



## EA SPORTS™ PGA TOUR® GOLF CHALLENGE EDITION

Euro Cabinet Technical Manual

Setup • Service • Parts

040-0100-01 Rev. A

- Read this manual before use.
- Keep this manual with the machine at all times.



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## Chapter 1 — Introduction

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This document contains service and repair information for the EA SPORTS™ PGA TOUR® Golf **Challenge Edition** Euro Cabinet. Please refer to the System Manual for information on cabinet operation and registration.

### Cabinet Specifications



*Figure 1. Euro Cabinet*

- Weight: 425 lbs (193kg)
- Dimensions (H x W x D): 70½" x 26½" x 37½" (1791 x 673 x 953mm)
- Pentium 4 computer
- Nvidia GeForce graphics
- 512 megabytes RAM
- 27-inch, 800 x 600, Super VGA flat-screen monitor
- SmartCard reader
- Players' Card dispenser
- Note validator
- Dramatic cabinet lighting

## Chapter 2 — Installing a New Cabinet

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### Basic Setup

Use the following procedure to install a new cabinet:

1. Carefully remove the cabinet from the shipping container, giving yourself plenty of space around the cabinet. Inspect the exterior of the cabinet for any damage.
2. Remove the keys from the coin return slot. Open the coin door to locate the second set of keys (see Figure 2).

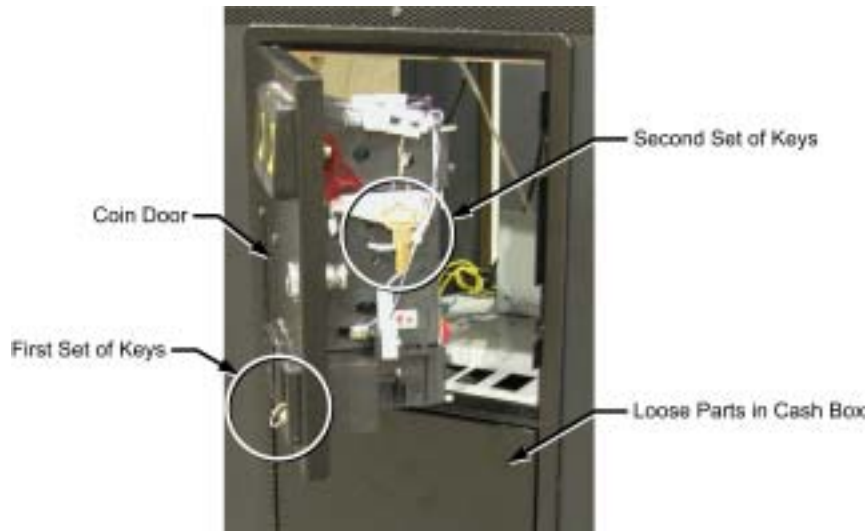


Figure 2. Coin Door with Key Locations

3. Open the control panel by removing the two screws shown by the arrows in Figure 5 on page 6. Inspect the interior for any signs of damage. Verify that all cables and major assemblies, including the SmartCard reader and note validator, are securely mounted.
4. Remove the back door from the cabinet and inspect the computer system. Verify that all cables and wires are securely connected to the computer. Refer the diagram on page 26 to verify the cable connections.
5. Make sure the game dongle is securely connected to the parallel port. The game dongle (also called a hardware key) is required to activate the game software. The game dongle must be connected before the game is powered ON, or the software will not recognize the game dongle and the game will not run.



**Note:** The dongle supplied is specific to the game and software version. Future software upgrades may require you to also upgrade the dongle.

Figure 3. Parallel Game Dongle

6. Connect the AC power cord to a grounded (3-terminal) AC wall outlet.

7. Power ON the game using the On/Off switch located on the lower rear of the cabinet. Verify the game starts and runs properly.
8. Refer to Chapter 5 of your System Manual to set up your game in the Operator menu.
9. Refer to Chapter 4 of your System Manual to register your cabinet.

### Fill the Players' Card Dispenser

The Players' Card dispenser sells SmartCard format Players' Cards. Perform the following steps to open the dispenser and fill it with cards.

**Important:** The dispenser will not work unless it is fully closed and in a vertical position (no more than a 5-degree angle), with the back cover in place.

1. Open the Players' Card dispenser door with the key; it will rotate downward on a hinge.
2. Slide and lift the back cover as shown below.
3. Insert cards as shown, with the magnetic stripe down. The dispenser will hold up to 185 cards. Make sure the cards are stacked evenly and the bottom plate is firmly against the cards.

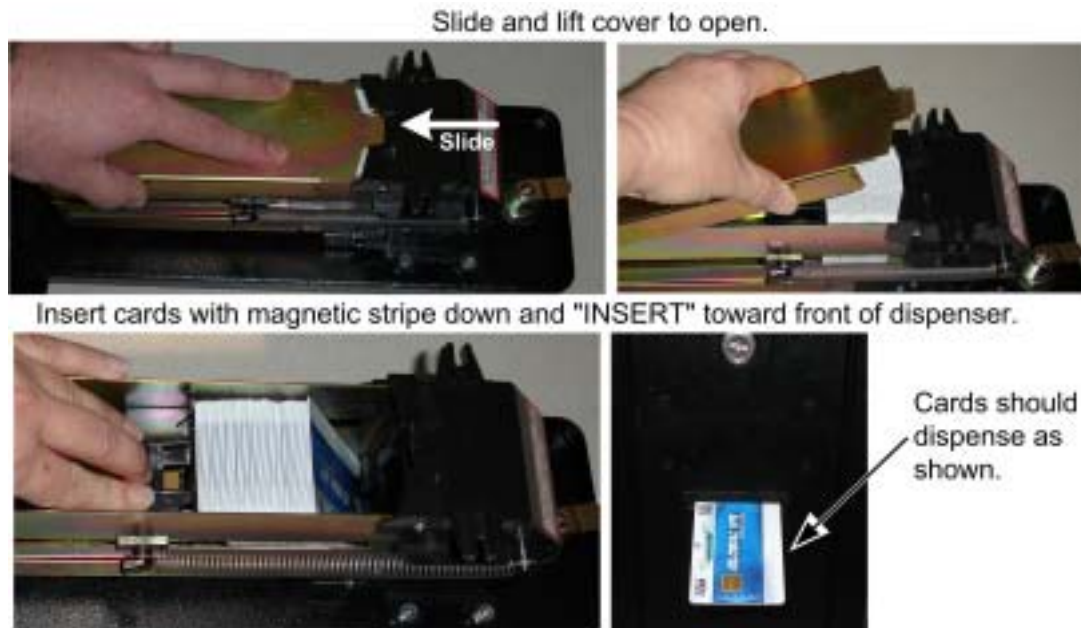


Figure 4. Filling the Players' Card Dispenser

### Check the Coin Meters

The cabinet has two coin meters, labeled CASH IN and FEES. The CASH IN meter counts the money played on the cabinet. The FEES meter counts the fees charged for online services. Both meters count in £0.10 (10p) increments in the UK, and €0.10 (10 Euro cents) increments in Ireland. The meters do not register inputs until a game is started.

**Note:** The meters **will not** be at zero (0) when your cabinet arrives, because of testing during manufacturing. After you install your cabinet, write down the current reading on each meter for reference. The meters cannot be reset.

## Chapter 3 — Service and Repair

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This chapter provides service information for the Euro Cabinet. Refer to your System Manual for information on operating and registering your cabinet.



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**WARNING:** To avoid electrical shock, Always turn the cabinet OFF and disconnect the power cord before performing installation or service procedures.

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**GLOBAL VR®** assumes no liability for any damages or injuries incurred while setting up or servicing the cabinet. Only qualified service personnel should perform installation or service procedures!

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CAUTION

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To prevent electrostatic discharge (ESD) damage, handle PCBs by the edges only and use a grounding wrist strap or similar precaution.

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Please read the service instructions before working on the cabinet.

### Opening the Control Panel

Open the control panel to service the player controls, SmartCard reader, and note validator. To open the control panel, remove the two screws shown in the picture below. Lift the control panel; it has a hinge at the front.

Refer to Figure 6 to identify components located inside the control panel.



