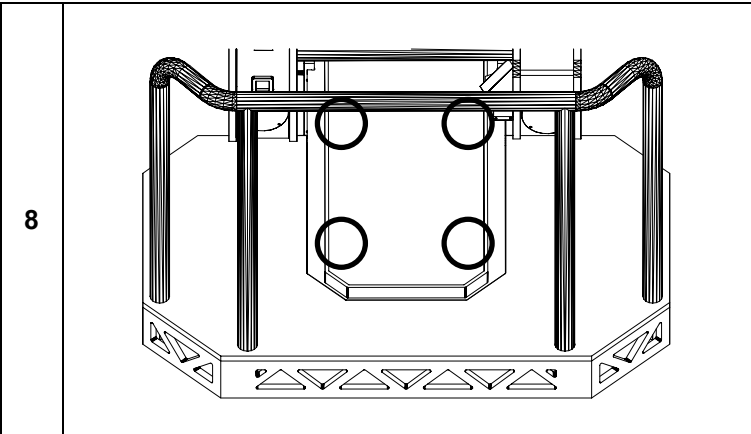
Place something (cardboard, cloth, etc.) on the ground to protect the artwork. Lift the **Floor** up and secure **Handrail** from bottom with (4) $\frac{1}{4}$ -20 x 2- $\frac{1}{4}$ " bolts and $\frac{1}{4}$ " washers.



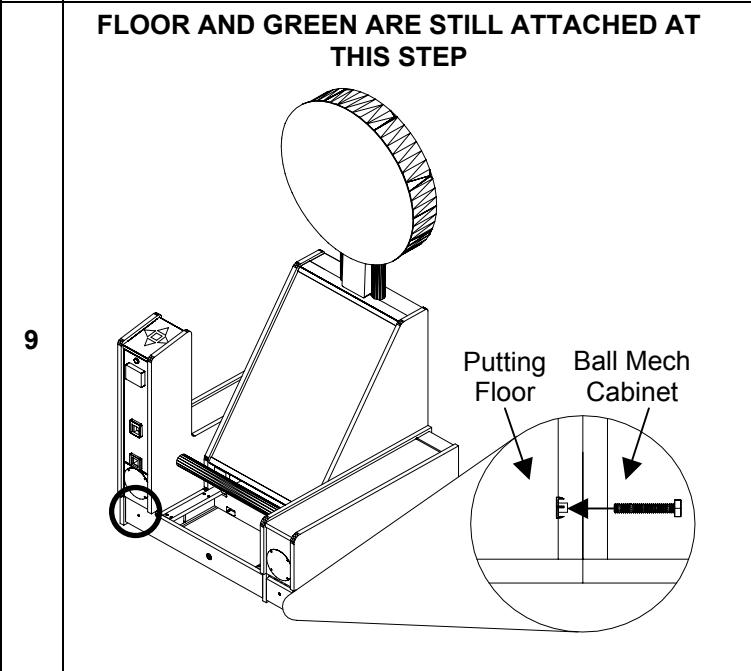
With the leg levelers on the **Floor** in the lowest position, move the **Floor** into place. Connect the **12V DC Lamp Cable** (which extends from the **Floor**) to the corresponding harness, which extends from the **Monitor Cabinet**. Make sure the cable does not get pinched when pushing the cabinets together



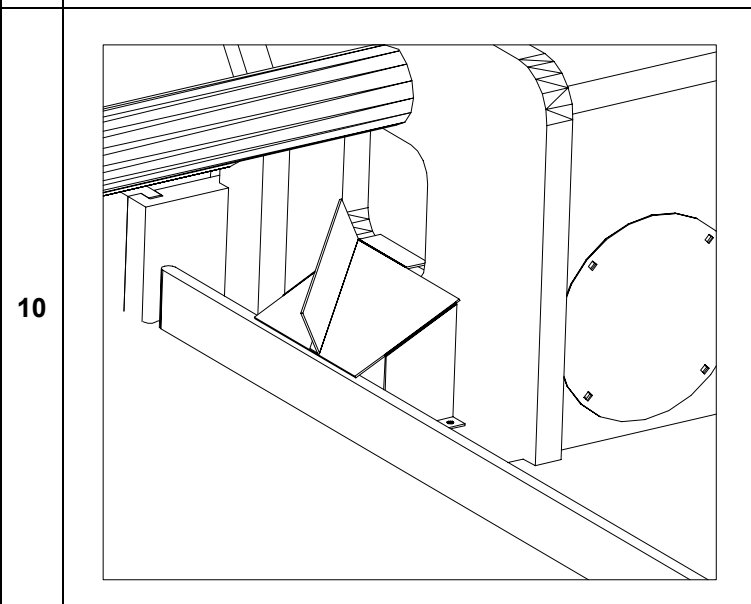
Using the leg levelers, adjust the **Floor** until it is the same height as the **Monitor Cabinet** and **Green**.



Lift the carpet on the **Green** at the white tabs. Bolt the **Green** to the **Floor** using (4) ¼-20 x 1-1/2" bolts and ¼" washers.



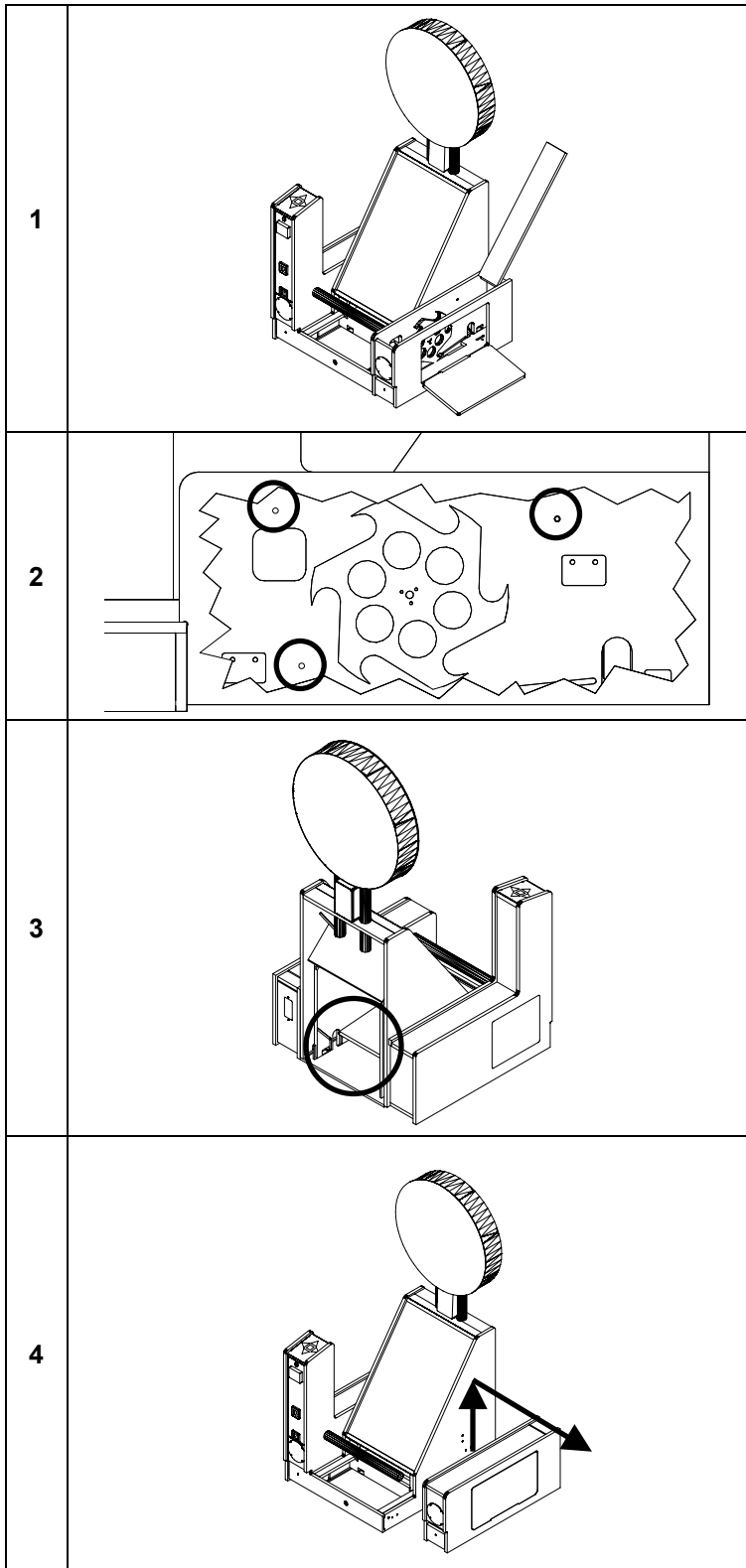
Once in position, bolt the **Floor** to the **Monitor Cabinet** on BOTH SIDES below the speakers from inside the **Ball Mech Cabinet** and **Coin Door Cabinet** using 2 ¼-20 x 1-1/2" bolts and ¼" washers.



After everything is assembled and bolted together, attach the **Ball Chute**. Slide one foot of the **Ball Chute** under the **Ball Chute Foot** below the ball exit. Make sure the **Ball Chute** is aligned with the pilot holes and secure it with the (2) #8 x ½" **Black Screws**.

Removal of Ball Mech Cabinet

If the cabinet is too wide to fit through a doorway with the **Ball Mechanism Cabinet** attached, it can be easily removed and reattached.



Open the top door and side door on the **Ball Mech Cabinet**.

Remove the **2 bolts** connecting the cabinets, the **2 nuts** connected to the **Monitor Guard Bar** and the plate where you removed the nuts.

Remove the **Back Door** and disconnect the **AC Wire Harness** and **Ball Mech Harness** that run between the **Monitor Cabinet** and **Ball Mech Cabinet**.

Pull the disconnected harnesses back into the **Ball Mech Cabinet** and close the doors. Lift the **Ball Mech Cabinet** straight up **1 inch** to free it from the **Ball Mount Brackets**, and then pull it away from the **Monitor Cabinet**. The **Monitor Guard Bar** should still be connected to the **Control Panel Cabinet**

To reattach the **Ball Mech Cabinet**, just follow the previous steps in reverse order.

Aligning Motion Sensor

The motion sensor is aligned before you receive it, but it is possible that some movement has occurred during shipment.

NOTE: For better visibility, use the removed back door to shield light from the cabinet. When the back door is open, light reflecting off the motion sensor guard tends to wash out the image, making it more difficult to see.

Open the coin door and press the Menu button on the Service Panel.

Using the Up and Down buttons on the **Control Panel**, move to **Diagnostics** and press Start. From this menu, select **Motion Sensor**.

Look at the box labeled "Live Feed." This shows you what the motion sensor is currently seeing.

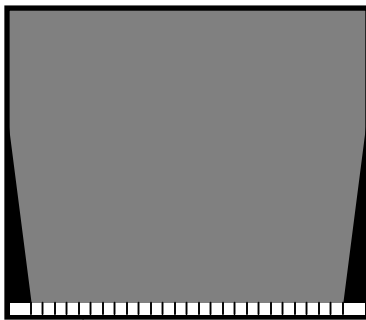
If the motion sensor is correctly aligned, you should see equal black triangles on both sides of the image and a thin silver line, which is the top of the Ball Gate, at the bottom of the screen. **THIS LINE MUST BE HORIZONTAL FOR THE MOTION SENSOR TO TRACK ACCURATELY.** If the image DOES NOT appear as described, use the guide below to determine how you must adjust the motion sensor.

See Motion Sensor Test on page 19 for information on adjusting the ball speed.

