# Global Arcade Classics

## System Manual

040-0140-01

> ➢ **Read this manual before use.**
> ➢ **Keep this manual with the machine at all times.**



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# Preface

## Safety

*Please read this page before preparing your arcade cabinet for game play.*

The following safety instructions apply to all game operators and service personnel. Specific warnings and cautions will be included throughout this manual.

Use the following safety guidelines to help protect the system from potential damage and to ensure your personal safety:

- Make sure that the switch on the back of the computer is set to match the AC power in use at your location:
  - 115 volts / 60Hz in most of North and South America and some Far Eastern countries such as Japan, South Korea and Taiwan
  - 230 volts / 50Hz in most of Europe, the Middle East and the Far East
- To help prevent electric shock, plug the system into a properly grounded power source. The AC power cables are equipped with 3-prong plugs to help ensure proper grounding. Do not use adapter plugs or remove the grounding prong from a cable. If you must use an extension cable, use a 3-wire cable with properly grounded plugs.
- To help protect your system from sudden increases and decreases in electrical power, use a surge suppressor, line conditioner or Uninterruptible Power Supply (UPS).
- Be sure nothing rests on the system's cables and that the cables are not located where they can be stepped on or tripped over.
- Keep your system far away from radiators and other heat sources.
- Do not block cooling vents.

## Precautions for Game Operation

GLOBAL VR® assumes no liability for injuries incurred while playing our games.

Operators should be aware that certain health and physical conditions may make people susceptible to injury when playing video games, particularly when the game moves or creates a sense of motion.

## Warnings

 To avoid electrical shock, unplug the cabinet before performing installation or service procedures.

 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!

## Environmental Conditions

Cabinet is intended for indoor use only. Be sure to keep the cabinet dry and maintain operating temperatures of 10°-40°C (50°-104°F).

## FCC Notices (United States)

Electromagnetic Interference (EMI) is any signal or emission radiated in free space or conducted along power or signal leads, that endangers the functioning of radio navigation or other safety service, or that seriously degrades, obstructs, or repeatedly interrupts a licensed radio communications service. Radio communications services include, but are not limited to, AM/FM commercial broadcast, television, cellular services, radar, air-traffic control, pager, and Personal Communication Services (PCS). These licensed services, along with unintentional radiators such as digital devices (including computer systems) contribute to the electromagnetic environment.

Electromagnetic Compatibility (EMC) is the ability of items of electronic equipment to function properly together in the electronic environment. While this computer system has been designed and determined to be compliant with regulatory agency limits for EMI, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference with radio communications services, which can be determined by turning the equipment off and on, you are encouraged to try to correct the interference by one or more of the following measures:

- Re-orient the receiving antenna.

- Relocate the cabinet relative to the receiver.

- Plug the game into a different outlet so that the computer and the receiver are on different branch circuits.

If necessary, consult an experienced radio/television technician for additional suggestions. You may find the FCC Interference Handbook, to be helpful. It is available from the U.S. Government Print Office, Washington, DC 20402.

This device has been tested and complies 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. If not installed and used in accordance with the instruction manual, it may cause harmful interference with radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case you will be required to correct the interference at your own expense.

Operation is subject to the following conditions:

- This device may not cause harmful interference.

- This device must accept any interference received, including interference that may cause undesired operation.

# Chapter 1 — Introduction

## 1.1 Global Arcade™ Classics Features

Congratulations on choosing **Global Arcade Classics**, the one cabinet for all your Arcade Classics needs. With dozens of titles on one system, everybody can find their favorite classic games.

## 1.2 Cabinet Specifications



*Figure 1. Cabinet Dimensions*

### 1.2.1 Hardware Features

- Intel® Celeron® Computer
- 512 megabytes RAM
- DVD-ROM Drive
- 25-inch VGA Monitor
- Headphone Jack
- 8-Way Joysticks
- Trackball

### 1.2.2 Current Requirements

The cabinet requires approximately 5 Amps inrush and 3 Amps operating current at 115 VAC.

## Chapter 2 — Basic Cabinet Setup

Perform the following steps to set up a new cabinet:

1. Carefully remove the cabinet from the shipping container, giving yourself plenty of space. Inspect the exterior of the cabinet for any damage. To protect the game from rising internal temperatures, avoid installing it in a damp or dusty location, or where the cabinet will receive excessive sunlight or heat.

2. Remove the keys from the coin return slot.

3. Locate the AC power cord inside the cash box.

4. The following items should be located in the back of the cabinet:

   - Global Arcade Classics System Manual (this document)
   - System Installation Disk (CD)
   - Game Base Pack DVD
   - Monitor Service Manual

5. Your game cabinet should arrive ready to play, but it is advisable to check inside in case any components have shifted or come loose during shipping. Remove the back door from the cabinet and verify that all cables and wires are securely connected to the computer and USBlinx II PCB. See page 36 for computer cable connections. Verify that all assemblies are securely mounted and there are no loose objects inside the cabinet that could have been damaged during shipping.

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

   **Note:** The cabinet has two ON/OFF switches. One is located at the lower rear of the cabinet, next to the AC power cord connector. The other is located on top of the cabinet, near the back, next to the **Service** button (see Figure 3). Both switches must be ON for the cabinet to operate.

7. Power ON the cabinet (make sure both ON/OFF switches are ON).

8. Press the **Service** button and use the Operator Menus to set up your game. See *Chapter 3* for detailed information on using the Operator Menus.

9. Select a game from the menu and press the 1-Player or 2-Player Start Button. A hint screen will appear as the game loads, and will show you which controls to use to play the game.



*Figure 2. Control Panel Button Numbering*

## 2.1 Relocating the Service Button (Optional)

If you will be operating your cabinet commercially, you will want to move the Service button inside the cabinet to prevent customers from accessing the Operator Menus.