Figure 5. Opening the Control Panel

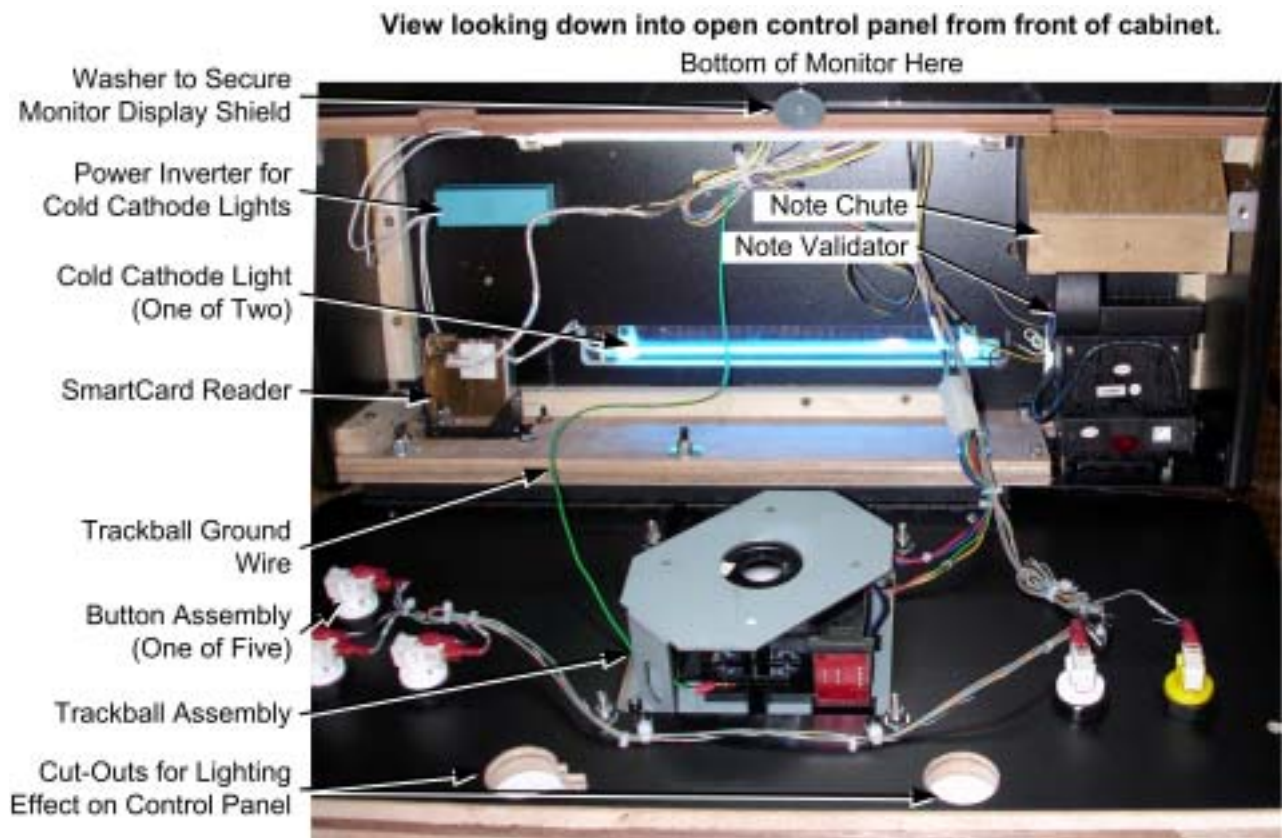


Figure 6. Components inside the Control Panel

## Trackball Service

This section describes the steps for disassembling the trackball to clean or replace parts. Refer to page 22 for an exploded-view diagram of the trackball.

1. Disconnect power and open the control panel as described in the previous section.
2. Disconnect the trackball harness.
3. Remove the four nuts that secure the lower mounting bracket under the trackball. Note the locations of the two ground wires for reassembly.
4. Remove the lower mounting bracket and the trackball assembly.

**Caution:** To prevent electrostatic discharge (ESD) damage, handle PCBs by the edges only and use a grounding wrist strap or similar precaution.

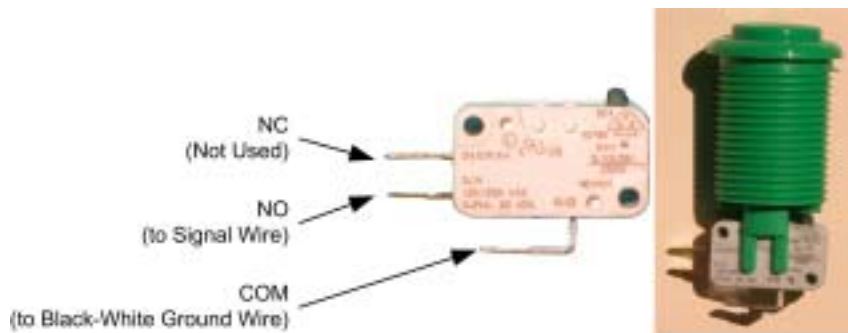
5. To replace the red sensor PCBs, unscrew the six (6) Phillips screws about halfway and then separate the plastic trackball housing enough to remove the PCBs. Note the orientation of each PCB relative to the sensor wheel. Follow electrostatic discharge (ESD) precautions and handle the PCBs by the edges only.
6. To completely disassemble the trackball, remove the six (6) Phillips screws from the plastic trackball housing, making note of the locations of the two ground wires. Be careful not to damage the copper foil at the ground wire connection points.
7. Carefully separate the plastic housing and remove the trackball. Wash the trackball with mild soap and water, and dry.

8. Lift the metal shafts and bearings out of the housing. Clean the shafts and bearings with a soft cloth. If the bearings have been sticking, clean them with a light oil such as WD-40<sup>®</sup>, and then wipe them thoroughly to remove all excess oil. If any oil gets on the trackball, it will trap dust and grime, interfering with trackball performance.
9. Re-assemble the trackball in the reverse order of disassembly. Be careful to align the red sensor PCBs with the grooves in the top and bottom pieces of the plastic housing. (**Hint:** Tighten the screws about halfway and then re-position the PCBs.) Be sure to connect all of the ground wires removed previously. (The trackball housing is grounded to the mounting plate, which is grounded to the lug inside the coin door.)
10. Go to the Control Test screen in the Operator Menu and verify proper trackball operation after service.

### Player Control Panel Button Service

The player buttons activate micro switches. Perform the following steps to replace the micro switches or the buttons:

1. Open the Control Panel as described in the previous section.
2. Gently press the plastic micro switch to the side to release it from the button housing.
3. Disconnect the two wires from the micro switch.
4. To remove the button, unscrew the retaining ring.
5. Reverse these steps to install the replacement button and micro switch. Connect the **black-white** ground wire to the COM connector on the bottom of the switch housing, and the signal wire to the NO connector, as shown in the figure below:



*Figure 7. Player Button and Micro Switch*

## Wells-Gardner® Monitor Replacement

Perform the steps that follow to remove the monitor from the cabinet for service or replacement. Be sure to follow all safety precautions while working with a monitor.

**Tip:** When removing the monitor from the cabinet, it is always best to have two people to support the weight of the monitor.

1. Turn the cabinet OFF and disconnect the AC power cord.
2. Disconnect all cables that connect the monitor to the cabinet, typically the following:
  - VGA Video cable from the back of the Monitor.
  - Monitor remote control board cable from the Control Panel mounted near the coin mech. Coil this cable and tie it to the monitor to prevent it catching while the monitor is being removed.
  - Power cable that connects to the monitor chassis PCB, located on your left as you face the monitor rear.
  - **Green** ground wire from the monitor frame on some models.
3. Inspect the disconnected cables and monitor frame to make sure that there are no wire ties holding the monitor to the cabinet.
4. Open the control panel (see page 6).
5. Remove the four (4) screws from the mini-marquee and remove the mini-marquee.
6. Loosen the wood screw with washer that secures the bottom of the glass display shield and remove the display shield.
7. Remove the monitor bezel.
8. Remove the four (4) 1/4-20 monitor mounting nuts, as shown in Figure 8.