REMOVE BACK DOOR TO ACCESS MOTION SENSOR



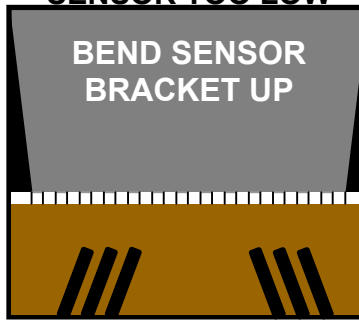
PERFECT



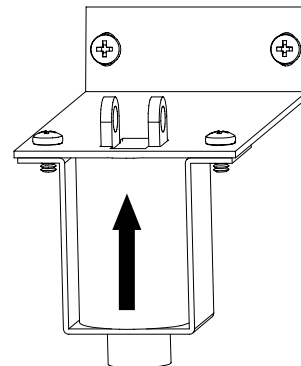
Live Feed

MUST BE PERFECTLY HORIZONTAL

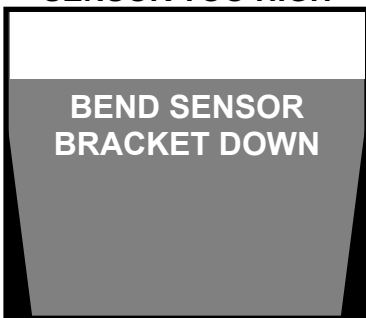
SENSOR TOO LOW



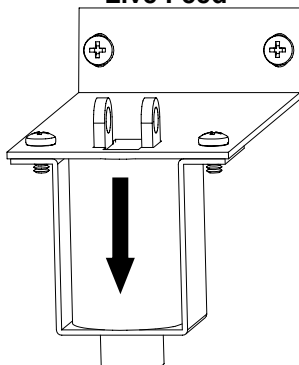
Live Feed



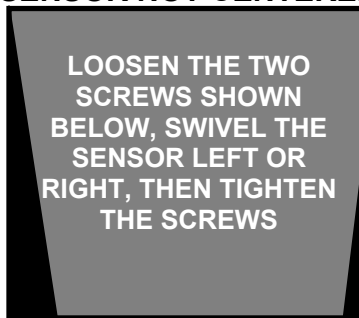
SENSOR TOO HIGH



Live Feed



SENSOR NOT CENTERED



Live Feed

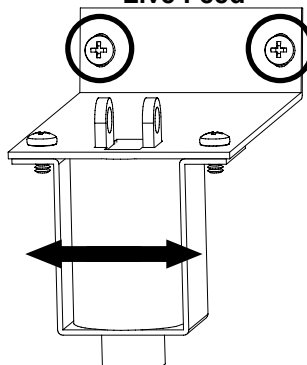
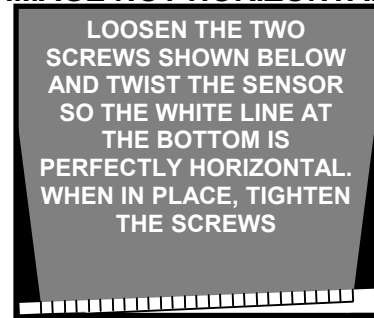
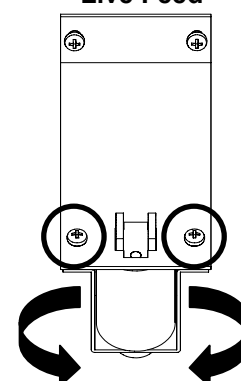


IMAGE NOT HORIZONTAL



Live Feed

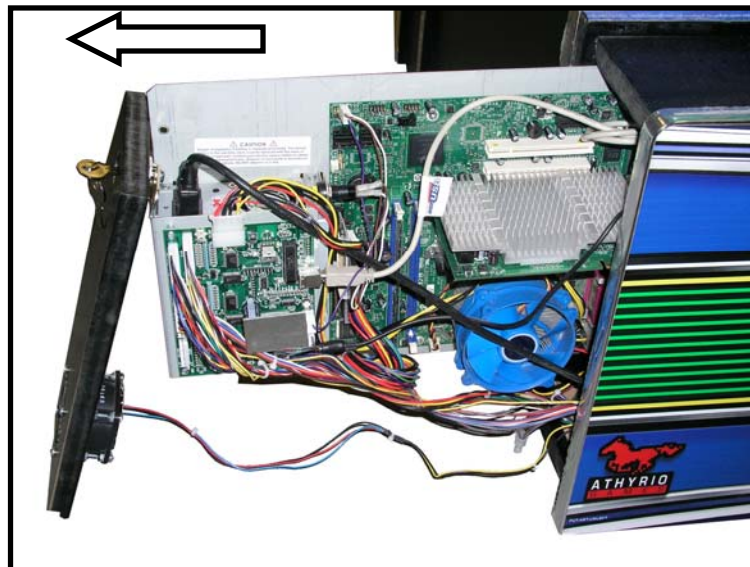


Accessing and Removing Computer Shelf

The computer shelf is located at the rear of the Coin Door Cabinet. The computer shelf can be accessed by removing the door on the back of the Coin Door Cabinet. Remove the thumbscrew and slide the computer shelf back.

There are nine cables that need to be disconnected from the Computer Shelf to completely remove it from the cabinet. These are the **Fan Power Harness**, **Power Cable to the Power Supply**, **Coin Door Harness**, **Control Panel Harness**, **Ball Mech Harness**, **Speaker Harness**, **DVI Cable**, **USB Extension Cable** and the **Motion Sensor's USB Cable**

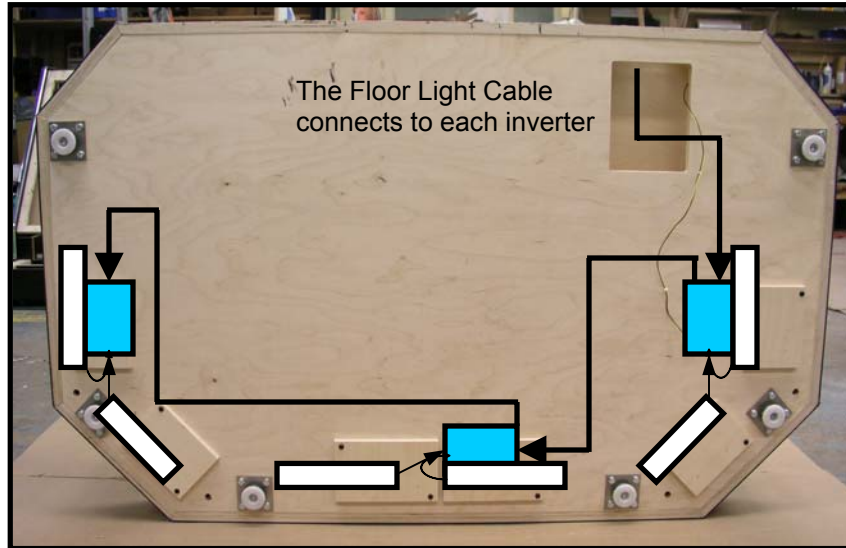
1. TURN POWER OFF AND UNPLUG FROM WALL!
2. Remove the back door of the Coin Door Cabinet.
3. Disconnect the **Fan Power Harness** from the **ATX Power Supply**.
4. Remove the thumbscrew that holds the Computer Shelf in place.
5. Pull the computer shelf out just enough so that you can see all of the I/O Board and Power Supply.
6. Disconnect the **A/C Power Cable** from the **Power Supply**.
7. Disconnect the 4 cable connectors that are attached to the face of the I/O Board. These are the **Coin Door Harness**, **Control Panel Harness**, **Ball Mech Harness** and the **Speaker Harness**.
8. You can leave the 4-pin power connector attached to the top of the board, as well as the USB cable and Audio Cable.
9. Continue pulling the shelf out of the cabinet.
10. Disconnect the monitor's **DVI Cable** from the Video Card that is connected to the motherboard.
11. Disconnect the **Motion Sensor USB Cable** and **USB Extension Cable** from Motherboard.



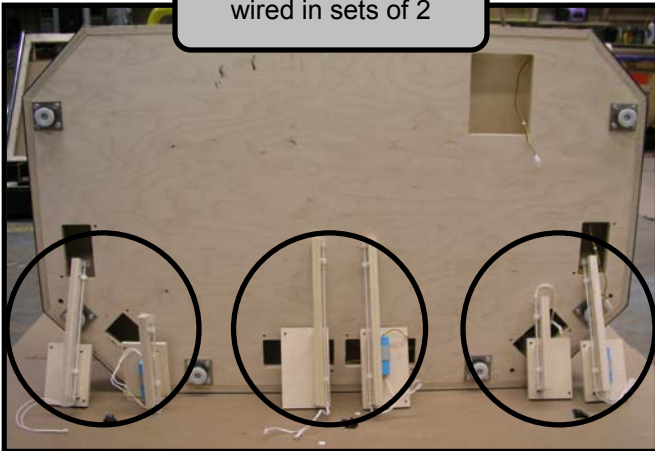
Servicing Floor Lamps

The lamps in the floor are wired in sets of 2. Each set consists of **1 inverter** and **2 lamps**. There is a single cable that runs from the Monitor Cabinet to each inverter, as shown below. Each lamp has its own cable, which connects to the other side of the inverter.

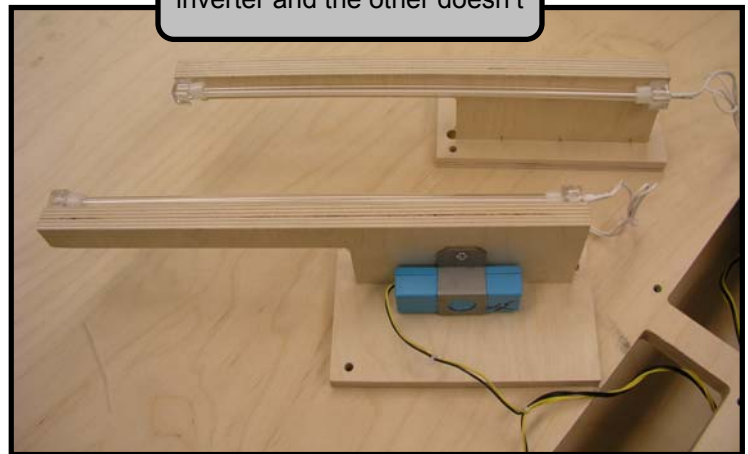
Because both lamps are plugged into the same inverter, you must remove both blocks in a set when servicing a lamp.



The Floor Lamps are wired in sets of 2

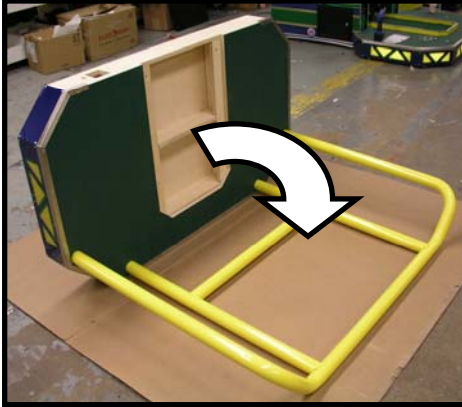


In a set, one block has an inverter and the other doesn't

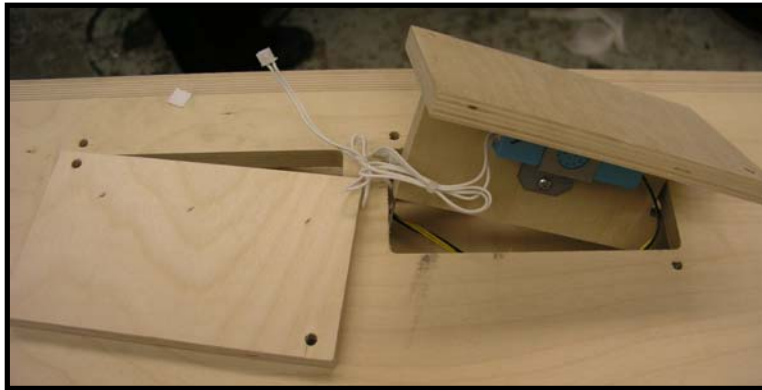


See the next page for detailed instructions

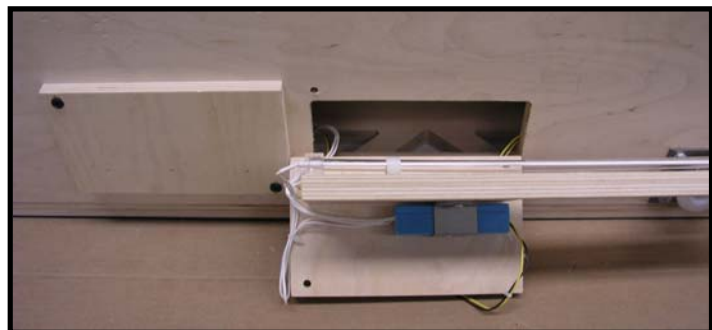
1. Remove the bolts that hold the **Floor** to the **Monitor Cabinet** and remove the 4 bolts that mount the **Green** to the **Floor**. You can leave the **Green** connected to the **Monitor Cabinet**.
2. Pull the **Floor** away from the **Monitor Cabinet** and disconnect the **Floor Power Cable**, which runs between the two cabinets.
3. Pull the handrail down to the ground so that the **Floor** is vertical. Put something on the ground to protect the art and Handrail from being scratched.