1. Open the coin door and locate the board to the right of the opening that has a 3/4" hole pre-drilled for the Service button.

2. Remove the back door from the cabinet to reach the bottom side of the button.

3. Remove the micro switch from the Service button by gently rocking it to the side.

4. Unscrew the retaining ring from the button and remove the button.

5. Install the Service button in the hole by the coin door so the button is easily reached through the coin door.

6. Install the button plug, provided with the cabinet, in the hole on the switch plate on top of the cabinet.

# Chapter 3 — Operator Menu

## 3.1 Using the Operator Menus

This chapter describes how to use the Operator Menus to set up and adjust the settings on your Global Arcade Classics System. All game settings and diagnostics are accessed through the Operator Menus. Press the **Service** button located on top of the cabinet, as shown in the figure below, to display the Operator Menu on the monitor.

**Note:** The Service button can be relocated inside the cabinet, as described on page 7.

Once in the Operator Menu, use the **Player-1 joystick** to move through the menu screens, and **Player-1 Button-1** to select the menu items. Use the **EXIT GAME** button on the control panel at any time to exit from a menu or to exit from the Operator menu.
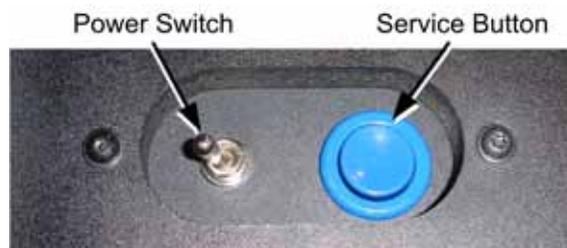


*Figure 3. Service Button Panel*

The steps below describe how to change a setting in the Operator Menu:

1. Press the **Service** button to enter the Operator Menu.

2. Use the **Player-1 joystick** to move the selection arrow up and down through the list of submenus. Press **Player-1 Button-1** to select a submenu.

   The submenus display adjustable game settings and additional submenus. For adjustable game settings, the current option is shown in yellow text to the right of the menu item. Other menu items will open submenus that have additional settings.

3. To change an adjustable game setting, use the **Player-1 joystick** to place the selection arrow next to the game setting you want to change, and then move the joystick left or right to scroll through the available options.

4. When you reach the desired option for the game setting, move the **Player-1 joystick** up or down to select another menu item. (You do not need to press a button to confirm the change.)

5. When you finish changing settings, press the **EXIT GAME** button to exit back to the Attract Mode, or select **Exit** on the menu screen and press **Player-1 Button-1** to return to the previous menu.

## 3.2 Operator Main Menu



The Operator Main Menu appears first when you press the **Service** button. Each item listed here, except Language and Exit, opens a sub-menu with configuration settings.

| Item | Description |
|------|-------------|
| **Language** | This option sets the language used for the Operator Menus. Use the **Player-1 joystick** to scroll left and right to select a language. The options are English, French, German, Dutch, Italian, or Spanish. |
| **Cabinet Setup** | Enter this sub-menu to adjust the Cabinet type, Display, Sound, Credit/Coin, Tournament, and Timer settings, or to restore the factory default settings. (See page 10.) |
| **Game Configuration** | Enter this sub-menu to reinstall the Game Base Pack, turn games on or off, or adjust the Intelli Settings and the individual settings available for each game installed on the system. (See page 12.) |
| **Accounting Information** | Enter this sub-menu to view and adjust earnings and game play time reports, and to reset the current data. (See page 17.) |
| **Diagnostics** | Enter this sub-menu to troubleshoot and test the Display, Sound, Player Controls, and JAMMA hardware on your cabinet. (See page 20.) |
| **Exit** | Exits to Attract Mode. |

## 3.3 Cabinet Setup Menu



The Cabinet Setup menu lets you adjust settings for the cabinet hardware devices. The subsections that follow provide detailed descriptions of each menu item on this screen.

### 3.3.1 Cabinet Type

The **Cabinet Type** option must be set to **Upright** for standard upright cabinets, or the games will not play properly. Use the **Player-1 joystick** to scroll left and right if you need to change the setting.

### 3.3.2 Display Settings

The Display Settings menu may be used in the future for cabinets with different monitor orientations. The Screen Rotation must be set to **0** on an upright cabinet. The CGA Interlace settings have no effect, as Global Arcade Classics uses a VGA monitor.
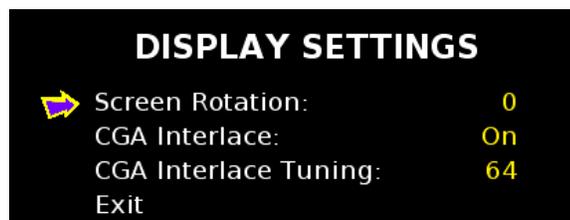


### 3.3.3 Sound Settings

This Sound Settings menu lets you set the Sound Volume level between **0** and **10,** turn the Attract Mode sound **On** or **Off**, and set sound output to **Stereo** or **Mono**. When the sound level is set to **0**, you should hear no sound from the speakers. The Attract Mode volume plays at the same level as the Sound Volume. (See *Sound Test* on page 23 for help diagnosing audio problems.)
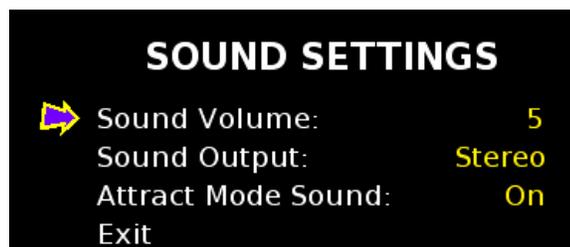
### 3.3.4 Credit/Coin Settings