Figure 8. Monitor Mounting Nut Locations



**DANGER: Components in the monitor chassis can be charged with a VERY HIGH VOLTAGE even when powered OFF.**

**The monitor is very heavy. Two-person lifting is advised.**

9. Carefully remove the monitor through the front of the cabinet and set it in a safe place. Most of the weight of the monitor is in the CRT at the front of the monitor.
10. Reverse these steps to re-install the monitor. Always clean the CRT and glass display shield before re-installing.
11. After replacing a monitor, use the Monitor Calibration screens from the Operator Menu to verify proper operation and adjust the monitor. Refer to your system manual for more information.

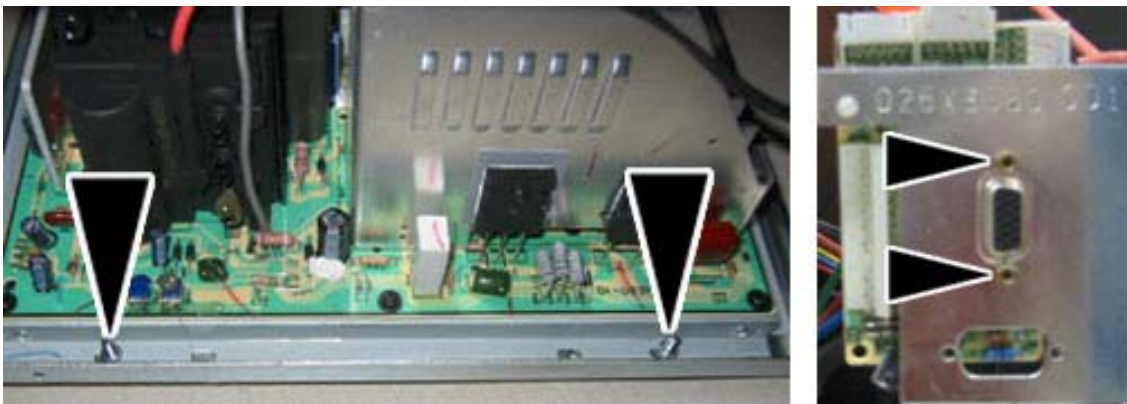
### Wells-Gardner® Monitor Chassis PCB Removal

You can replace the monitor chassis PCB if you have problems with just the PCB.

**Caution: Only a certified technician should attempt to remove or service the Monitor PCB. GLOBAL VR® assumes no responsibility for damage while removing the PCB.**

**Caution: To prevent electrostatic discharge (ESD) damage, handle PCBs by the edges only and use a grounding wrist strap or similar precaution.**

1. Turn the cabinet OFF and disconnect the AC power cord.
2. Remove the four nuts that hold the monitor chassis to the monitor frame.
3. Remove the two 4/40 Jack nuts that hold the video signal PCB to the monitor frame. See the figure below.



*Figure 9. Removing the Monitor PCB Mounting Hardware*

4. Disconnect the Chassis Neck PCB from Chassis Tube Neck of the CRT by pulling back on the Chassis Neck PCB. You will need to slide the Chassis Neck PCB to the side to clear the Chassis Tube Neck.



**DANGER: The Second Anode Lead (H.V. CRT Feed) can be charged with a VERY HIGH VOLTAGE even when powered OFF.**

5. Disconnect the second anode lead that connects to the CRT just above the Chassis Tube. Be very careful as the second anode lead can be charged with a VERY HIGH VOLTAGE even when powered OFF. Pinch the gray rubber flange and slightly push in to un-hook the metal prongs that hold the second anode lead to the CRT, shown by the arrows in Figure 10.

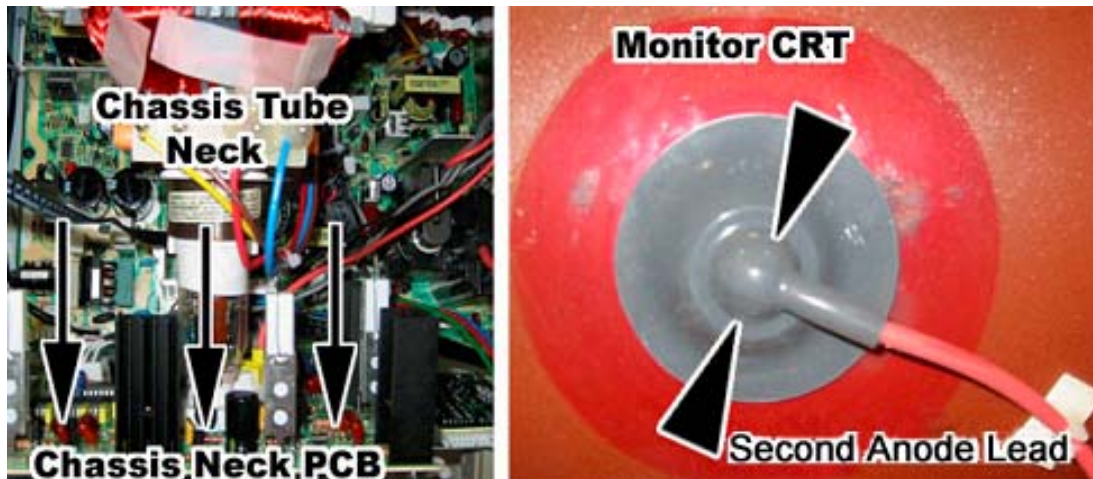


Figure 10. *Disconnecting the Chassis Neck PCB and Second Anode Lead*

6. Refer to Figure 11 to disconnect the next three cables:
  - a. Disconnect the CRT 2-wire ground cable that connects to the Chassis Monitor PCB (Item 1 below).
  - b. Disconnect the CRT 2-wire ground cable that connects to the Chassis Neck PCB (Item 2 below).
  - c. Disconnect the Color and Sync 4-wire cable that connects from the Chassis Tube Neck to the Monitor chassis PCB (Item 3 below). Note the color alignment of this connector for installing the new monitor chassis PCB.



Figure 11. *Monitor PCB Cables*

7. You can now slide the monitor chassis PCB and other PCBs out the side of the monitor chassis as one unit.

## Audio Amp and Speakers Service

### Audio Amp PCB Replacement

**Caution:** To prevent electrostatic discharge (ESD) damage, handle PCBs by the edges only and use a grounding wrist strap or similar precaution. Always keep the audio amp PCB inside an ESD anti-static bag when not installed in the cabinet.

The audio amp is located inside the coin door near the Service button.

1. Disconnect the power harness, speaker wires, and 3.5 mm audio cables from the audio amp PCB.
2. The audio amp PCB is mounted on four standoffs that are secured to a metal plate. Each standoff has a clip on the tip that protrudes above the PCB and secures the PCB in place. To release the clip, squeeze the tip of the standoff with small needle-nose pliers, or use a small tool such as a screwdriver to press the clip inward, and then remove the PCB from the standoff.
3. Reverse these steps to re-install the audio amp PCB.
4. Run the Sound Test from the System Test screen in the Operator Menu to verify proper operation.

### Speaker Service

The speakers are located behind the mini-marquee. You can inspect the speaker wires by removing the main marquee and looking through the opening in front of the florescent fixture.

Perform the following steps to replace a speaker:

1. Remove the four (4) Torx<sup>®</sup> security screws that secure the mini-marquee assembly to the cabinet and remove the assembly.
2. Pry out the staples that secure the speaker grills in place.
3. Remove the four (4) screws that secure the speaker to the cabinet.
4. Remove the wires from the speaker and install them to the same connectors on the replacement speaker.
5. Reverse these steps to re-install the speaker.

Run the Sound Test from the System Test screen in the Operator Menu to verify proper speaker function.

### Computer Replacement

When shipping the computer, always use plenty of padding for protection. GLOBAL VR<sup>®</sup> recommends shipping the computer in a box with three inches (8 cm) of foam padding on all sides.

Perform the following steps to remove the computer from the cabinet:

1. Disconnect the cabinet power cord and remove the back door from the cabinet.
2. Disconnect all of the cables from the computer.
3. Remove the Game Dongle and keep it with your cabinet. **Do not** ship the game dongle with the computer.

4. Remove the four Phillips screws that secure the computer bracket to the cabinet, and remove the bracket.
5. Carefully remove the computer from the cabinet.
6. Reverse these steps to install the computer. Make sure that the computer air vents are not blocked. There is an air vent under the bottom front panel of the computer that is easily blocked by padding or debris.