4. Remove the 4 screws for the pair of lamps that you have to remove. Slightly lift each block so you can see which one has the inverter. Unplug both sets of white cables that are plugged into the inverter.

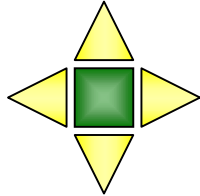
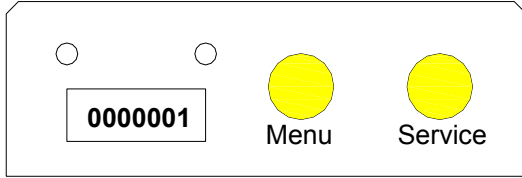


5. You can now remove and service the lamp or inverter.
6. When reinstalling the lamps, you must first install the lamp WITHOUT the inverter and run that lamp's cable to the other lamp's mounting hole, as shown below. Now put the block with the inverter in position and connect both of the lamps cables to the inverter



Main Menu

The Service Panel is located behind the coin door

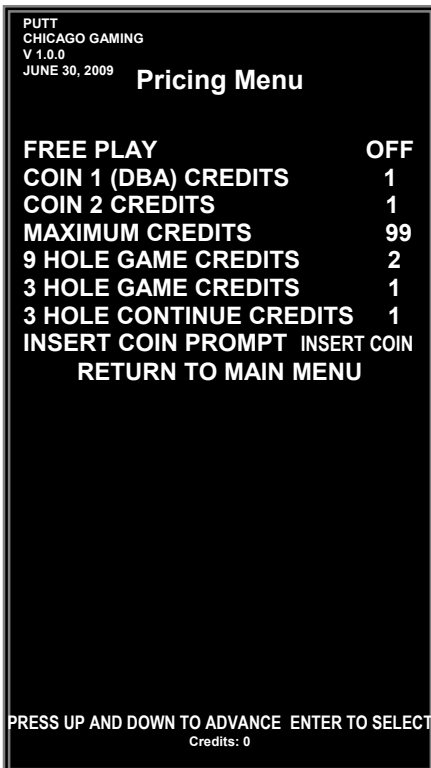
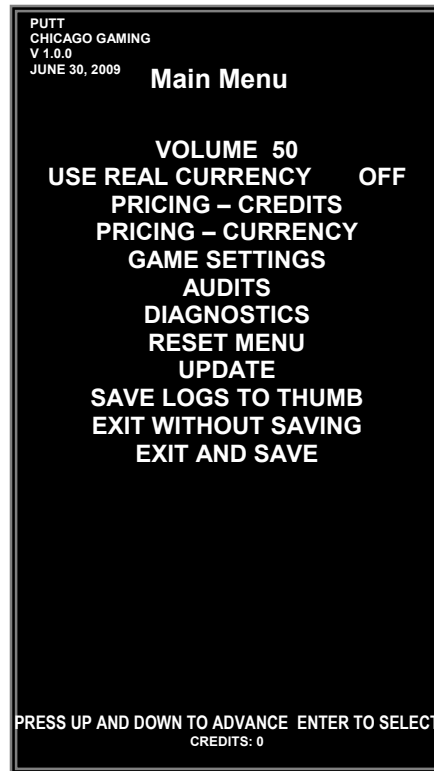


Use the arrow buttons to navigate the menu

Volume – Set Volume from 0-100

Use Real Currency – ON / OFF

Pricing – Credits



Coin 1 (DBA) Credits – OFF / 1-10
 Coin 2 Credits – OFF / 1-10
 Maximum Credits – 1-99
 9 Hole Game Credits – 1-10
 3 Hole Game Credits – 1-10
 3 Hole Continue Credits – 1-10
 Insert Coin Prompt – Insert Coin / Insert Key / Swipe Card

Pricing – Currency

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Pricing Menu

FREE PLAY	OFF
LOCALE	USA DOLLAR
COIN 1 (DBA) PER PULSE	\$0.25
COIN 2 PER PULSE	\$0.25
9 HOLE GAME COST	\$2.50
3 HOLE GAME COST	\$1.00
3 HOLE CONTINUE COST	\$1.00
INSERT COIN PROMPT	INSERT COIN
RETURN TO MAIN MENU	

PRESS UP AND DOWN TO ADVANCE ENTER TO SELECT
Credits: 0

Free Play – ON / OFF

Locale – USA Dollar / England Pound

Coin 1 (DBA) Per Pulse – \$0.00-\$5.00

Coin 2 Per Pulse – \$0.00-\$5.00

9 Hole Game Cost – \$0.25-\$10.00

3 Hole Game Cost – \$0.25-\$10.00

3 Hole Continue Cost – \$0.25-\$10.00

Insert Coin Prompt – Insert Coin / Insert Key / Swipe Card

Game Settings

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GAME SETTINGS

DIFFICULTY	MEDIUM
ATTRACT SOUND	ON
ALLOW CONTINUES	ON
CONTINUE TIMER	30
METERS / YARDS	FEET
MAX STROKES OVER PAR	4
MINUTES TO TIMEOUT IDLE GAME	5
RETURN TO MAIN MENU	

PRESS UP AND DOWN TO ADVANCE ENTER TO SELECT
Credits: 0

Difficulty – Easy / Medium Easy / Medium / Medium Hard / Hard

The difficulty level determines how much the computer assists the player during putting. If a player, aiming at the hole, hits the ball too far to the right, the computer will partially correct the putt, moving the ball closer to the hole. Easier difficulties correct more, while harder difficulties correct less.

Attract Sound – ON / OFF / Low Volume

Allow Continues – ON / OFF / 1 / 2 / 3

Continue Timer – 15-45

Meters/Yards – Meters / Yards / Feet

Max Strokes Over Par – OFF / 1-10

Minutes to Timeout Idle Game – OFF / 1-15

Audits

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AUDITS MENU

BASE AUDITS
GAME AUDITS
VEGAS AUDITS
HAWAII AUDITS
RETURN TO MAIN MENU

PRESS UP AND DOWN TO ADVANCE ENTER TO SELECT
Credits: 0

Base Audits

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AUDITS

	CURRENT	LIFETIME
MONEY IN	\$0.00	\$0.00
COIN CHUTE 1	0	0
COIN CHUTE 2 (DBV)	0	0
TOTAL COINS	0	0
FREE PLAY STARTS	0	0
GAMES PLAYED	0	0
SERVICE CREDITS	0	0
SERVICE CREDIT CURRENCY	\$0.00	\$0.00
TIME ON	0Y 0D 00:00:00	0Y 0D 00:00:00
PLAY TIME	0Y 0D 00:00:00	0Y 0D 00:00:00

PRESS SERVICE TO CLEAR CURRENT AUDITS
PRESS ENTER TO EXIT
Credits: 0

Game Audits

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AUDITS

	CURRENT	LIFETIME
MONEY IN	\$0.00	\$0.00
GAMES PLAYED	50	50
GAMES X PLAYED	52	52
AVERAGE GAMETIME	0:00	0:00
1 PLAYER GAMES	34	34
2 PLAYER GAMES	1	1
3 PLAYER GAMES	0	0
4 PLAYER GAMES	0	0
9 HOLE GAMES	23	23
3 HOLE GAMES	12	12
3 HOLE CONTINUES	15	15
1 PLAYER CONTINUES	14	14
2 PLAYER CONTINUES	1	1
3PLAYER CONTINUES	0	0
4PLAYER CONTINUES	0	0
VEGAS GAMES	5	5
HAWAII GAMES	30	30

PRESS SERVICE TO CLEAR CURRENT AUDITS
PRESS ENTER TO EXIT
Credits: 0

Vegas Audits

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AUDITS

	CURRENT	LIFETIME
HOLE 1 PLAYS	0	0
HOLE 1 AVG SCORE	0	0
HOLE 1 AVG TIME	0	0
HOLE 2 PLAYS	0	0
HOLE 2 AVG SCORE	0	0
HOLE 2 AVG TIME	0	0
HOLE 3 PLAYS	0	0
HOLE 3 AVG SCORE	0	0
HOLE 3 AVG TIME	0	0
HOLE 4 PLAYS	0	0
HOLE 4 AVG SCORE	0	0
HOLE 4 AVG TIME	0	0
HOLE 5 PLAYS	0	0
HOLE 5 AVG SCORE	0	0
HOLE 5 AVG TIME	0	0
HOLE 6 PLAYS	0	0
HOLE 6 AVG SCORE	0	0
HOLE 6 AVG TIME	0	0
HOLE 7 PLAYS	0	0
HOLE 7 AVG SCORE	0	0
HOLE 7 AVG TIME	0	0
HOLE 8 PLAYS	0	0
HOLE 8 AVG SCORE	0	0
HOLE 8 AVG TIME	0	0
HOLE 9 PLAYS	0	0
HOLE 9 AVG SCORE	0	0
HOLE 9 AVG TIME	0	0

PRESS SERVICE TO CLEAR CURRENT AUDITS
PRESS ENTER TO EXIT
Credits: 0

Hawaii Audits

PUTT
CHICAGO GAMING
V 1.0.0
JUNE 30, 2009

AUDITS

	CURRENT	LIFETIME
HOLE 1 PLAYS	0	0
HOLE 1 AVG SCORE	0	0
HOLE 1 AVG TIME	0	0
HOLE 2 PLAYS	0	0
HOLE 2 AVG SCORE	0	0
HOLE 2 AVG TIME	0	0
HOLE 3 PLAYS	0	0
HOLE 3 AVG SCORE	0	0
HOLE 3 AVG TIME	0	0
HOLE 4 PLAYS	0	0
HOLE 4 AVG SCORE	0	0
HOLE 4 AVG TIME	0	0
HOLE 5 PLAYS	0	0
HOLE 5 AVG SCORE	0	0
HOLE 5 AVG TIME	0	0
HOLE 6 PLAYS	0	0
HOLE 6 AVG SCORE	0	0
HOLE 6 AVG TIME	0	0
HOLE 7 PLAYS	0	0
HOLE 7 AVG SCORE	0	0
HOLE 7 AVG TIME	0	0
HOLE 8 PLAYS	0	0
HOLE 8 AVG SCORE	0	0
HOLE 8 AVG TIME	0	0
HOLE 9 PLAYS	0	0
HOLE 9 AVG SCORE	0	0
HOLE 9 AVG TIME	0	0

PRESS SERVICE TO CLEAR CURRENT AUDITS
PRESS ENTER TO EXIT
Credits: 0

Diagnostics



Switches – Select this option to test the functionality of the switches.

Video – Select this option to test that the monitor is working properly.

Audio – Select this option to test that the speakers are working correctly.

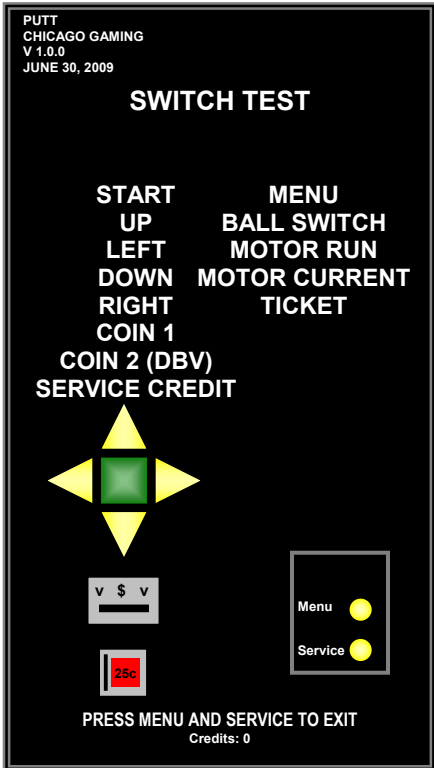
Ball Return – Select this option to test the Ball Return Mechanism and Motor.

Lamp Test – Select this option to test all lamps in the cabinet.

Motion Sensor – Use the motion sensor diagnostic to make sure that the motion sensor is working and properly aligned. This is also where you can adjust the speed of the ball in game.

Hardware Info – This provides the versions of Motherboard, I/O Board, and BIOS Version in the machine.