The Credit/Coin Settings menu allows you to set how many credits a coin drop is worth. The default setting is 1 coin drop equals 1 credit.
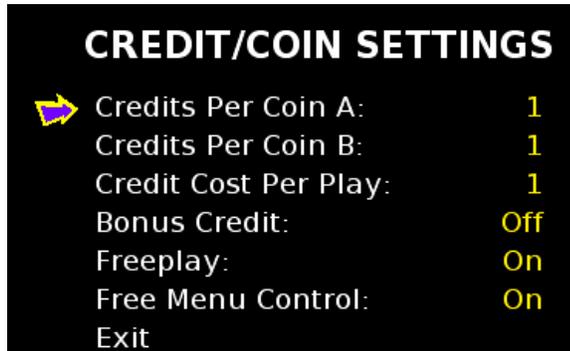


- **Credits Per Coin A** - sets how many credits are given for each coin drop.
- **Credits Per Coin B** is not used on Global Arcade Classics.
- **Credit Cost Per Play** - defines how many credits are needed to start a single player game. The default setting is 1.
- **Bonus Credit** - gives an extra Bonus Credit if the player inputs 4 credits at one time.
- **Freeplay** - allows players to play the cabinet for free.
- **Free Menu Control** - allows players to exit games without losing their credits.

### 3.3.5 Tournament Settings

The Tournament Settings menu allows you to enter a Location Entry name to uniquely identify the cabinet.

The High Score menu allows you to delete high scores from the cabinet. (*Dump High Scores To Disk* and *Get High Scores From Disk* are not supported on Global Arcade Classics.)



*Figure 4. Tournament Settings Menus*

### 3.3.6 Timer Settings



The Timer Settings menu sets the timing features described below:

- **Boot Screen Display Time** - defines how many seconds the Boot Screen is displayed when the cabinet is powered ON.

- **Exit Menu After No Input** – defines how many seconds the software will wait before showing the Exit Game screen if there is no input from a player during a game.

- **Exit Menu Default Position** - defines whether the arrow is on YES or NO in the Exit Game screen displayed when a player exits from a game.  (The Exit Game screen lets players select NO to return to the game, or YES to exit to the Attract Mode.)

### 3.3.7 Reset Factory Defaults

Select this menu item to restore cabinet settings to the factory defaults.  Please note that restoring the factory default settings will turn on any games that have been disabled, and may change the pricing.

This function does **not** affect the lifetime Earnings Report or Time Report data or the DIP switch settings for individual games.

## 3.4 Game Configuration Menu



The Game Configuration menu lets you fine-tune the individual games on the system, and re-install the Game Base Pack.  The subsections that follow provide detailed descriptions of each menu item on this screen.

### 3.4.1 Intelli Settings



Intelli Settings help the cabinet earn more money by automatically showing the Attract Mode game screens for the games played more often at your location, and by adjusting the game play difficulty for the people that play in your location.

Intelli-Earn™ must be set to **On** to activate both the Intelli-Sort™ and Intelli-Tune™ settings. Once Intelli-Earn has been set to On, you can use the Intelli-Sort and Intelli-Tune menus to fine-tune how the Intelli Settings work for your cabinet.

### Intelli-Earn™
When Intelli-Earn is turned on, the Attract Mode will show games with higher current ($Curr) or lifetime ($Life) coin-drop totals more frequently then those with lower coin-drop totals. When Intelli-Earn is turned off, the Attract Mode will cycle through games randomly. Move the **Player-1 joystick** either left or right to toggle the setting On or Off.

### Intelli-Sort™
Intelli-Sort lets you define how many games are displayed on the Game Wheel, and how often to cycle out games that are not earning well. You can also Lock Games to make sure they are always available on the Game Wheel.

| Item | Description |
|------|-------------|
| Intelli-Sort Status | This setting turns Intelli-Sort On or Off. |
| Max Games | This number defines how many games are displayed on the Game Wheel when Intelli-Sort is turned on. The options are 20—100. |
| Swap Games | This number defines how many of the low earning game titles will be swapped out of the Game Wheel in each Update Cycle. Low earning games will be replaced with game titles that are not currently being displayed. This allows the Game Wheel to be refreshed with new game titles, and helps fine-tune the earnings for your cabinet. |
| Update Cycle (days) | This number defines how often games will be cycled, or swapped, out of the Game Wheel. The shorter the Update Cycle, the more often games will be swapped. The options are 3—10. |
| Lock Games | This item opens the Intelli-Sort Locking screen, where you can select games that will always be displayed on the Game Wheel. |

## Intelli-Tune™

Intelli-Tune lets you set an average min and max play time for all the games installed on the cabinet. Intelli-Tune will then automatically adjust the difficulty of game play for each game title so that a player's average play time meets the operator's desired settings.  Intelli-Tune works so that no game is too difficult for a beginning player to learn, or easy enough for an experienced player to play through the entire game.



| Item | Description |
|------|-------------|
| Intelli-Tune Status | Turns Intelli-Tune ON or OFF |
| Min Time/Credit | Defines the minimum amount of play time a player should receive per credit. Intelli-Tune then adjusts the game play difficulty so that each player should receive at least the set amount of game play time. |
| Max Time/Credit | Defines the maximum amount of play time a player should receive per credit. Intelli-Tune then adjusts the game play difficulty so that each player should receive no more than the set amount of game play time. |
| Update Cycle (plays) | Defines how many played games Intelli-Tune will average before adjusting the game difficulty. The shorter the cycle, the more often the game difficulty is adjusted. |