**CAUTION: Shipping the computer without enough padding can VOID THE WARRANTY if the computer is visibly damaged from shipping.**

## Coin Mech Replacement

The cabinet uses standard 3.5" coin mechs, including Money Controls SR3 electronic coin mechs. Perform the following steps to replace the coin mech:

1. Disconnect the connector from the coin mech.
2. Unscrew the thumbscrews on the back of the mounting assembly.
3. Slide the latches away from each other and remove the coin mech from the door.
4. Reverse these steps to install a coin mech. It is important to verify the operation of the newly installed coin mech with both good and bad coins.

## Coin Meter Replacement

The coin meters are located inside the coin door by the Service button. Perform the following steps to replace a coin meter:

1. Turn the cabinet OFF and disconnect the AC power cord.
2. Remove the two Phillips screws holding the coin meter to the mounting plate and remove the coin meter.
3. Cut the two wires from the coin meter and strip the ends of the wires to attach the new meter.
4. Use two butt splices to connect the wires to the new coin meter.
5. Secure the new coin meter with the two screws removed previously.

## Note Validator Service

The cabinet is shipped with a Money Controls Lumina Rotor note validator. Technical manuals for the note validator may be found on the Money Controls website at [www.moneycontrols.com](http://www.moneycontrols.com). The note validator should be cleaned regularly to ensure proper operation. Perform the following steps to remove the note validator for cleaning or replacement:

1. Open the control panel as described on page 6.
2. Disconnect the control harness from the note validator.

3. Press the red button on top of the note validator to release the locking mechanism, as shown in part 1 of the diagram below.
4. Tilt the note validator away from the frontplate and then lift it upwards, as shown in parts 2 and 3 of the diagram below.

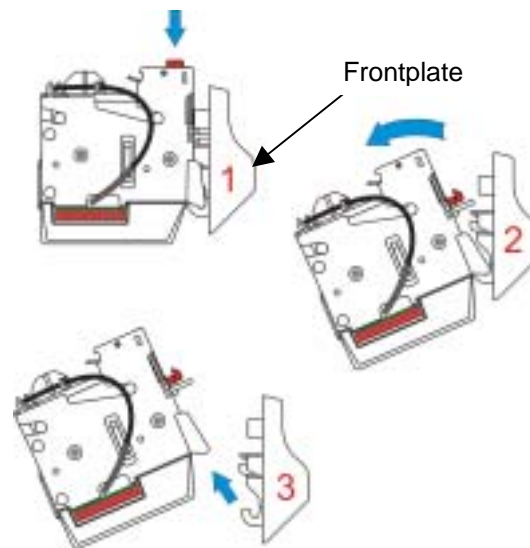


Figure 12. Removing the Note Validator from the Cabinet

5. Reverse these steps to replace the note validator.
6. If you need to remove the frontplate from the cabinet, remove the four nuts that secure it in place.
7. To gain access to the note path, push the lever on top of the note validator down, as shown by arrow 1 in the diagram below.
8. Holding the body in one hand and the top sensor assembly in the other hand, slide the 2 assemblies apart in the direction shown by arrows 2 and 3 below. The two assemblies cannot be completely separated because of the interconnection cable.
9. Clean the note path, sensors, and eight (8) pinch wheels with a damp cloth or cotton swab. **Do not** use solvents or abrasive cleaners.
10. Make sure all surfaces are dry, and reassemble the unit by reversing the disassembly steps.

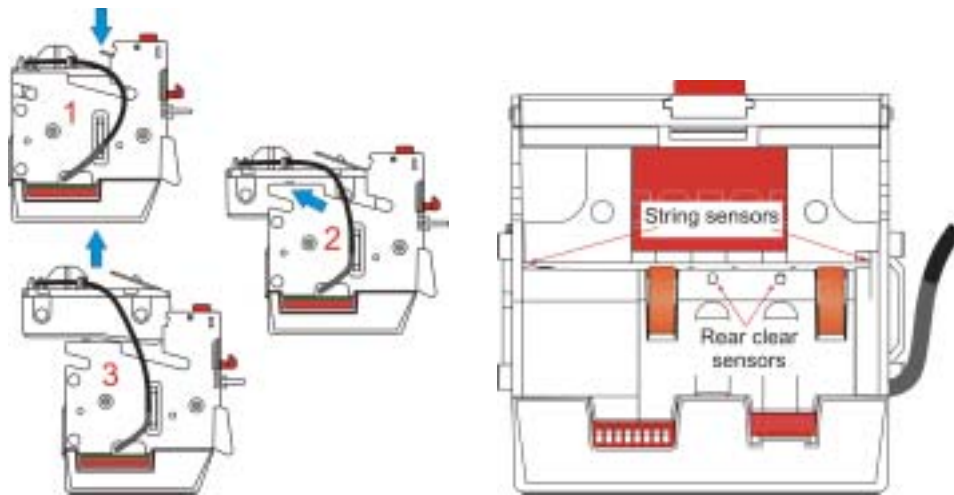


Figure 13. *Cleaning the Note Path and Sensors*

## SmartCard Reader Replacement

The SmartCard reader is mounted under the control panel in an assembly that is designed to minimize ESD interference. Perform the following steps to replace the SmartCard reader:

1. Open the control panel as described on page 6, and remove the back door of the cabinet.
2. Disconnect the SmartCard reader USB cable from the computer.
3. Inside the control panel, remove the four nuts and bolts that secure the SmartCard reader to the cabinet, and remove the SmartCard reader assembly.
4. Refer to the figure below and remove the four (4) screws that secure the SmartCard reader to the faceplate. Slide the SmartCard reader out of the faceplate.
5. Reverse these steps to install the new SmartCard reader.
6. After servicing the SmartCard reader, always test it from System Test in the Operator Menu.

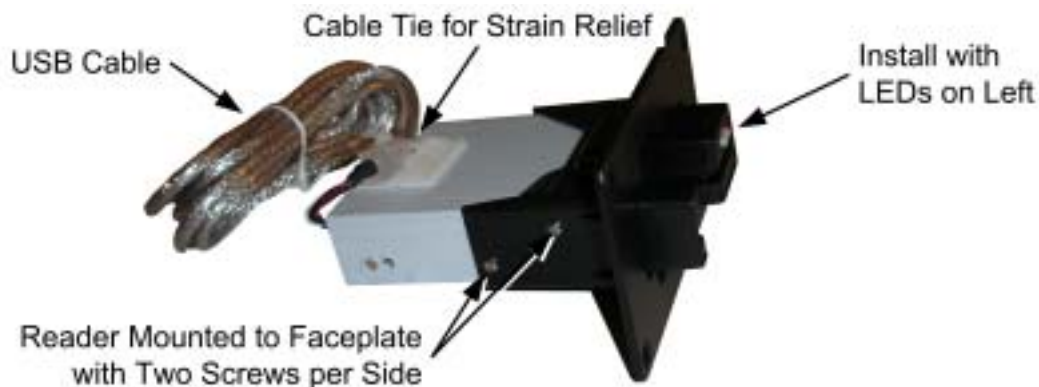


Figure 14. *SmartCard Reader Assembly*

## Players' Card Dispenser Service

The Players' Card dispenser sells SmartCard format Players' cards. Perform the following steps to open the dispenser to refill or count the cards.

**Important:** The dispenser will not work unless it is fully closed and in a vertical position (no more than a 5-degree angle), with the back cover in place. If you reboot the computer only, rather than power cycling the cabinet, the dispenser may dispense a card.

1. Open the Players' Card dispenser door with the key; it will rotate downward on a hinge.
2. Slide and lift the back cover as shown below.
3. Insert Players' Cards as shown, with the magnetic stripe down. The dispenser will hold up to 185 SmartCards. Make sure the cards are stacked evenly and the bottom plate is firmly against the cards.
4. After filling, it is a good practice to test the dispenser from the System Test screen in the Operator Menu.