Switch Test



Switches – Pushing a switch will cause the name to light up on the screen.

Start, Up, Left, Down, Right, Coin 1, Coin 2 (DBV), Service Credit, Menu, Ball Switch, Motor Run, Motor Current, Ticket

Video Diagnostics

Use Up and Down to navigate the menu and press enter to select a test screen.
Press enter again to return to **Video Diagnostics Menu**.

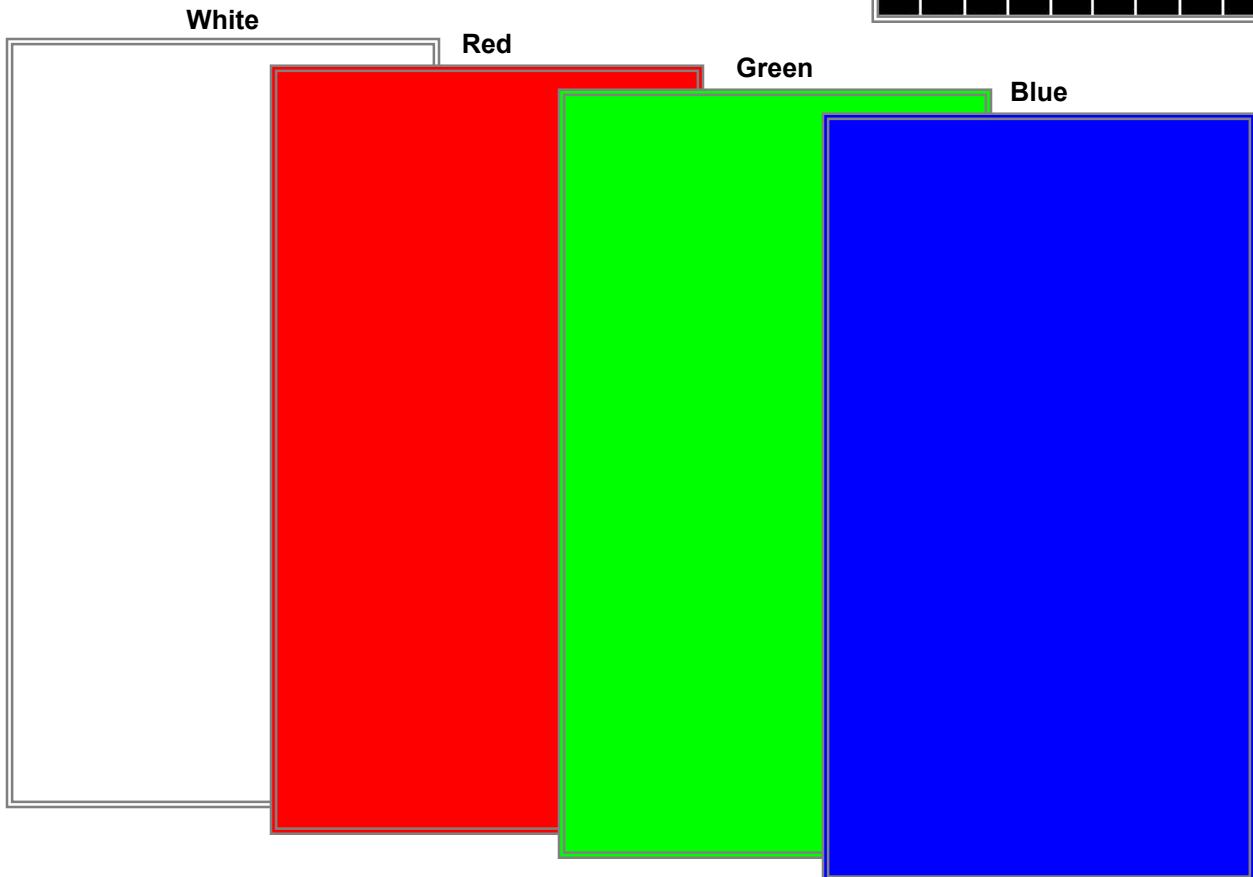
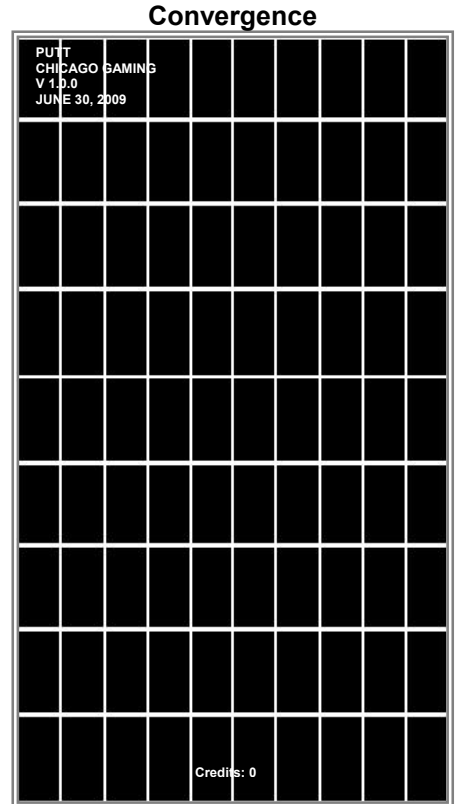
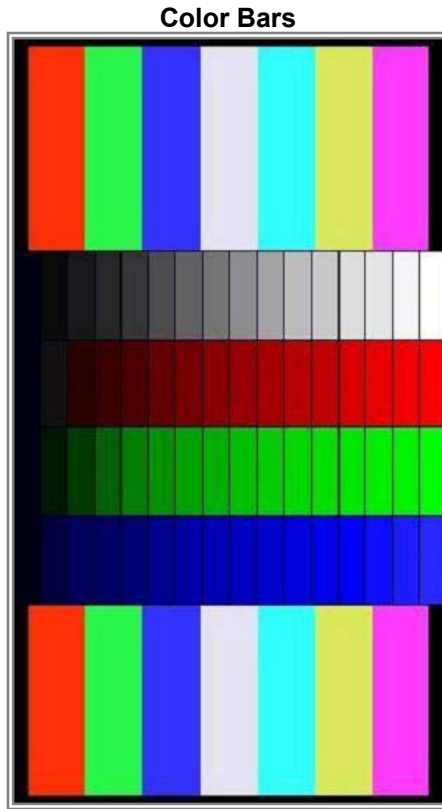
PUTT
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VIDEO DIAGNOSTICS

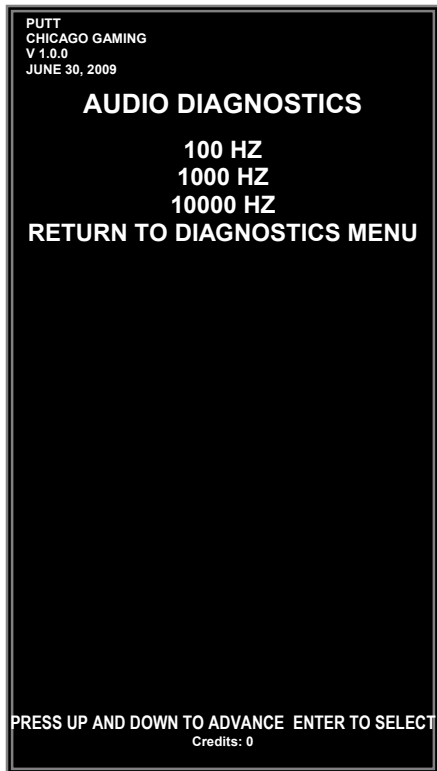
COLOR BARS
CONVERGANCE
WHITE
RED
GREEN
BLUE

RETURN TO DIAGNOSTICS MENU

PRESS UP AND DOWN TO ADVANCE ENTER TO SELECT
Credits: 0

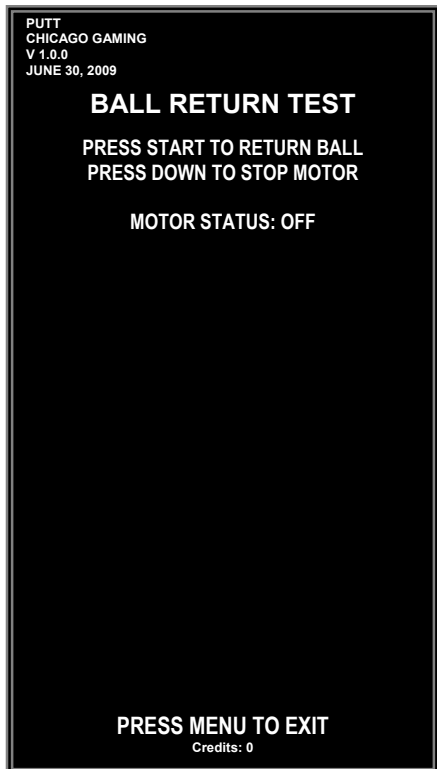


Audio Diagnostics



100 HZ – This tests that the speakers work at 100HZ.
1000 HZ – This tests that the speakers work at 1000HZ.
10000 HZ – This tests that the speakers work at 10000HZ.

Ball Return Test



Pressing Start returns one ball.
Pressing Down while the motor is running will stop it.

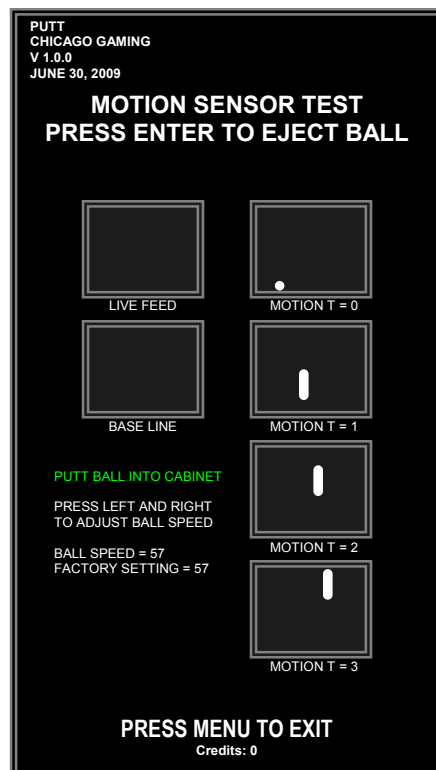
Lamp Test



Upon entering the **Lamp Test**, the five Control Panel Button Lamps should be flashing. Pressing any button switches to the Individual Lamp Test. In this mode, pressing a control panel buttons tests the lamp in that button and pressing Service tests the meter.



Motion Sensor Test



The **Motion Sensor Test** is used to align the motion sensor and set the speed of the ball in game. A guide for aligning the motion sensor can be found on **page 9**.

LIVE FEED: Shows a live view of what the motion sensor is seeing.

BASELINE: This is the image that the software will use to compare to the others once it detects motion. It is reset when a new ball is ejected.

MOTION T=0, 1, 2, and 3: These four (4) images are compared against the base line, which shows the direction and speed of the ball.

Adjusting Ball Speed

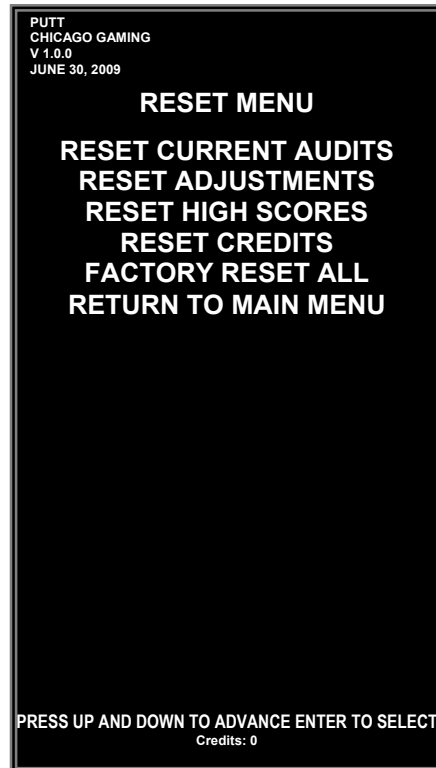
The ball speed can be adjusted in the **Motion Sensor Test**. Increasing the ball speed causes the ball to travel a greater distance with the same strength of putt, while lowering the ball speed will decrease this distance. While in the **Motion Sensor Test**, press Right to increase the ball speed or Left to decrease it. The factory default setting is 57.