## 3.4.2  Game Settings Menu
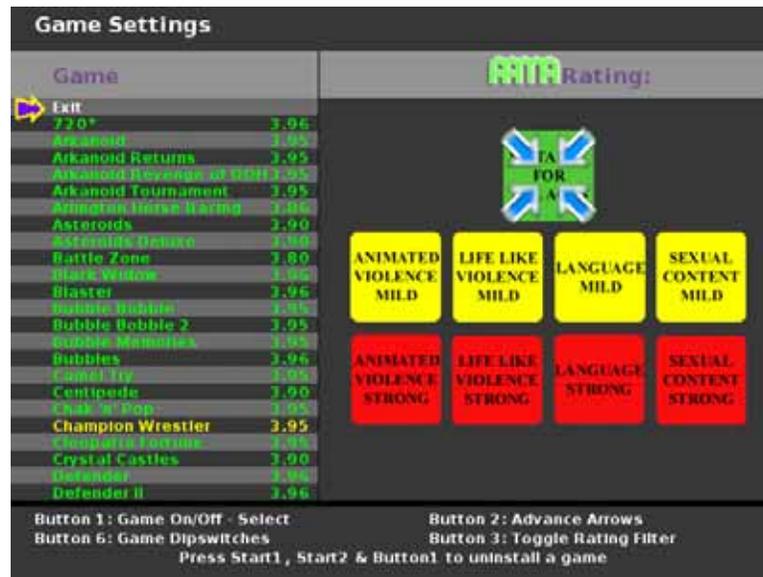


The Game Settings menu lets you select which games are displayed on the Game Wheel.  You can also change the order of the games list, set the DIP switch settings for each game, or uninstall games from the cabinet.  The left column of the screen displays the Game List, and the right displays the AAMA ratings system.

Use the **Player-1** controls to navigate the Individual Game Settings menu, as described below:

- **Joystick Up/down -** moves left column cursor up or down
- **Joystick Left/right -** pages left column cursor up or down
- **Button-1 -** executes choice or disables/enables a game
- **Button-2 -** advances AAMA ratings cursor
- **Button-3 -** disables/enables all games with the currently selected AAMA rating
- **Button-6 -** enters DIP switch menu for the highlighted game

### The Game List
The Game List is color-coded by the AAMA rating.  To check a game's exact AAMA rating, highlight the game and a Title Rating icon will appear over the correct rating sticker on the right side of the screen.  To enable or disable a game, simply highlight it with the cursor and press **Player-1 Button-1**.  A game title becomes grayed out in the Game List when it is disabled.

### Filtering Games by AAMA Rating
You can turn off all games with a specific AAMA rating.  Press **Player-1 Button-2** to select the AAMA rating to filter (the selected rating sticker is shown by blue arrows), and then press **Player-1 Button-3** to disable or enable all games with that rating.  A disabled icon (⊘) will appear over any rating that is set as a filter.

### Changing DIP Switch Settings



Original game cabinets had DIP switches for changing various game settings. Each game on Global Arcade Classics comes set to its original factory default DIP switch settings. The software allows you to adjust the DIP switch settings that were available on the original cabinet.

To change a game's DIP switch settings, highlight the game in the Game List and press **Player-1 Button-6** to enter the unique DIP Switch menu for that game. An example of a DIP switch menu is shown above.

To change a DIP switch setting, highlight the item in the DIP switch menu and move the **Player-1 joystick** either left or right to change the setting. To restore the settings for that game to factory defaults, highlight **Factory Defaults** and press **Player-1 Button-1**.

When you finish, select **Exit** and press **Player-1 Button-1**.

### Uninstalling a Game

Uninstalling a game from the system will remove it permanently. The only way to recover the game is to re-install the Game Pack that includes the game. To uninstall a game, highlight it in the Game List, and press and hold the **1-Player** and **2-Player Start** buttons. While holding the two buttons, press **Player-1 Button-1**, and the game will be removed from the system.

### 3.4.3 Re-Install Gamepack



**Important: Use this screen ONLY to re-install the Game Base Pack DVD.**

Selecting Add New Games from the Game Configuration menu opens the Install Gamepack menu. This menu lets you re-install the Game Base Pack DVD. The system requires an Unlock Code to re-install the Base Pack. An Unlock Code will work only with one cabinet and one DVD. Follow the steps below to get an Unlock Code and install games:

1. If you already have an Unlock Code from re-installing games in the past, skip to step 5.

2. To get an Unlock Code, you will need the following numbers:

   - **Machine ID (MCID) number** displayed in the center of the Install Gamepack menu.

   - **Game Base Pack DVD serial number** found on the DVD case.

3. Call, fax, or e-mail GLOBAL VR® Technical Support (see the back cover of this manual for contact information) with the information listed above. The representative will give you an Unlock Code

4. Write down the Unlock Code on the Game Base Pack DVD case, and in the space provided on the back of this manual. If your Game Base Pack ever needs to be re-installed, you can use this number again.

5. Insert the **Game Base Pack DVD** in the DVD drive.

6. Enter the Unlock Code by highlighting each letter and number on the screen and pressing **Player-1 Button-1**. When finished, highlight "Use" and press **Player-1 Button-1**. The Game Base Pack will now install.

7. When the install is completed, you may exit from the Install Gamepack menu. The new games will automatically appear in the Game Wheel.