**Note:** The Players' Card dispenser must be closed, and in a fully vertical position, or it will not dispense cards.

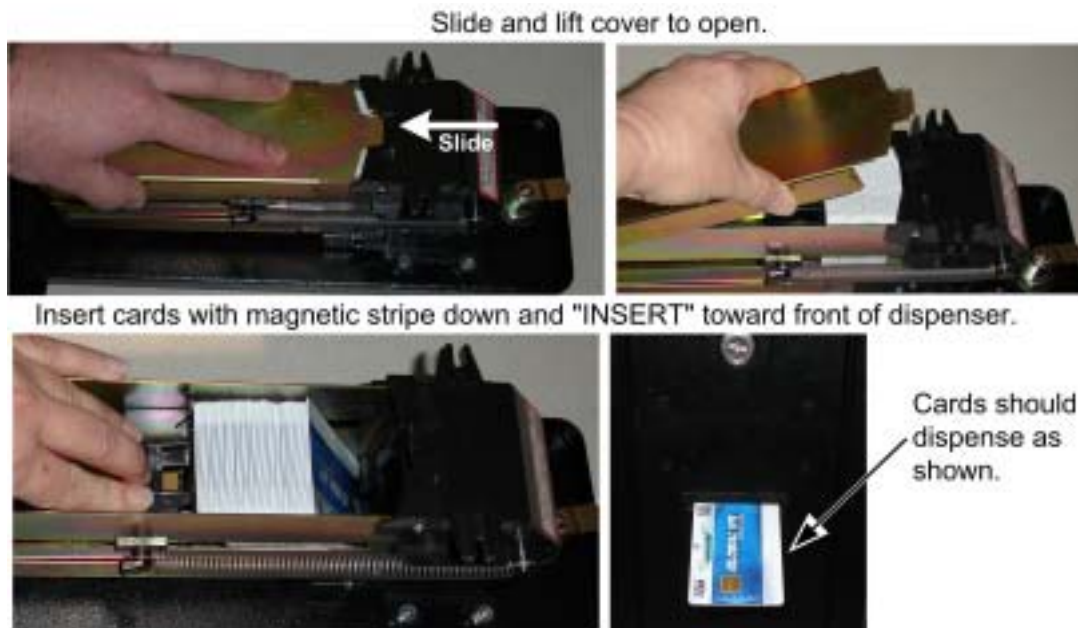


Figure 15. Filling the Players' Card Dispenser

## Players' Card Dispenser Replacement

**Note:** The Players' Card dispenser must be closed, and in a fully vertical position, or it will not dispense cards.

1. To remove the dispenser from the cabinet, disconnect the wire harness and remove the four Kep nuts that secure the dispenser to the door.
2. When you re-install the dispenser, the plastic lip around the card slot must line up with the hole in the door. When properly installed, the plastic around the slot is flush with the face of the door.

3. After servicing the Players' Card dispenser, always test it from the System Test screen in the Operator Menu.

## AC Power Plate

The AC power plate provides the external AC power, phone (modem), and Ethernet connections. 230 VAC power in from the power plate is connected to an AC power strip in the cabinet. An AC EMI Filter in the AC power plate removes the electrical noise that could cause interference with the hardware inside the cabinet.

**Caution: The cabinet must be connected to a secure ground to function properly.**

Ground wires from system components must be securely connected to the ground lug on the power plate, as shown below. Components must **not** be grounded to the power plate mounting bolts.

The **Ethernet** and **Phone** ports on the power plate should be connected to the appropriate ports on the system computer. (See the diagram near the back of the System Manual for computer connections.)



Figure 16. AC Power Plate

## AC Power Strip Replacement

The AC power strip provides power to all of the components in the cabinet. Perform the following steps to replace the power strip:

1. Turn the cabinet OFF and disconnect the AC power cord from the back of the cabinet.
2. Disconnect all components from the power strip.
3. Disconnect the power strip from the AC power plate terminals.
4. Remove the power strip; it is held in place with Velcro<sup>®</sup>.
5. Replace the power strip only with the same type, GLOBAL VR<sup>®</sup> Part # 545-6NX6. Do not attempt to use a different power strip. Be sure to connect each wire to the correct terminal on the power plate (See Power Distribution Diagram on page 25.)

**Caution: Be sure to connect each wire to the correct terminal. The ground wire must be securely connected to the ground lug on the power plate, as shown in Figure 16 or the game may not function properly.**

## Marquee Florescent Light Service

The marquee and mini-marquee are both lit by a single florescent fixture.

To gain access to the florescent fixture, remove the three (3) Torx screws that secure the marquee top bracket in place and remove the marquee artwork and clear plastic.

Replace the florescent tube with a comparable 18" florescent tube.

To remove the fixture, disconnect the cabinet from AC power. Disconnect the AC power cord from the fixture. Remove the two Phillips screws that secure the fixture to the cabinet and remove the fixture. Replace the fixture only with GLOBAL VR<sup>®</sup> part # 49-1001-240V. **Do not use** a different fixture.

## Cold-Cathode Florescent Light Service

The cold-cathode florescent light adds dramatic lighting to the control panel and the front of the cabinet. Perform the following steps to replace the light:

1. Open the control panel as described on page 6.
2. Snip the cable ties that secure the cold-cathode tube to the cabinet and remove the tube, and disconnect the 2-pin connector from the power inverter.
3. If you need to replace the power inverter, disconnect the power connector and the light connectors, and connect them to the new power inverter.
4. Reverse these steps to install the new tube.

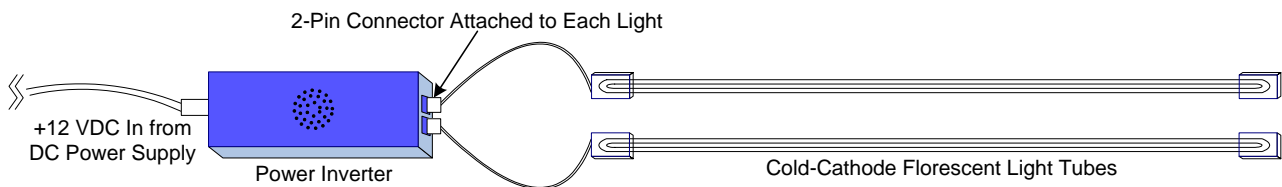


Figure 17. Cold-Cathode Light Wiring

## Setting the Computer BIOS (CMOS)

**This procedure applies only to the PS35-BL Motherboard.**

**Important:** Your screens may not look exactly like the screens shown below, and some settings shown on the screens below may be different from your system. **Do not change any settings that are not specifically described in this document.**

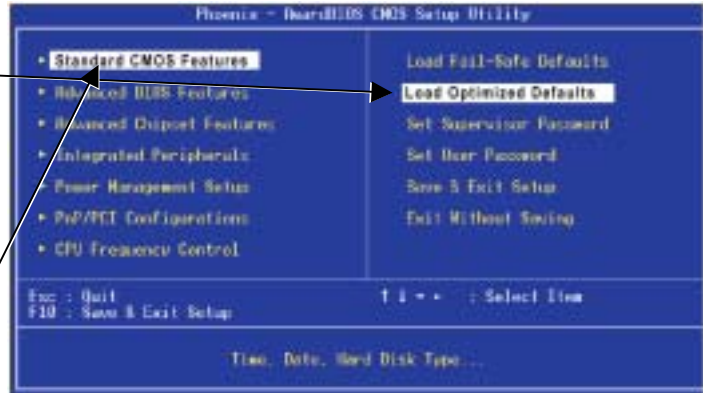
1. Press the **DEL** key during boot. The CMOS Setup Utility Main Menu will appear:

2. Use the Arrow keys (↑↓→←) to select **Load Optimized Defaults**, and press **Enter**.

Press **Y** and **Enter** when prompted to confirm the change.

**Note:** Step 2 ensures that most settings are correct. The others are described in this document.

3. Use the Arrow keys to highlight **Standard CMOS Features**, and then press **Enter**.



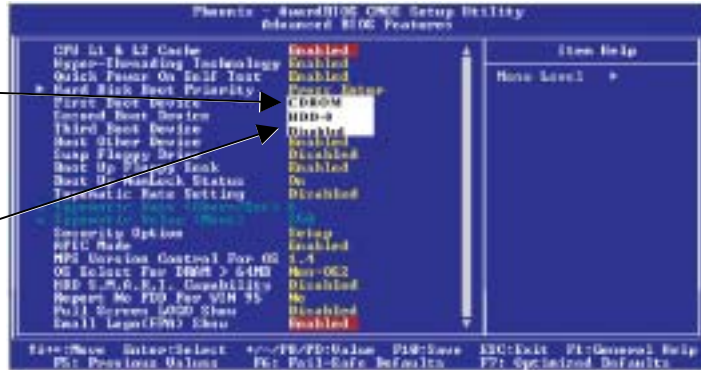
A screen similar to the following will appear:

4. Use the Arrow keys to highlight the setting for **Halt On**. Use the **Page Up** and **Page Down** keys to change the setting to **No Errors**. Press **ESC** to go back to the Main Menu.