Hardware Info

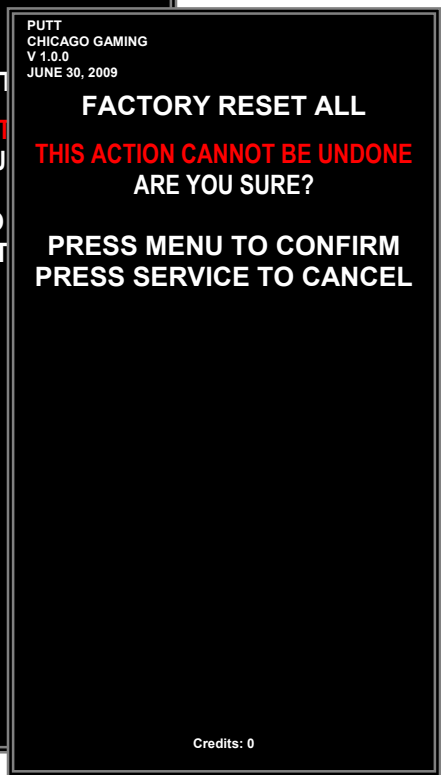
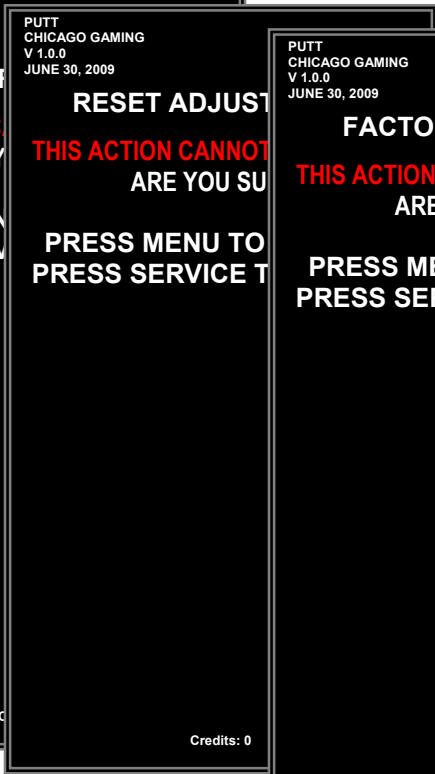
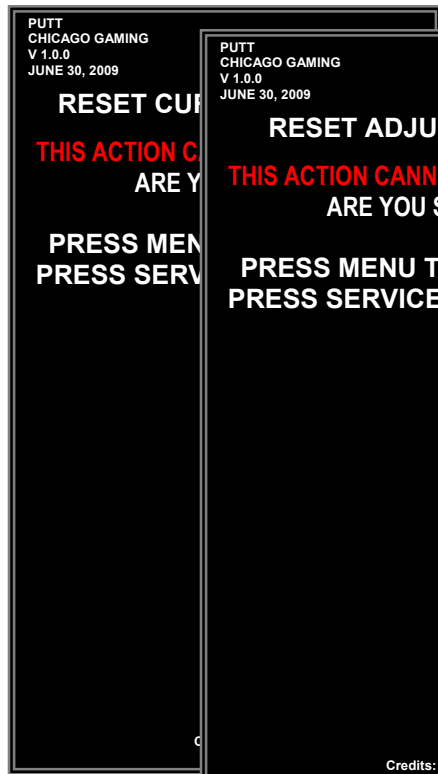


This screen provides the versions of Motherboard, BIOS, Video Card, I/O Board and Software that are currently in your game.

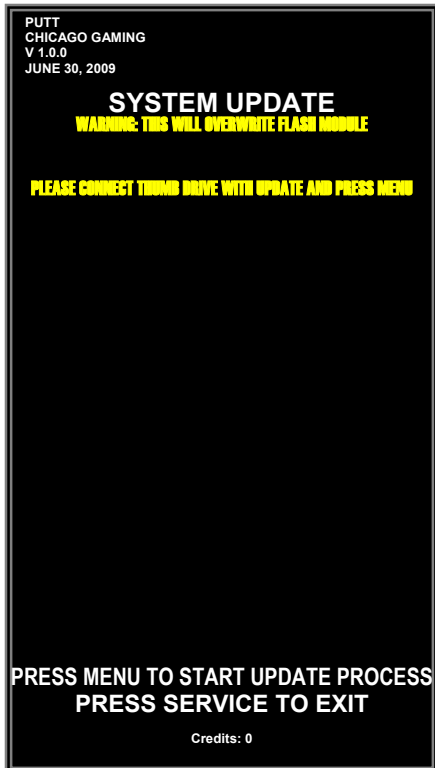
Reset



Reset Adjustments – Prompts to confirm reset adjustments
Reset High Scores – Does not prompt to confirm
Reset Credits – Does not prompt to confirm
Factory Reset All – Prompts to confirm factory reset all

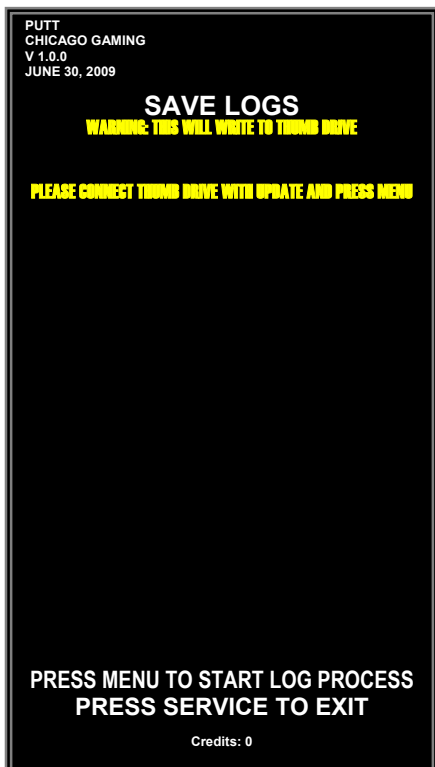


Update



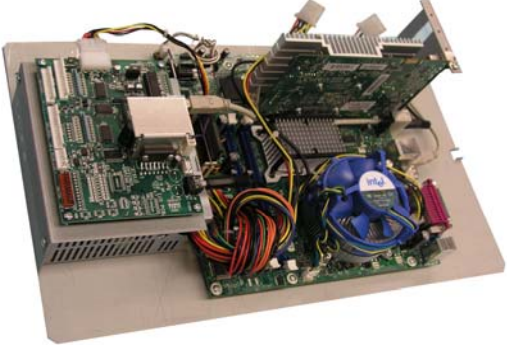




Putt! software can be updated through a USB drive. Connect the drive with the update on it to the USB Extension Cable behind the Coin Door, enter the System Update Menu and press the Menu button. You can cancel by pressing Service. When the update is complete, turn the power off, remove the USB drive and turn the power back on.

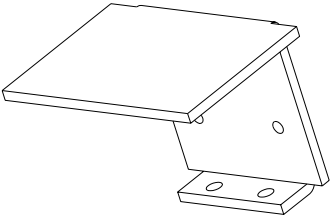





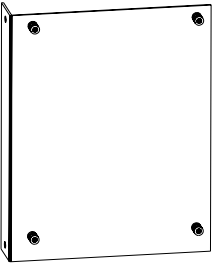
Save Logs to Thumb

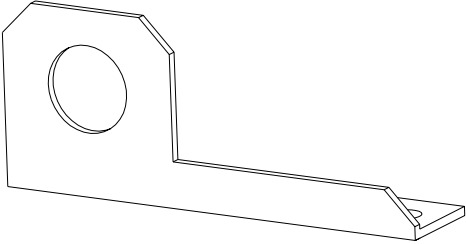
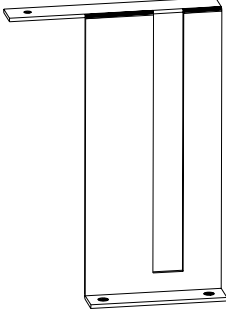

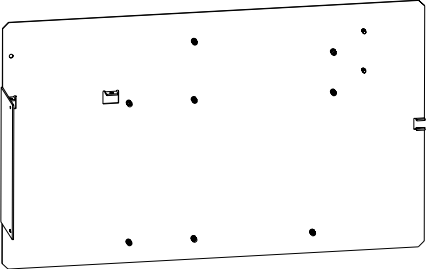



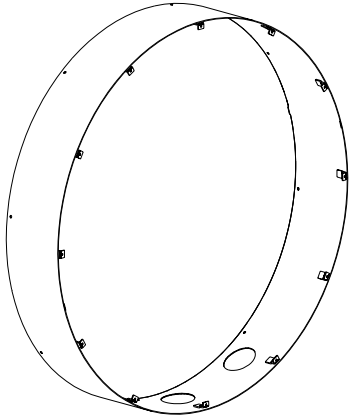



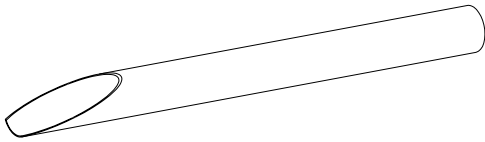
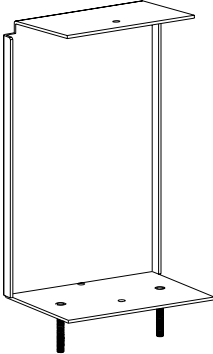
Log files can be saved to a USB drive. This is intended to help diagnose problems while servicing the machine. Connect a USB drive, enter the Save Logs to Thumb menu and press Menu. When the screen prompts you, turn the power off, then remove the USB drive.

Putt! Parts List


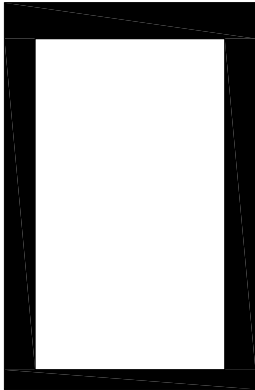
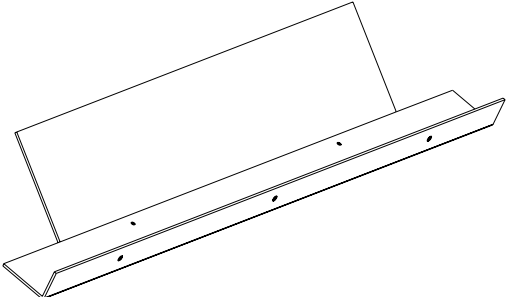
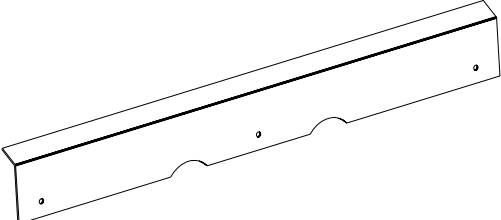


Part Picture	Part Number	Part Name	Qty.
	PUT-SUB-PCSHELF	Computer Shelf Subassembly	1
	000-ELE-270WPWR	Power Supply Sparkle Part # FSP270-50SNV	1
	000-ELE-2GCFCRD	2GB Compact Flash Card With Software	1
	PUT-PCB-MBIN048	Motherboard, D945PLNML S775 800FSB DDR2 MATX	1
	PUT-PCB-USBIO	USB I/O Audio Amp	1