8. Remove the DVD from the drive and keep it in a safe place in case you need it in the future.

## 3.5 Accounting Information Menu
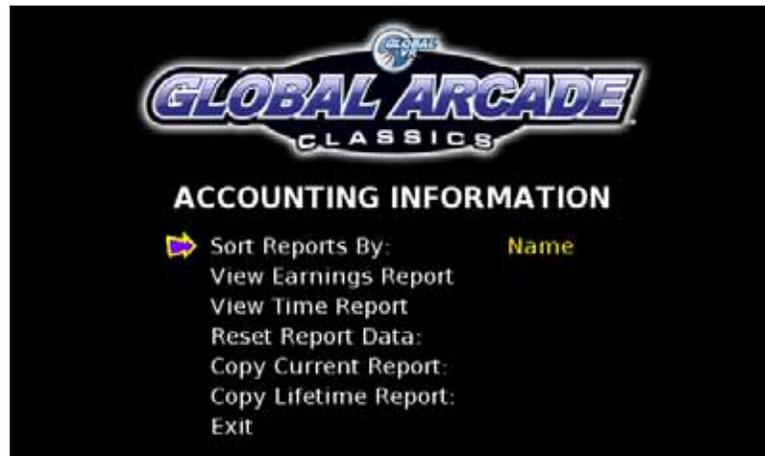


The Accounting Information menu allows you to access current and lifetime coin totals for each game installed on your system.

### 3.5.1 Sort Reports By

You can select from several options for listing the games on the earnings and time reports. Highlight Sort Reports By and move the **Player-1 joystick** left or right to cycle through the options shown below:

- **Name -** sort by name
- **Mnfr** - sort by game manufacturer
- **$Curr** - sort by ascending current coin drop
- **$Life** - sort by ascending lifetime coin drop
- **FCurr** - sort by ascending current freeplays
- **FLife** - sort by ascending lifetime freeplays

### 3.5.2 View Earnings Report



View Earnings Report displays current and lifetime coin-drop and freeplay records for each game. The last reset date is shown at the top of the current records column. Totals are shown at the bottom of each column. This screen also gives you access to the DIP switch settings menus (see page 16).

Use the **Player-1 joystick** to scroll the window up or down if the game list is too long to display on the screen. Moving the joystick up and down will scroll one game at a time, while moving it left and right will scroll one page at a time.

Press **Player-1 Button-6** to enter the DIP switch settings menu for the selected game (see *Changing DIP Switch Settings* on page 16 for more information).

### 3.5.3 View Time Report

View Time Report displays the current and lifetime play time for each game. The last reset date is shown at the top of the current records column. The "Average" column shows the average amount of time it takes to play one game, in minutes and seconds. The "Total" column displays the total amount of time that each game has been played, in hours and minutes. This screen also gives you access to the DIP switch settings menus (see page 16).

Use the **Player-1 joystick** to scroll the window up or down if the game list is too long to display on the screen. Moving the joystick up and down will scroll one game at a time, while moving it left and right will scroll one page at a time.

Press **Player-1 Button-6** to enter the DIP switch settings menu for the selected game (see *Changing DIP Switch Settings* on page 16 for more information).

### 3.5.4 Reset Report Data

To clear the Earnings Report and Time Report data, highlight Reset Report Data and press **Player-1 Button-1**. Lifetime totals will not be affected. Once totals are reset, "OK" will appear to the right of the menu item.

### 3.5.5 Copy Current/Lifetime Report

This feature is not available on Global Arcade Classics.

## 3.6 Diagnostics Menu

The Diagnostics menu opens submenus that let you test the system hardware components, as described in the subsections that follow.

### 3.6.1 Control Test



This screen lets you test the buttons and joysticks. When you press a button or move a joystick, onscreen arrows will indicate the button pressed or the joystick direction. For diagonal joystick motions, you will see two arrows; if you see only one arrow, verify the joystick actuator is in the 8-way position (see page 27). If a control is not working, you can use the JAMMA Test (see page 22) to determine if the signal is reaching the JAMMA harness. If a signal is not reaching the JAMMA harness, check the wires and the micro switch.

To exit from the Control Test, press the **Player-1 and Player-2 Start** buttons together. The Control Test screen will automatically timeout in fifteen seconds if no control is used.

### 3.6.2 Trackball & Dial Test

This screen lets you test the trackball. (The Dial is not used.) When you spin the trackball, an arrow indicates the direction of spin. If the arrow does not appear, or indicates the wrong direction, troubleshoot the wiring and sensors for the trackball.

To exit from this Test, press the **1-Player** and **2-Player Start** buttons together. The test screen will automatically timeout in fifteen seconds if no control is used.

### 3.6.3 JAMMA Test



The JAMMA Test screen lets you test each JAMMA connection for the player controls, coin mech, and **Service** button. The buttons that do not use the JAMMA harness are also shown on the screen.

When you operate a control or coin mech, you will see an on-screen indicator next to the JAMMA pin that was activated.

To exit from the JAMMA Test, press the **1-Player** and **2-Player Start** buttons together. The JAMMA Test screen will automatically timeout in fifteen seconds if no control is used.

**Note:** Some JAMMA pins shown on this screen are not used on Global Arcade Classics.

### 3.6.4 Sound Test



The Sound Test menu lets you test the stereo sound. When you press **Player-1 Button-1** to select a test from the menu, you will hear the sounds described below, and see a graphic indicating which speaker(s) should be playing the sound:

- **Left Channel Test**: You will hear a voice from the left speaker.
- **Right Channel Test**: You will hear a voice from the right speaker.
- **Stereo Test**: You will hear a voice from both speakers.
- **High Frequency Test**: You will hear a high-pitched sound from both speakers.
- **Low Frequency Test**: You will hear a low-pitched sound from both speakers.

### 3.6.5 Video Test



The Video Test displays screens that can be useful when making adjustments to the monitor. After selecting **Start Video Test**, press **Player-1 Button-1** repeatedly to cycle through Red, Green, Blue, Color Bars, and Pin Cushion screens.

Reach through the coin door and use the monitor remote control board, located on the side wall, to adjust the monitor. The board is secured to the cabinet wall with Velcro®, so you can bring it out through the coin door to make it easier to adjust the monitor.

# Chapter 4 — Software Restoration



Perform the following steps if you need to restore the software on your system.