5. Now use the Arrow keys to highlight **Advanced BIOS Features** and press **Enter**. A screen similar to the following will appear:

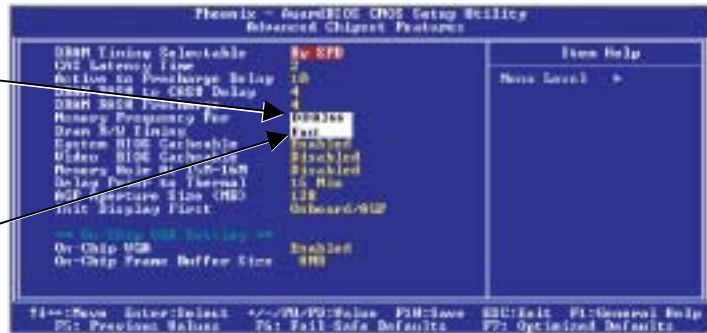
6. Use the Arrow keys to highlight the setting for **First Boot Device**. Use the **Page Up** and **Page Down** keys to change the setting to **CDROM**.



7. Set **Second Boot Device** to **HDD-0** and **Third Boot Device** to **Disabled** the same way. Press **ESC** to go back to the Main Menu.

8. Now use the Arrow keys to highlight **Advanced Chipset Features** and press **Enter**. A screen similar to the following will appear:

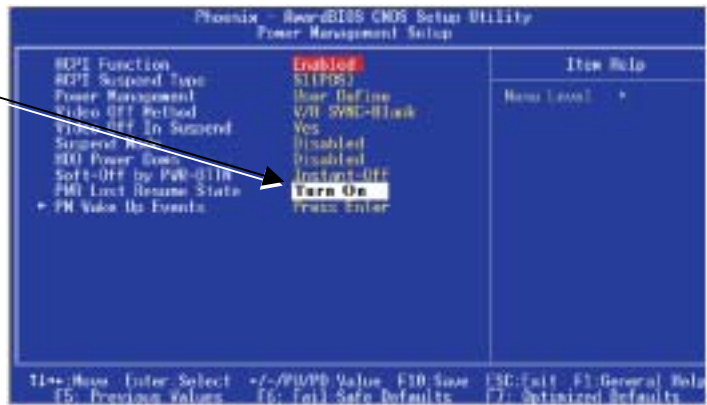
9. Use the Arrow keys to highlight the setting for **Memory Frequency For**. Use the **Page Up** and **Page Down** keys to change the setting to **DDR266**.



10. Use the Arrow keys to highlight the setting for **Dram R/W Timing**. Use the **Page Up** and **Page Down** keys to change the setting to **Fast**.

11. Now use the Arrow keys to highlight **Power Management Setup** and press **Enter**. A screen similar to the following will appear:

12. Use the Arrow keys to highlight the setting for **PWR Loss Resume State**. Use the **Page Up** and **Page Down** keys to change the setting to **Turn On**.



13. Now that all settings are correct, press **F10**. The following prompt will appear:

Save to CMOS and EXIT (Y/N) Y

14. Make sure "Y" shows at the end of the prompt (if "N" shows, the settings will not be saved), and press **Enter** to save the settings and exit.

## Chapter 4 — Replacement Parts

If you need replacement parts, please reference these GLOBAL VR<sup>®</sup> part numbers when contacting your distributor.

### Documents, Software, and SmartCards

**Note:** Software and documents may vary by country. Check with your local distributor.

Part Number	Item Description
040-0062-01	System Manual, US and Canada
040-0062-01-UK	System Manual, UK and Ireland
040-0100-01	Technical Manual
040-0063-01	Software Restore Guide
<i>May Vary due to Version or Country</i>	System Recovery Disk
	Game Install Disks (2 CDs)
3100-0001	Players' SmartCard

### Cables

Part Number	Item Description
115-0008-01	Cable, Power Strip to DC Power Supply
115-0030-01	Cable, Power Strip to Fluorescent Light, 8'
115-0034-01	Fan Power Cord, 90° Angle T-Style Plug, 72"
115-0076-01	Cable, USBIO to Controls, Card Dispenser, & Audio Amp
115-0077-01	Cable, Audio Amp to Speakers
115-0078-01	Cable, Main GND to Coin & Trackball
115-0079-01	Cable, 12 VDC/5 VDC Power Harness
USB-AB06MM	USB Cable, 6'
TDC207	Modular Cable RJ-11, Crossed Wiring (Phone Line)
96-0539-00	Cable, Stereo, 3.5 mm, 6', PC to Audio Amp
TRD855BL-5	RJ-45 CAT-5E Patch Cable, 5'

### Cabinet Functional Components

Part Number	Item Description
3100-0002	SmartCard Dispenser, 12V-"C" Interface
WGM2792-UOTS53D	Monitor, Wells-Gardner 27" Flat-Screen
26071-00	Monitor Glass Display Shield
26070-00	Monitor Bezel
209365	Cabinet Fan, 230 VAC
545-6NX6	Power Strip, Non-Surge Protected
BB323NGB00028	Mech, SR3 Totalizer, Pulsed, UK Pounds
49-1001-240V	240 V Florescent Light, 18"
49-0228-00	Speakers, 4", 12 Watt
49-5140-00	Audio Amp
CCFL1B1W	Cold Cathode Florescent Lights, 1 Blue 1 White, w/ Inverter
42-2093-01	Coin Meter, 4.5-6 VDC, 6 Digit
45010-00	SmartCard Reader Assembly
FLUR05GB00006	Bill Validator, Lumina Rotor, UK Pounds
SCR28I-S033U	SmartCard and Magnetic Stripe Reader
26074-00	SmartCard ESD Bracket
56-0100-HLWB	Trackball Assembly (See diagram on next page)
58-9111-LG	Pushbutton, White w/ Micro Switch and Nut
58-9155-LG	Pushbutton, Yellow w/ Micro Switch and Nut
26072-00	Marquee Clear Plastic
26073-00	Mini-Marquee Clear Plastic
26075-00	Clear Plastic Light Panel, Below Control Panel

Part Number	Item Description
26076-00	Speaker Grill
44-1100-01	Power Supply, 5/12 VDC, 115 Watt
49-0577-00	Service Button
115-0049-01	Ground Cable 3.5" (Power Plate)
283-2025-ND	Fuse, SLO BLOW, 250V, 6 AMP (Power Plate)
CCM1600-ND	Power Entry Module, EMI Filter, Un-Shielded (Power Plate)
ECF504-4C	RJ11 Coupler (6X4), Crossed, 30u (Power Plate)
ECF504-8SK	RJ 45 Coupler (8X8), Straight, 30u (Power Plate)

### Computer

Part Number	Item Description
45006-00	System Computer Assembly
08324	4-Port USB 2.0 Card, PCI
315-0512-40	DDR RAM, 512MB PC2700-32x8
4300-0004	Modem, PCI, Creative Lab Blaster, 56K, V.90
4300-0005	Motherboard, Intel 865G Chipset, PS35-BL (ACP)
CDR-SN5221	CD-ROM Drive, 52x IDE
CPU-2400	CPU, P4, 2.4Ghz 256k FSB-533, w/ Heat Sink & Fan
GF6600-8XAGP-128MB	Video Card, GeForce 6600, 128 MB, AGP 8X
HD-WD200BB	Hard Drive, IDE ATA 100, 7200RPM, 20GB
G80-00005	License, Microsoft XP, Embedded
USBIOEXT	Nytrix USB I/O Extreme PCB (USB I/O Card)
H4-MEMOHASP	Game Dongle
PS2-KEYBOARD	PS2 Computer Keyboard
115-0003-01	DB25 Ribbon Cable