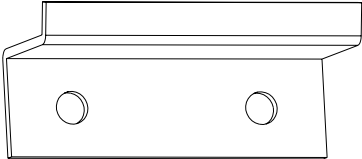
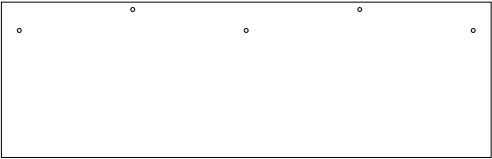
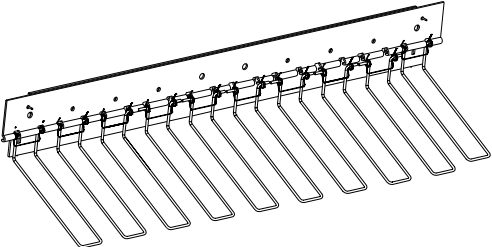
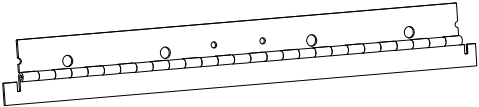
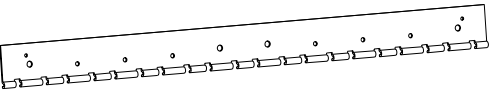
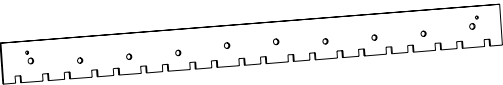
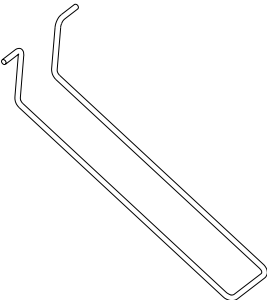
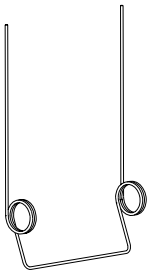
	<p>PUT-MLS-AHSNK15</p>	<p>Amp Heat Sink 1516</p>	<p>1</p>
	<p>PUT-PCB-V9502GT</p>	<p>Biostar Graphics Card V9502GT51</p>	<p>1</p>
	<p>PUT-ELE-1GBRAM</p>	<p>RAM – 1 GB, DDR2, 533MHz</p>	<p>1</p>
	<p>PUT-ELE-CFSOCKET</p>	<p>Compact Flash Socket</p>	<p>1</p>
	<p>PUT-ELE-PRIN780</p>	<p>Celeron 2.8GHZ Processor</p>	<p>1</p>
	<p>PUT-ELE-SUPACC</p>	<p>Celeron Heat/Fan Sink</p>	<p>1</p>
	<p>PUT-MLS-IOMOUNT</p>	<p>IO PCB Mount</p>	<p>1</p>

	PUT-MLS-PBTNBRK	Power Button Bracket	1
	PUT-MLS-VIDOBRK	Video Support Bracket	1
	PUT-MLS-PNLRAIL	Electronics Panel Rail	1
	PUT-MLS-ELECPNL	Computer Shelf	1
	PUT-CBL-ACPOWER	AC Power Cable	1
	PUT-CBL-BALMECH	Ball Mech Cable	1
	PUT-CBL-CABGRND	Cab Ground Wires	1
	PUT-CBL-COINBOX	Coin Box Cable	1
	PUT-CBL-COINDOR	Coin Door Cable	1
	PUT-CBL-DBADOOR	DBA Door Cable	1
	PUT-CBL-FLORLIT	Floor Light Cable	1
	PUT-CBL-FLORPWR	Floor Power Cable	1
	PUT-CBL-MARQPOW	Marquee Power Cable	1
	PUT-CBL-PCBMECH	PCB Mech Cable	1
	PUT-CBL-POWRBRK	Power Brk Cable	1
	PUT-CBL-RESET	Reset Cable	1
	PUT-CBL-TICKLOW	Ticket Low Cable	1
	PUT-CBL-6USBM2F	6' USB Extension Cable	1

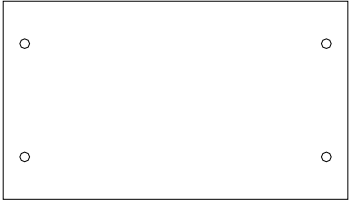
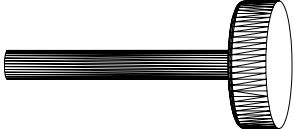
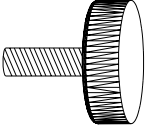
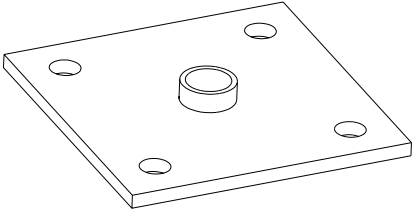

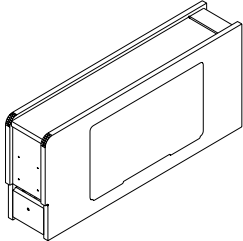

	PUT-ART-MARQUEE	Marquee	1
	PUT-MLS-MARQDRM	Marquee Drum	1
	000-LMP-18FLORE	18" Fluorescent Lamp	2
	000-LMS-18FLORE	18" Fluorescent Light Fixture	2
	000-PLE-8507K14	Extrusion, 1/32 x 1/4 x 3/16 x 3/8, Material SBR/Neo. Blend Black	
	PUT-MLT-MRQSPRT	Marquee Support	2
	PUT-MLS-DPIMONT	DPI Speaker Mount Bracket	1


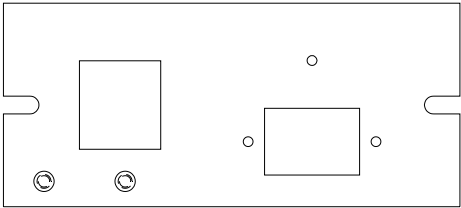
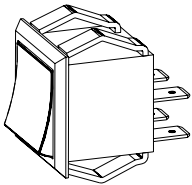
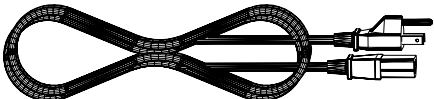
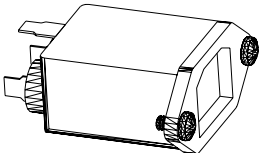


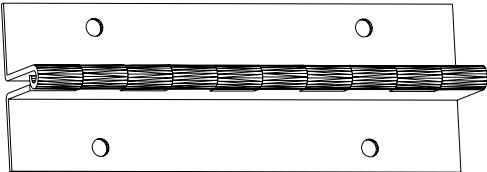
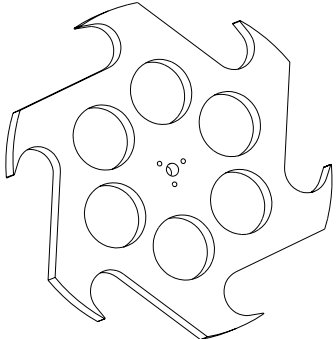
	<p>000-SPK-4IN3WAY</p>	<p>DPI Speaker 4" 3Way 50W, Black</p>	<p>1</p>
	<p>PUT-CAB-MONITOR</p>	<p>Monitor Cabinet</p>	<p>1</p>
	<p>PUT-ART-UPLEFT</p>	<p>Side Upper Panel Left</p>	<p>1</p>
	<p>PUT-ART-UPRIGHT</p>	<p>Side Upper Panel Right</p>	<p>1</p>

	<p>000-MON-WG32LCD</p>	<p>32" LCD Monitor Wells-Gardner Part # WGF3299-SIAS03J</p>	<p>1</p>
	<p>PUT-GLS-BEZLGLS</p>	<p>Front Glass</p>	<p>1</p>
	<p>PUT-MLS-GLSMNTL</p>	<p>Glass Mount Lower</p>	<p>1</p>
	<p>PUT-MLS-GLSMTGU</p>	<p>Glass Mount Upper</p>	<p>1</p>
	<p>PUT-ART-CGCLOGO</p>	<p>Chicago Gaming Logo</p>	<p>1</p>
	<p>PUT-ART-WARNING</p>	<p>Suitable for All Ages Decal</p>	<p>1</p>

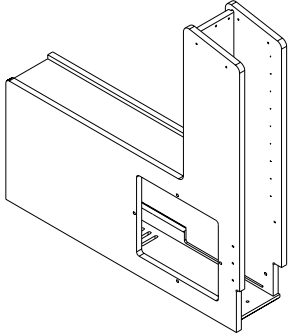


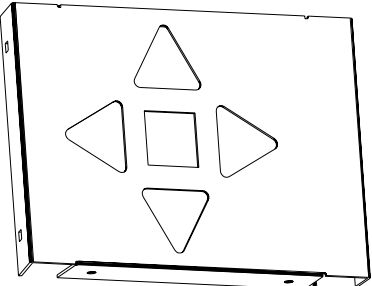
	PUT-MLS-BALMONT	Ball Mount Bracket	2
	PUT-PLS-GLSGARD	Glass Guard Plexi	1
	PUT-SUB-BALGATE	Ball Gate Subassembly	1
	PUT-MLS-BGATHNG	Ball Gate Hinge	1
	PUT-MLS-BGATMNT	Ball Gate Mount	1
	PUT-MLS-BGATPLT	Ball Gate Plate	1
	PUT-MLW-BALGATC	Ball Gate Wires	10
	PUT-MLW-GATSPRN	Ball Gate Spring	10

	<p>PUT-MLW-HNGSPNG</p>	<p>Ball Gate Hinge Spring</p>	<p>2</p>
	<p>PUT-SUB-BONCPAD</p>	<p>Ball Bounce Board with Padding and Cloth</p>	<p>2</p>
	<p>PUT-ELE-WEBCAM</p>	<p>Motion Sensor</p>	<p>1</p>
	<p>PUT-MLS-CAMMONT</p>	<p>Motion Sensor Mount</p>	<p>1</p>
	<p>PUT-MLS-CAMSTND</p>	<p>Motion Sensor Stand</p>	<p>1</p>
	<p>PUT-LMP-GLI106</p>	<p>10-3/4" Fluorescent Lamp, Complete</p>	<p>1</p>
	<p>PUT-LMP-10INBLB</p>	<p>10-3/4" Fluorescent, Bulb Only</p>	<p>1</p>

	<p>PUT-PLS-CAMGUARD</p>	<p>Motion Sensor Guard</p>	<p>1</p>
	<p>000-LVR-1213X3</p>	<p>1/2-13 x 3" Leg Levelers</p>	<p>4</p>
	<p>000-LVR-1213X15</p>	<p>1/2-13 x 1.5" Leg Leveler</p>	<p>6</p>
	<p>000-HDW-5LEGPLT</p>	<p>1/2-13 Leg Leveler Plate</p>	<p>10</p>
	<p>000-HDW-3FCASTE</p>	<p>Casters</p>	<p>2</p>
	<p>PUT-CAB-BALLMCH</p>	<p>Ball Mech Box Cabinet</p>	<p>1</p>
	<p>PUT-ART-LWRIGHT</p>	<p>Lower Right Side Decal</p>	<p>1</p>

	<p>PUT-ART-INRIGHT</p>	<p>Inner Right Side Decal</p>	<p>1</p>
	<p>000-MLS-PWRSWT</p>	<p>Coin-Op Switch Plate</p>	<p>1</p>
	<p>000-SWC-ALCO16A</p>	<p>Alco Switch</p>	<p>1</p>
	<p>000-CBL-6PWR18G</p>	<p>6" Power Cable</p>	<p>1</p>
	<p>000-ELE-FILTINL</p>	<p>Filter, Yunpen 6A, IEC connector</p>	<p>1</p>
	<p>000-ELE-FUSHOLD</p>	<p>Fuse Block</p>	<p>1</p>
	<p>000-FUS-5A250V</p>	<p>Fuse</p>	<p>1</p>
	<p>PUT-MLS-DORHING</p>	<p>Door Hinge</p>	<p>3</p>
	<p>PUT-CCC-BALWHEL</p>	<p>Ball Wheel</p>	<p>1</p>

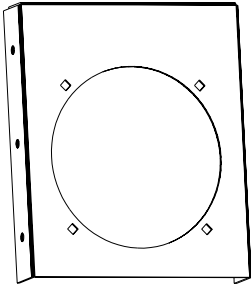
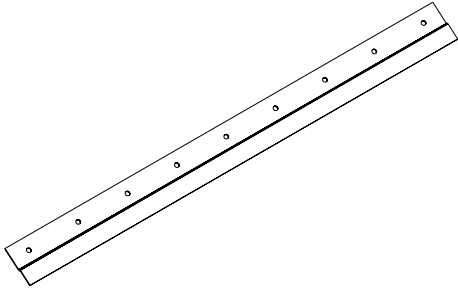
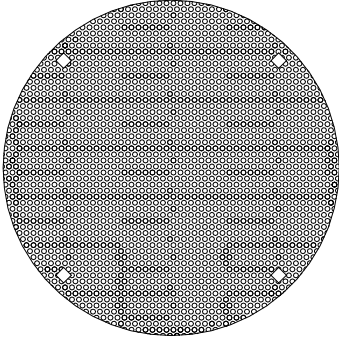