1. With the cabinet turned on, insert the System Installation CD in the DVD-ROM drive.

2. Cycle the power (turn the cabinet off and then on again).

3. On reboot, you will see the installation menu.

4. Highlight **Format and Install** and press **Player-1 Button-1**.  The software will install.

5. When the install is complete, the Operator Menu will appear.  Remove the CD from the drive.

6. After the Operating System (OS) has been re-installed, all games must be re-installed.  See *Re-Install Gamepack* on page 17 for details on installing the Game Base Pack.

# Chapter 5 — Service and Repair

**CAUTION:  GLOBAL VR assumes no liability for any damage or injuries incurred while servicing the cabinet.  Only qualified service personnel should perform service and installation of cabinet hardware.**

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

**Please read the service instructions before working on the cabinet.**

**Always turn the cabinet OFF and disconnect the AC power cord before performing any repair work.**

## 5.1 Opening the Control Panel

If you need to check connections to the buttons, trackball, or joysticks, or perform maintenance on these components, remove the four (4) screws from the corners of the control panel surface and carefully lift up the control panel, being careful not to pull the wires.

## 5.2 Button Service

Open the control panel as described in section 5.1 and refer to the picture below if you need to replace a button or micro switch.

To remove the micro switch, gently rock it to the side.  To remove the button from the control panel, unscrew the retaining ring.
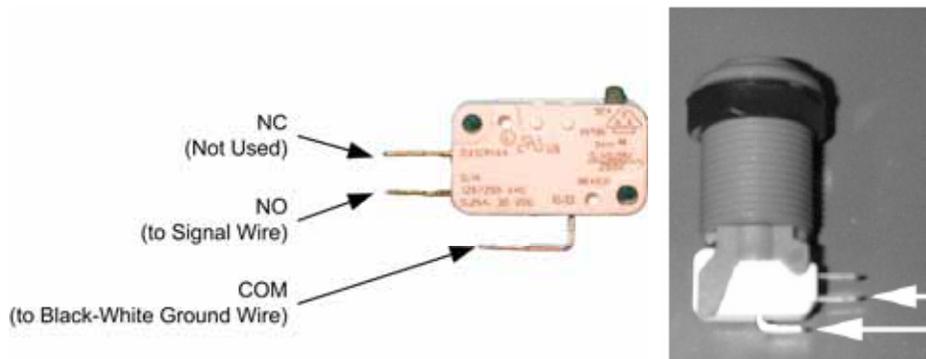


*Figure 5.  Button Micro Switch Wiring*

## 5.3 EXIT GAME Button Service

The **EXIT GAME** button is lit by a 12 VDC lamp. Refer to the picture below if you need to replace the button, micro switch, or lamp.

To remove the lamp and micro switch from the button housing, grip the assembly and turn it slightly. To replace the bulb, pull it straight out of the housing.

To remove the button from the control panel, unscrew the retaining ring.
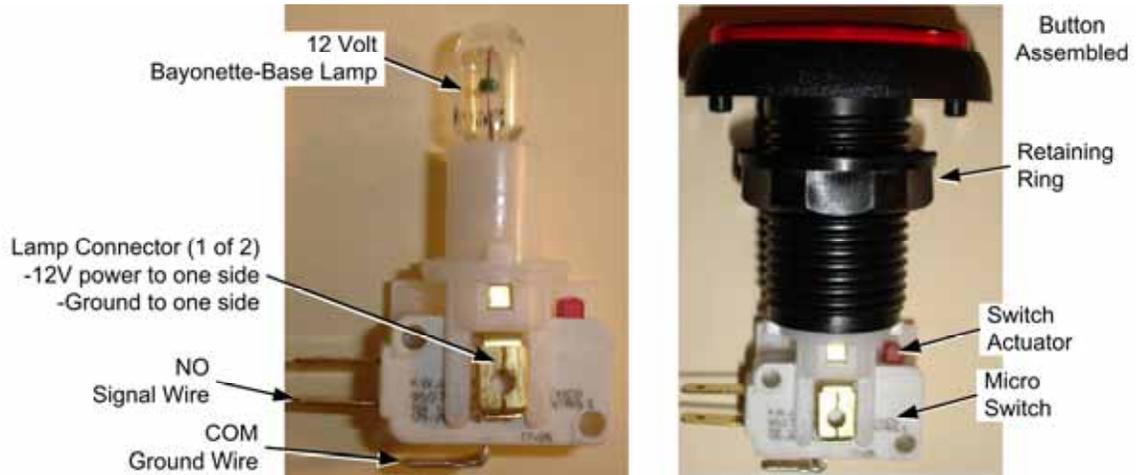


*Figure 6. EXIT GAME Button Wiring*

## 5.4 Trackball Service

This section describes the steps for disassembling the trackball to clean or replace parts. Refer to page 32 for an exploded-view diagram of the trackball.

1. Disconnect the cabinet AC power cord.

2. Open the control panel as described in section 5.1.

3. Disconnect the trackball harness.

4. Remove the four nuts that secure the lower mounting bracket under the trackball. Note the locations of the two ground wires for reassembly.

5. 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.**

6. 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.

7. 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.

8. Carefully separate the plastic housing and remove the trackball. Wash the trackball with mild soap and water, and dry.

9. 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®, 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.

10. 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.)

11. Go to the Diagnostics Menu in the Operator Menu and verify proper trackball operation.

## 5.5 8-way Joystick Service

The cabinet has two 8-way joysticks. Refer to Figure 7 if you need to replace or repair a joystick.

Open the control panel as described in section 5.1, and use a 3/8" deep socket to loosen or tighten the joystick mounting nuts.

Make sure the joystick actuator is installed in the 8-way position as shown in Figure 7. The end that is slightly wider (thicker plastic) should face upwards, towards the handle.