### Trackball Parts

Ref #	Qty	Part #	Description
1	1	95-0560-00	3" TRACKBALL BOTTOM BRK
2	1	95-1604-00	3" TRACKBALL TOP BRK (1/8" SHORT)
3	1	55-0200-XX	3" TRACKBALL BALL
4	2	95-0576-00	3" TRACKBALL ROLLER SHAFT
5	1	95-0575-00	3" TRACKBALL IDLER SHAFT
6	2	95-1422-00	PLASTIC STAR WHEEL
7	2	A052-1011-00	NEW STYLE PCB ASSY FOR T-BALL, RED
8	6	90-1005-00	SCREW, #8 X 1/2 PH. PN. HD. TYPE B
9	6	95-0570-00	BEARING FOR TRACKBALL OILED
10	4	95-0555-140	TAPE, COPPER SMOOTH 1/2 WIDE
11	1	95-0577-00	GROUND WIRE HAPP TRACKBALL
12	1	95-0303-00	HARNESS T/BALL STANDARD TRACKBALL
13	1	90-1013-00	TIE WRAP 4" LENGTH, SOLD EA.
14	1	95-1828-00	TRACKBALL MOUNTING SHIM FOR 3" TRACKBALL
15	2	43-2253-00	SCREW 4-40 X 3/8 PHIL TRUSS HEAD MS WLIGHT PATCH ZINC