	<p>PUT-MTR-S8153</p>	<p>Motor (Model VF2508, Volts=12, RPM=17, Torque=16, S8153F, .187 Terminal)</p>	<p>1</p>
	<p>PUT-MLC-WHELHUB</p>	<p>Ball Wheel Hub</p>	<p>1</p>
	<p>PUT-HAP-SWSHOOT</p>	<p>Switch Assembly Shooter with Diode</p>	<p>1</p>
	<p>PUT-MLS-BALDVRT</p>	<p>Ball Diverter</p>	<p>1</p>
	<p>PUT-PLE-GARDTUB</p>	<p>Guard Bar Rubber Tube</p>	<p>1</p>
	<p>PUT-MLT-GARDBAR</p>	<p>Monitor Guard Bar</p>	<p>1</p>
	<p>PUT-MLS-BARPLAT</p>	<p>Monitor Guard Bar Plate</p>	<p>2</p>

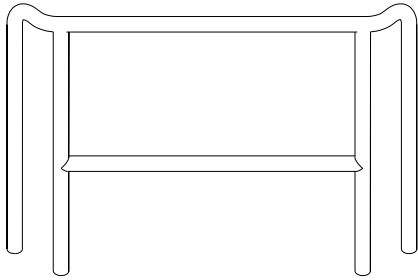

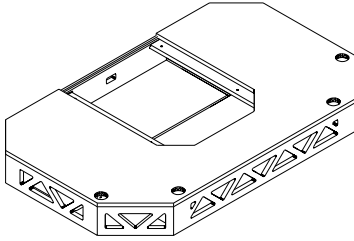






	<p>PUT-CAB-CPTOWER</p>	<p>Control Panel Tower Cabinet</p>	<p>1</p>
	<p>PUT-ART-LWLEFT</p>	<p>Lower Left Side Decal</p>	<p>1</p>
	<p>PUT-ART-INLEFT</p>	<p>Inner Left Side Decal</p>	<p>1</p>
	<p>PUT-MLS-BUTPNL</p>	<p>Button Panel</p>	<p>1</p>

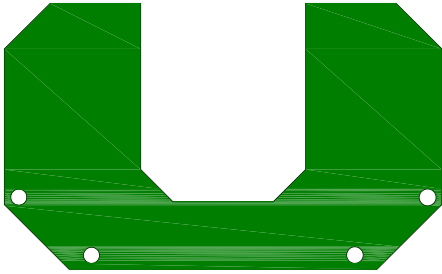
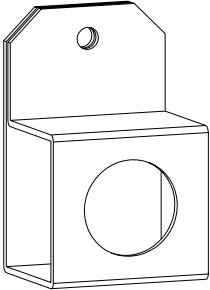


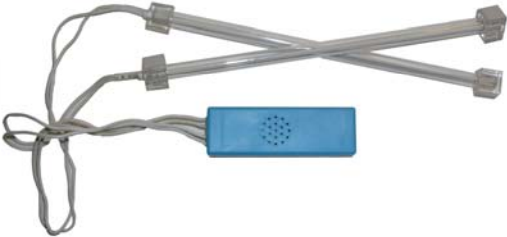



 <p>A blue rectangular overlay with a white and green geometric design. It features a central green diamond shape with a white square inside. Text labels include 'TURN LEFT' and 'TURN RIGHT' on the sides, and 'VIEW' at the top and bottom.</p>	<p>PUT-ART-CPO</p>	<p>Control Panel Overlay</p>	<p>1</p>
 <p>A black triangular button with a green face. The face has the text 'BALL VIEW' and a small black dot.</p>	<p>PUT-HAP-DWNBUTN</p>	<p>Triangular Green Printed Button</p>	<p>1</p>
 <p>A black triangular button with a yellow face. The face has a black triangle pointing right.</p>	<p>PUT-HAP-LFTBUTN</p>	<p>Triangular Yellow Printed Button</p>	<p>1</p>
 <p>A black triangular button with a yellow face. The face has a black triangle pointing left.</p>	<p>PUT-HAP-RGTBUTN</p>	<p>Triangular Yellow Printed Button</p>	<p>1</p>
 <p>A black square button with a green face. The face has the text 'START'.</p>	<p>PUT-HAP-SQRBUTN</p>	<p>Square Green Printed Button</p>	<p>1</p>
 <p>A black triangular button with a green face. The face has the text 'OVERHEAD VIEW' and a black silhouette of a person.</p>	<p>PUT-HAP-UPBUTN</p>	<p>Triangular Green Printed Button</p>	<p>1</p>
 <p>A small cylindrical LED component with a white body and a grey base. Text on the body includes 'WHITE', '5V DC', and a polarity symbol.</p>	<p>000-LMP-3LED12V</p>	<p>T3-1/4 LED – 12V Betson Part # 06-900-12V3V</p>	<p>6</p>

	<p>PUT-MLS-SVCPANL</p>	<p>Service Button Panel</p>	<p>2</p>
	<p>000-HAP-MBUTTON</p>	<p>Mini Round Push Button, Yellow with Black Bezel</p>	<p>4</p>
	<p>PUT-MLS-2COINDR</p>	<p>Double Coin Mech Door</p>	<p>1</p>
	<p>PUT-MLS-DBADOOR</p>	<p>Coin Door For Dollar Bill Acceptor</p>	<p>1</p>
	<p>PUT-HAP-PINDOOR</p>	<p>Happ Blank Pinball Door Happ Part # 40-0067-00</p>	<p>1</p>
	<p>000-LCK-CH751</p>	<p>Lock Keyed for CH751</p>	<p>6</p>
	<p>000-HAP-COINBOX</p>	<p>Coin Box Large Black Plastic</p>	<p>1</p>

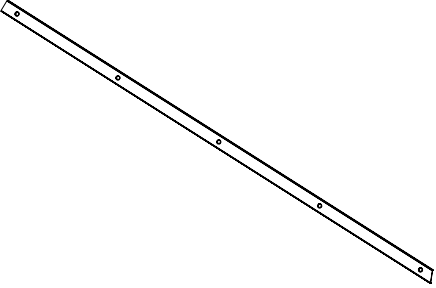
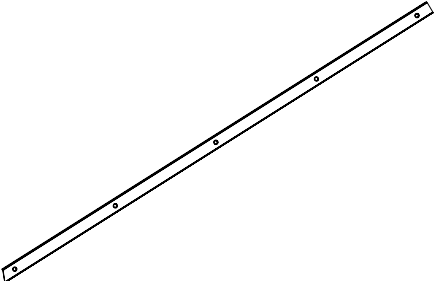
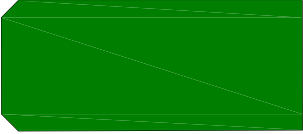
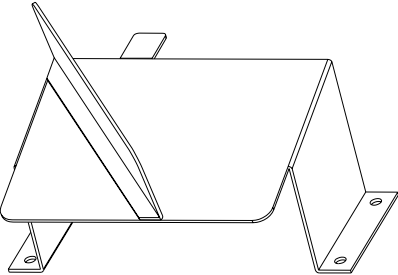
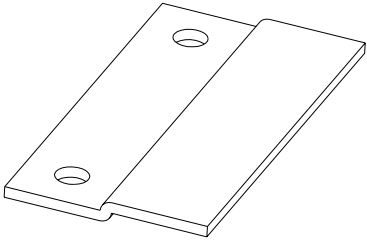

	<p>000-MCH-PRMD540</p>	<p>Pyramid Dollar Bill Validator (OPTIONAL)</p>	<p>1</p>
	<p>PUT-HAP-MECHKIT</p>	<p>Replacement Parts Kit for Coin-Door Happ Part # 42-0064-200</p>	<p>1</p>
	<p>PUT-HAP-PROMECH</p>	<p>Coin Mech Happ, \$.25 USA</p>	<p>1</p>
	<p>PUT-PLS-CDORPAD</p>	<p>Coin Door Pad</p>	<p>1</p>
	<p>PUT-MLS-CDFLCTR</p>	<p>Coin Deflector</p>	<p>1</p>

	<p>PUT-MLS-CDORBAS</p>	<p>Coin Door Base</p>	<p>1</p>
	<p>PUT-MLS-DORSTOP</p>	<p>Coin Door Stop</p>	<p>2</p>
	<p>PUT-MLS-SPKGRIL</p>	<p>Speaker Grill</p>	<p>2</p>
	<p>000-SPK-475IN80</p>	<p>Speakers 4 3/4" 8 Ohm</p>	<p>2</p>
	<p>PUT-MLW-FANGARD</p>	<p>Steel Fan Guard, 2.68" Jameco Part# 120038</p>	<p>2</p>
	<p>PUT-ELE-60MMFAN</p>	<p>Delta DC Brushless Fan, 12VDC, 60x60x25, 23CFM, 180mA Jameco Part# 114674</p>	<p>1</p>

	<p>PUT-MLT-HANDRAL</p>	<p>Handrail</p>	<p>1</p>
	<p>PUT-SUB-FLOOR</p>	<p>Floor Assembly</p>	<p>1</p>
	<p>PUT-CAB-FLOOR</p>	<p>Cabinet – Floor (Wood Only)</p>	<p>1</p>
	<p>PUT-ART-RCRNFLR</p>	<p>Right Corner Floor</p>	<p>1</p>
	<p>PUT-ART-LCRNFLR</p>	<p>Left Corner Floor</p>	<p>1</p>
	<p>PUT-ART-LTFLOOR</p>	<p>Left Floor</p>	<p>1</p>
	<p>PUT-ART-RTFLOOR</p>	<p>Right Floor</p>	<p>1</p>
	<p>PUT-ART-FTFLOOR</p>	<p>Front Floor</p>	<p>1</p>
	<p>PUT-ART-BCRNFL</p>	<p>Rear Floor</p>	<p>2</p>

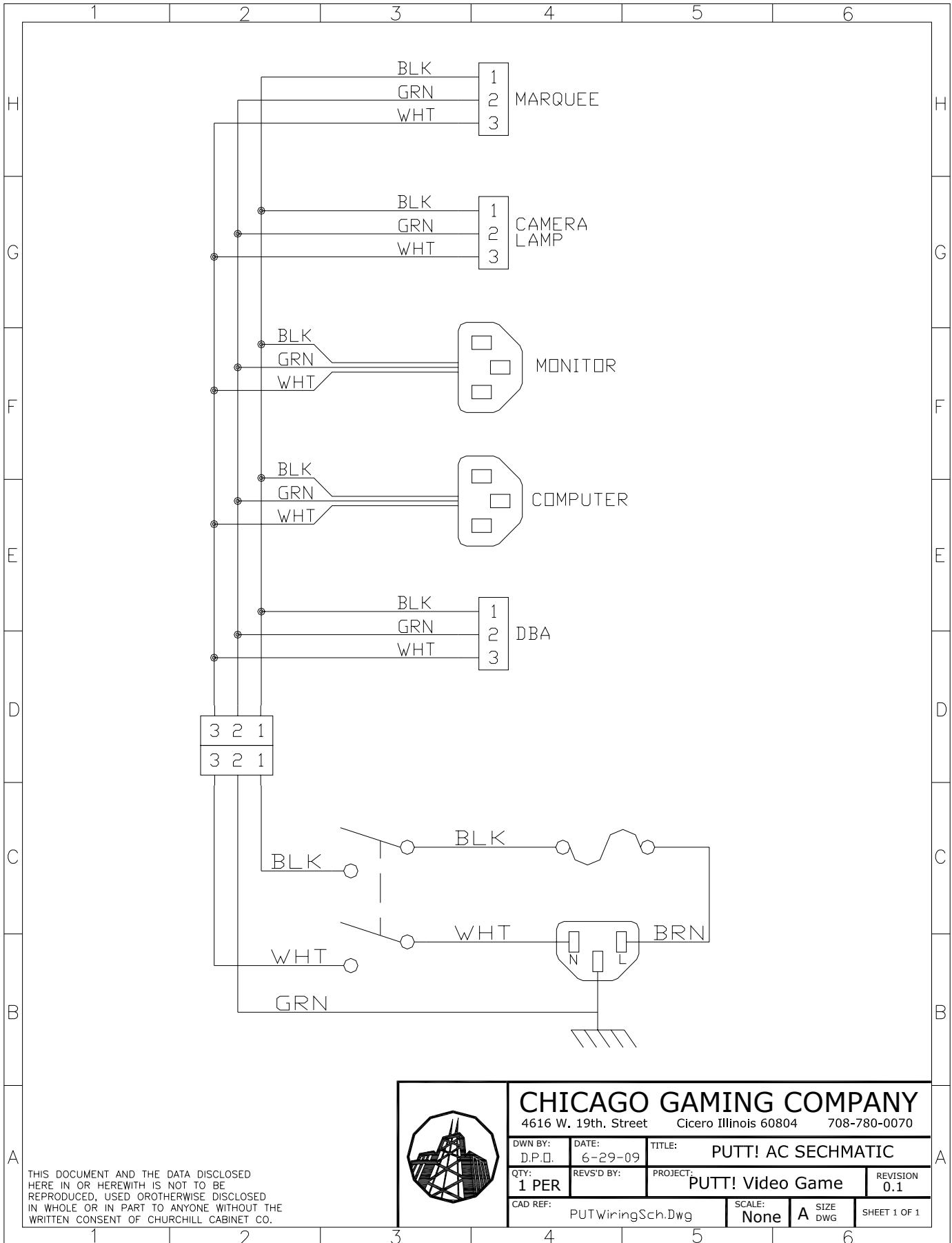
	<p>PUT-PLS-RUBRMAT</p>	<p>Green Floor Rubber Mat</p>	<p>1</p>
	<p>015-MLS-CFBALST</p>	<p>CCFL Inverter Bracket</p>	<p>3</p>
	<p>000-LMP-12CCFL</p>	<p>12" CCFL White (2 Bulbs, 1 Inverter)</p>	<p>1</p>
	<p>000-LMP-14CCFLW</p>	<p>14" CCFL White (2 Bulbs, 1 Inverter)</p>	<p>1</p>
	<p>000-LMP-8CCFLW</p>	<p>8" CCFL White (2 Bulbs, 1 Inverter)</p>	<p>1</p>
	<p>000-LMP-8INBLB</p>	<p>Single 8" CCFL Bulb</p>	
	<p>000-LMP-12INBLB</p>	<p>Single 12" CCFL Bulb</p>	
	<p>000-LMP-14INBLB</p>	<p>Single 14" CCFL Bulb</p>	