If the actuator is not installed as shown, the joystick will operate in 4-way mode only. The Global Arcade Classics software uses the 8-way joystick, and simulates a 4-way joystick for games that originally used 4-way joysticks.

The actuator is the part that activates the micro switches as the joystick is used. To verify it is installed correctly, move it diagonally and visually confirm that two micro switches are activated.
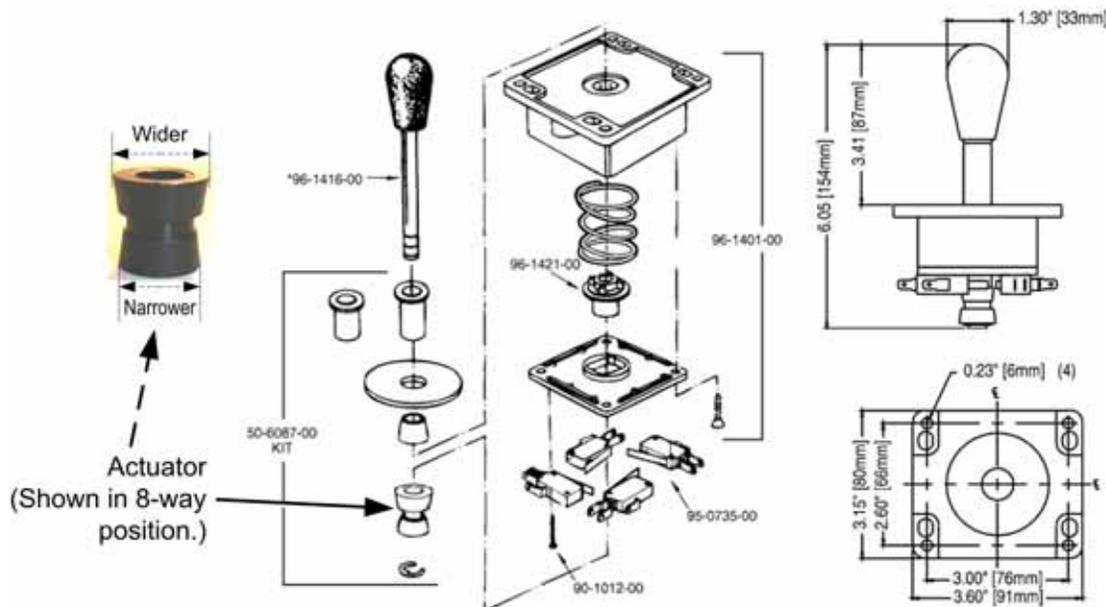


*Figure 7. Joystick Exploded View*

## 5.6 USBlinx II PCB and Fuses

The USBlinx II PCB is mounted to the cabinet side wall above the computer. It receives DC power from the computer. 5 Amp fuses in the +5 and +12 VDC power inputs protect the PCB. If DC-powered devices in the cabinet are not working, check for shorted wiring, and then check the fuses.
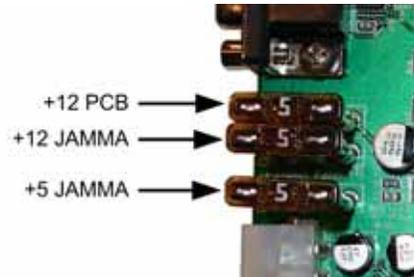


*Figure 8. Fuses on the USBlinx II PCB*

## 5.7 Speaker Service

Perform the following steps if you need to check or replace the speakers.

1. Remove the four (4) screws from the corners of the speaker panel above the monitor.

12. Slide the speaker panel outwards to remove it from the cabinet.

13. To replace a speaker, remove the four (4) screws that secure the speaker to the panel.

14. Remove the two speaker wires and connect them to the same terminals on the replacement speaker.

## 5.8 Monitor Replacement

| ⚠ | Components in the monitor assembly can be charged with a very high voltage even when powered off. Refer to the monitor manufacturer's manual before performing any service procedures on the monitor. |
|---|---|
| **WARNING** | The monitor is heavy. Follow proper lifting procedures. |

Perform the following steps if you should need to replace the monitor.

1. Disconnect the cabinet AC power cord.

2. Remove the back door from the cabinet and disconnect the power and video cables from the back of the monitor. Secure the monitor remote control board and its cable to the monitor frame so it will not get caught or pulled when you remove the monitor.

3. Remove the four (4) four screws from the corners of the control panel.

4. Remove the four (4) screws from the corners of the speaker panel above the monitor.

5. Slide the speaker panel outward enough to carefully lift the glass display shield out from in front of the monitor.

6. Remove the monitor bezel.

7. Remove the four (4) bolts that secure the monitor to the mounting frame and remove the monitor through the front of the cabinet.

8. Reverse these steps to install the replacement monitor.

## 5.9 Cabinet Power and Grounding

The AC power plate on the back of the cabinet, shown below, provides the external AC power connection. An AC EMI Filter in the power plate removes electrical noise that could cause interference with the hardware inside the cabinet.

AC power from the power plate is connected to a double-pole, single-throw ON/OFF switch on top of the cabinet, and then routed to an AC power strip/surge suppressor. This power strip provides AC power to all cabinet components. There is also a ground wire from the power plate to the switch plate, and from the switch plate to the power strip.

If the cabinet has no power, make sure the ON/OFF switches on the power strip, power plate, and switch plate are all ON. Also check the 6A Slo Blo fuse in the power plate and replace if blown.