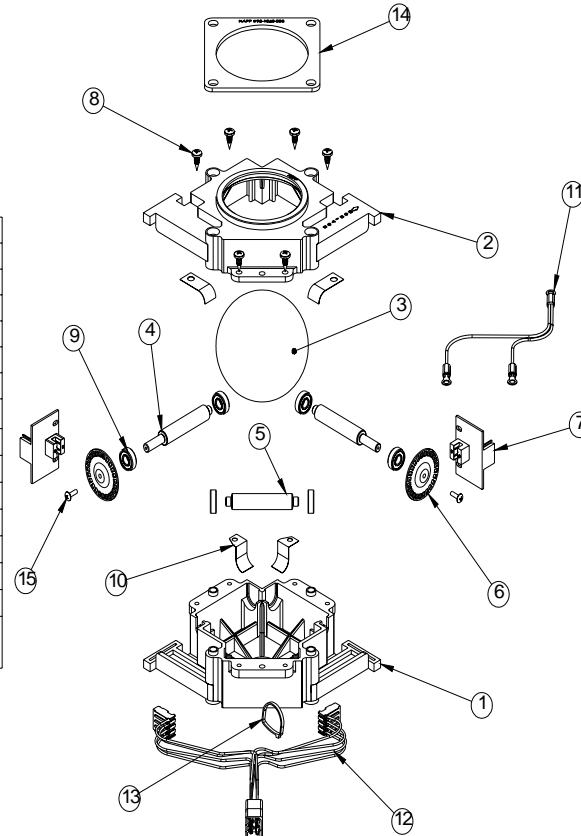


Figure 18. Trackball Exploded-View Drawing

## Cabinet Artwork



Figure 19. Cabinet Artwork

# Chapter 5 — Diagrams and Schematics

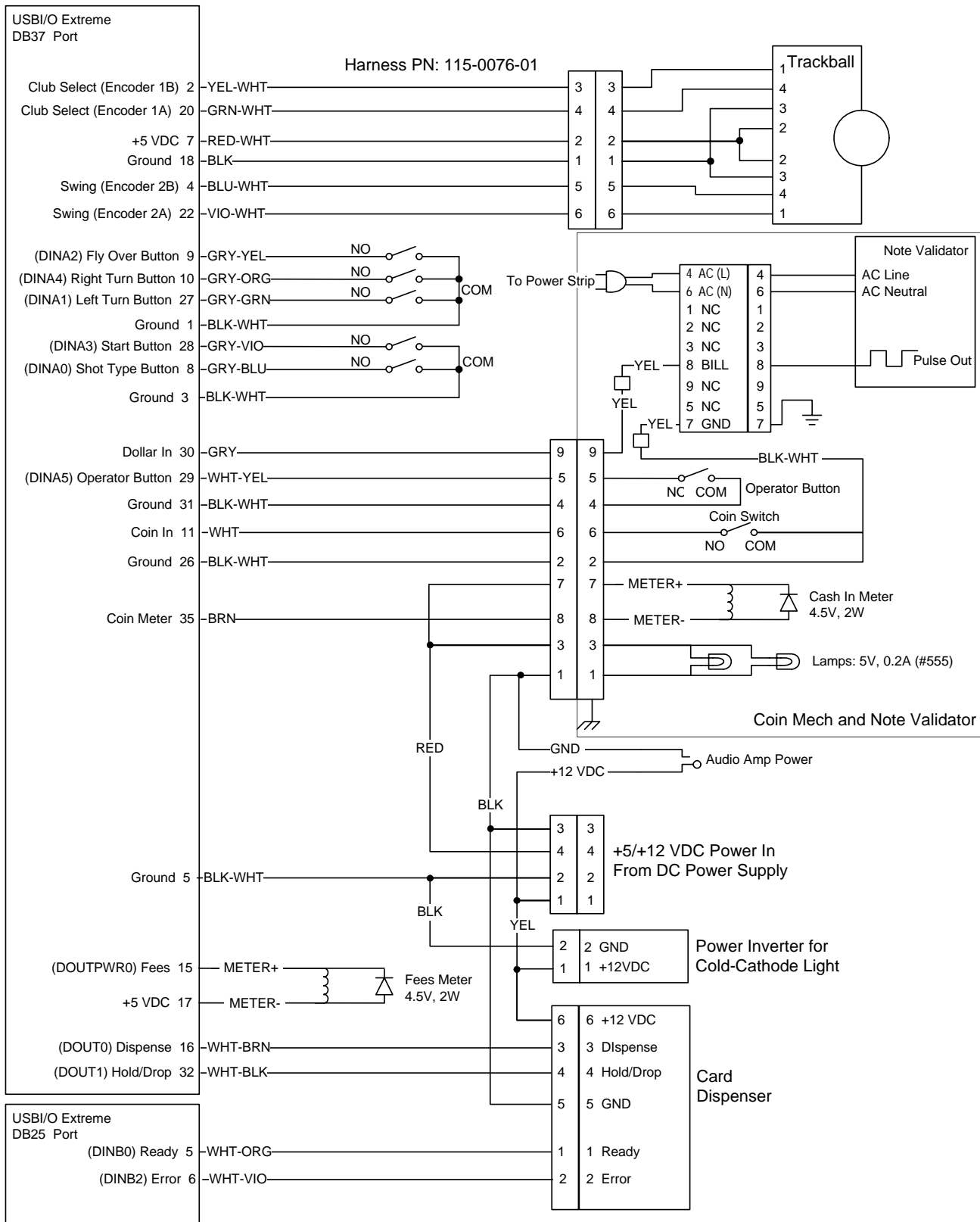


Figure 20. Wiring Diagram

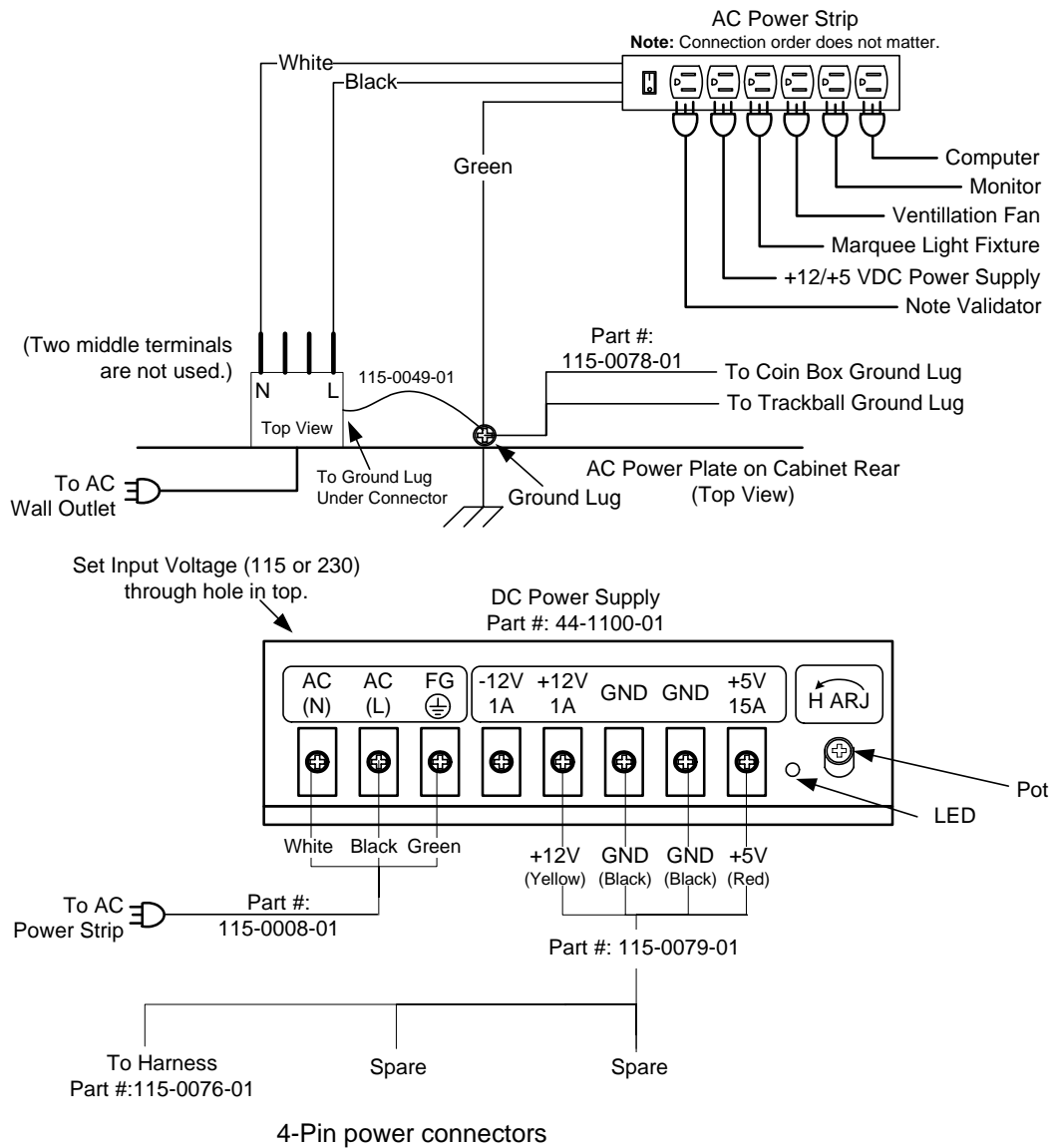
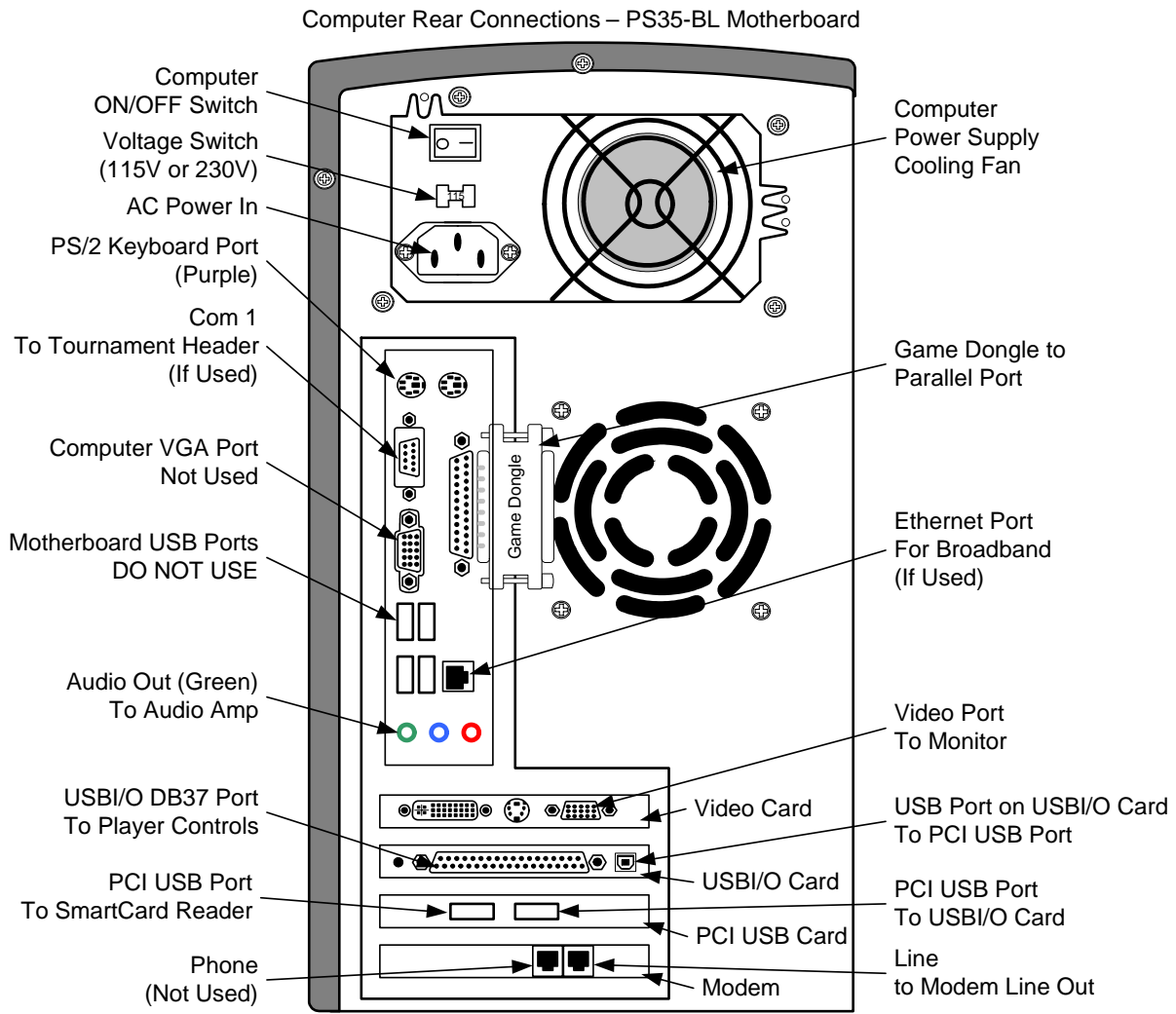


Figure 21. Power Distribution Diagram



*Figure 22. Computer Rear Panel Diagram*



## International Technical Support

Free technical support is available during the warranty period. Please contact your local distributor or GLOBAL VR<sup>®</sup> technical support for help with troubleshooting problems, or operating your game.

When you contact technical support, please provide the following information to aid our technical support process:

- Cabinet Serial Number (found on the back of the cabinet). Write your serial number below for easy reference.

**Cabinet Serial Number:** \_\_\_\_\_

- Your mailing address and telephone number.
- A summary of the question or a detailed description of the problem with your cabinet.

The additional information listed below, as applicable, may assist Technical Support in solving your problem quickly.

- Cabinet ID
- Software version number
- Specific error message
- Any changes made to the system
- Date of latest install or upgrade
- For game-play issues, the game mode and number of players

### **UK and Ireland - Cosmic Video Amusements**

Technical support is available from 6:00 AM to 6:00 PM, Monday–Friday.

Call 020-8594-1234 to reach a Technical Support staff member.

E-mail support is available at this address: [technical@cosmicvideo.co.uk](mailto:technical@cosmicvideo.co.uk)

### **GLOBAL VR<sup>®</sup> USA**

Technical support is available from 7:00 AM to 4:00 PM, Pacific Time, Monday–Friday.

Call 408.597.3400 to reach a Technical Support staff member.

E-mail support is available at: [techsupport@globalvr.com](mailto:techsupport@globalvr.com)

To comment on this manual, please e-mail: [techpubs@globalvr.com](mailto:techpubs@globalvr.com)

Find technical documents and service bulletins online at: <http://service.globalvr.com>