	000-ELE-INVTRER	CCFL Inverter	
	PUT-MLS-FLORFNT	Floor Front Trim	1
	PUT-MLS-FLORTLF	Floor Trim Left	1
	PUT-MLS-FLORTRT	Floor Trim Right	1
	PUT-SUB-GREEN	Putting Green Assembly	1
	PUT-CAB-GREEN	Cabinet – Green (Wood Only)	1
	PUT-MLS-RALCVRF	Green Rail Front Cover	1


	<p>PUT-MLS-RLCVRL</p>	<p>Green Rail Left Cover</p>	<p>1</p>
	<p>PUT-MLS-RLCVRR</p>	<p>Green Rail Right Cover</p>	<p>1</p>
	<p>000-MSC-GRNCRPT</p>	<p>Green Carpet</p>	<p>1</p>
	<p>PUT-MLS-BALCHUT</p>	<p>Ball Chute</p>	<p>1</p>
	<p>PUT-MLS-CHTFOOT</p>	<p>Chute Foot</p>	<p>1</p>
	<p>PUT-PLM-GLFBALL</p>	<p>Golf Ball</p>	<p>5</p>

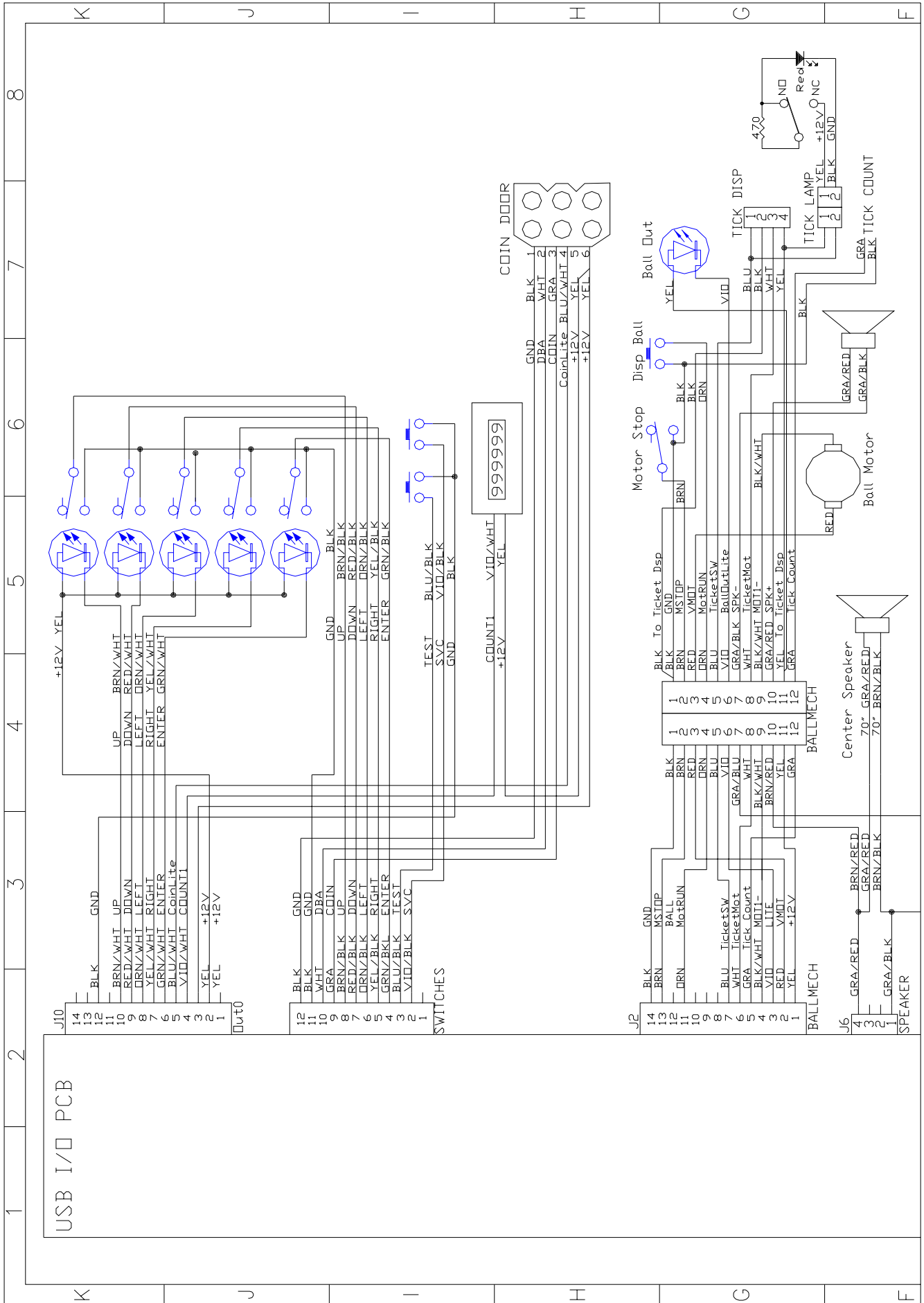
	<p>PUT-SUB-PUTTER</p>	<p>Putter, 35" Black Handle and Rubber Head; With Tether Hardware Attached</p>	<p>1</p>
	<p>PUT-SUB-CBLCLMP</p>	<p>Tether Clamp (Top, Bottom and Screw)</p>	<p>1</p>
	<p>FSM-252-OEY173C</p>	<p>¼-20 Eye Bolt</p>	<p>1</p>
	<p>PUT-MLS-CLUBHOK</p>	<p>Club Hook</p>	<p>1</p>

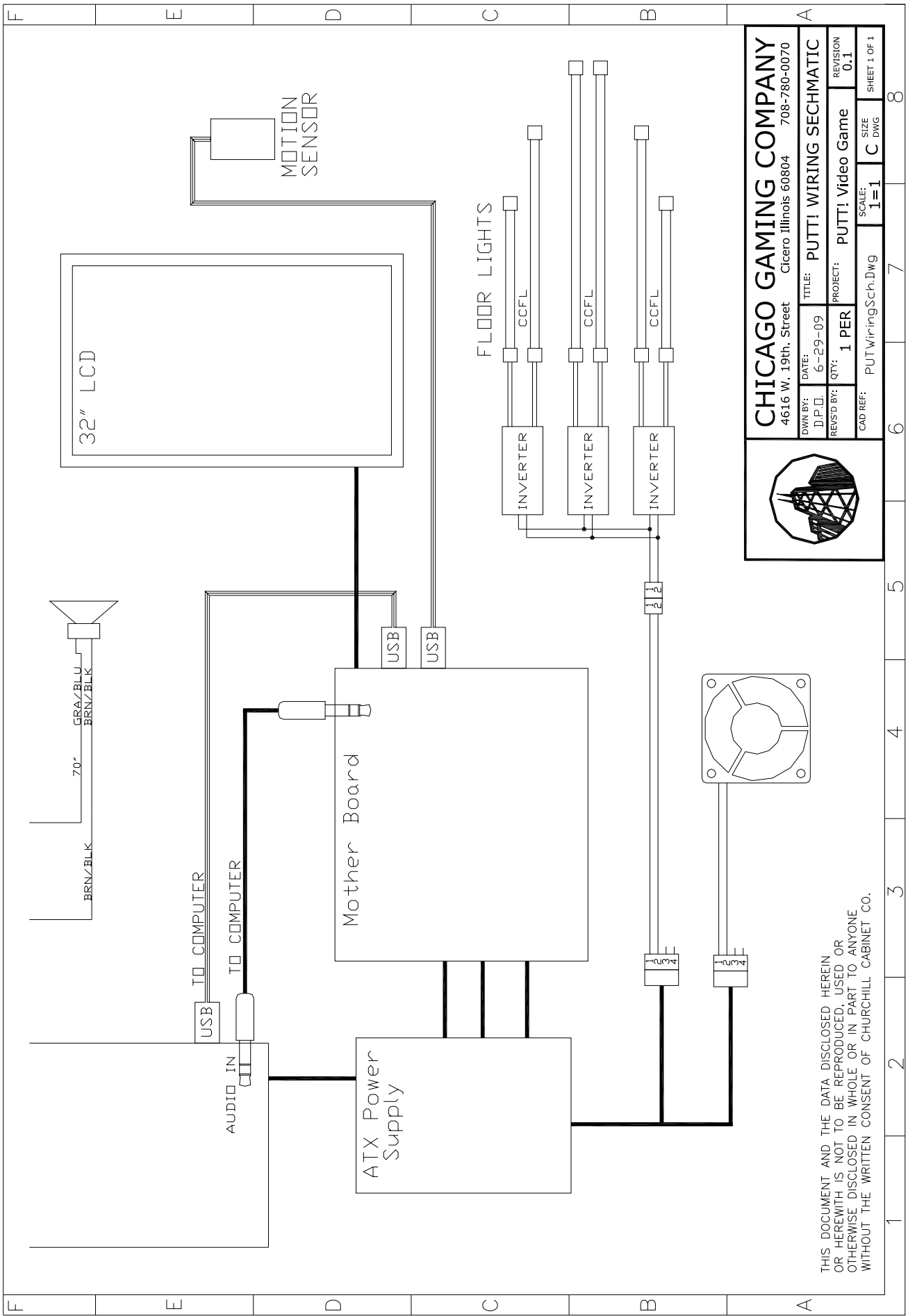
Wiring Diagram



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	DWN BY: D.P.O.	DATE: 6-29-09	TITLE: PUTT! AC SECHMATIC
	QTY: 1 PER	REV'S'D BY:	PROJECT: PUTT! Video Game
	CAD REF: PUTWiringSch.Dwg	SCALE: None	SIZE A DWG
		REVISION 0.1	SHEET 1 OF 1

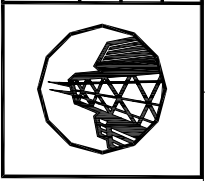




CHICAGO GAMING COMPANY
 4616 W. 19th. Street Cicero Illinois 60804 708-780-0070

PUTT! WIRING SCHEMATIC

OWN BY:	DATE:	TITLE:	REVISION
D.P.O.:	6-29-09	PUTT! Video Game	0.1
REVSD BY:	QTY:	PROJECT:	SIZE
1 PER	1	PUTT! Video Game	0.1
CAD REF:	PUT WiringSch.Dwg	SCALE:	SHEET 1 OF 1
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