**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 in the figures below. Do **not** ground to the power plate mounting bolts.
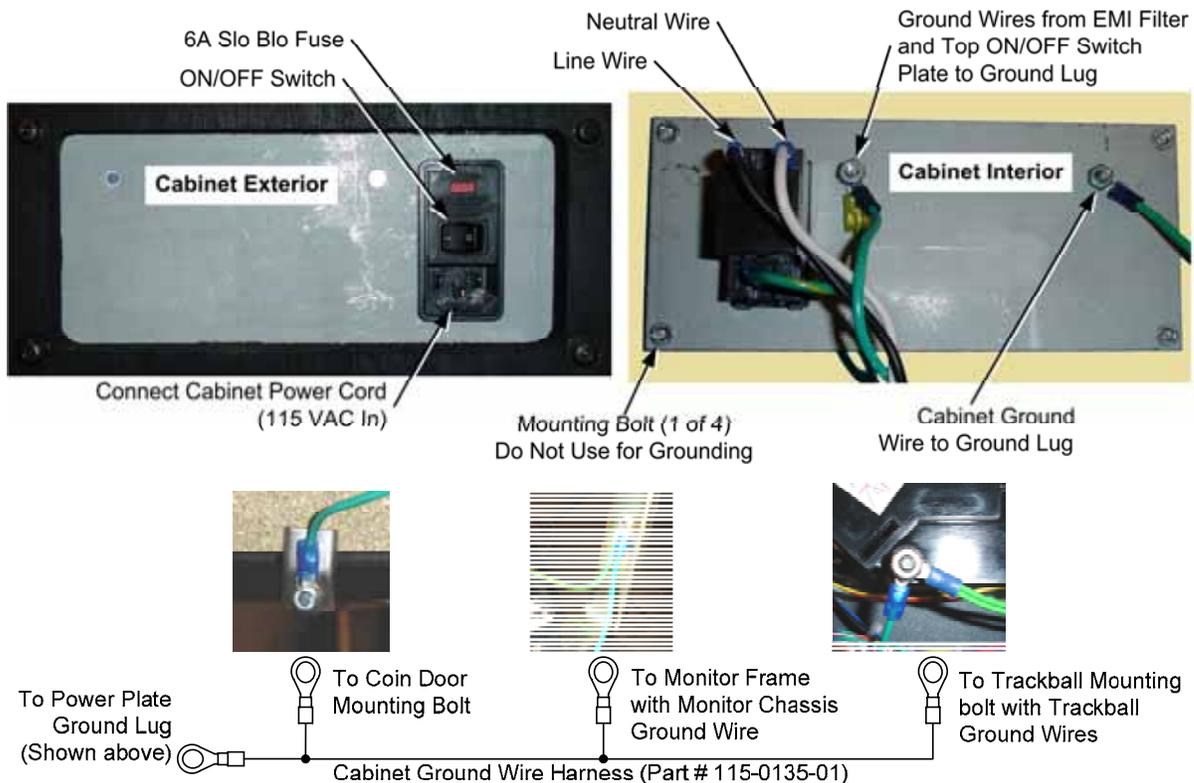


*Figure 9. AC Power Plate and Cabinet Ground Wires*

### 5.9.1 AC Power Strip Replacement

Perform the following steps if you need to replace the power strip:

**CAUTION:  Disconnect the AC power cord before performing this procedure.  Be sure to connect each wire to the correct power plate terminal.  The ground wire must be securely connected to the ground lug on the power plate or the game will not function properly.**

1.  Turn the cabinet OFF and disconnect the AC power cord.

2.  Disconnect all components from the power strip.

3.  Note which wire from the power strip connects to each terminal of the switch plate (see Figure 13 on page 38), and then disconnect the wires from the switch plate.

4.  Remove the power strip; it is held in place with Velcro.

5.  Replace the power strip only with a similar unit from GLOBAL VR (part # 49-0963-40).  Do not attempt to use a different power strip.  Be sure to connect each wire to the correct terminal.

## 5.10  Setting the Computer BIOS (CMOS)

**This procedure applies only to the Intel 915GAG Motherboard.**

**Note:** In the BIOS screens, use the left and right arrow keys (→←) to move between the menus listed at the top of the screen, and the up and down arrow keys (↑↓) to move up and down between menu items, and to change settings for selected items.

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

2.  Use the left and right arrow keys (→←) to select the **Exit** menu.

3.  Use the up and down arrow keys (↑↓) to select **Load Optimal Defaults**, and press **Enter**. A confirmation box will appear. With **Ok** selected, press **Enter**.
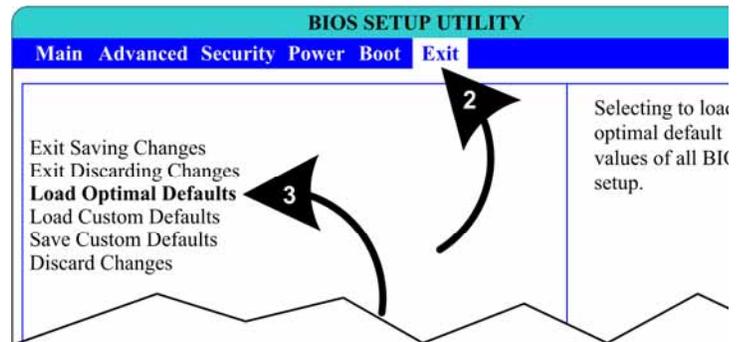


4.  Use the left and right arrow keys (→←) to select the **Boot** menu.

5.  Use the up and down arrow keys (↑↓) to select **Silent Boot,** and press **Enter**. A pop-up window will appear. Use the up and down arrow keys (↑↓) to select **Disabled,** and press **Enter**.

6.  Use the up and down arrow keys (↑↓) to select **Boot Device Priority,** and press **Enter**. A device list will appear.

7.  Use the up and down arrow keys (↑↓) to select **1st Boot Device,** and press **Enter**. A pop-up window will appear. Use the up and down arrow keys (↑↓) to select the **DVD-ROM** drive, and press **Enter**. The hard drive will automatically be set as the 2nd Boot Device. Press the **Esc** key to exit from the submenu.
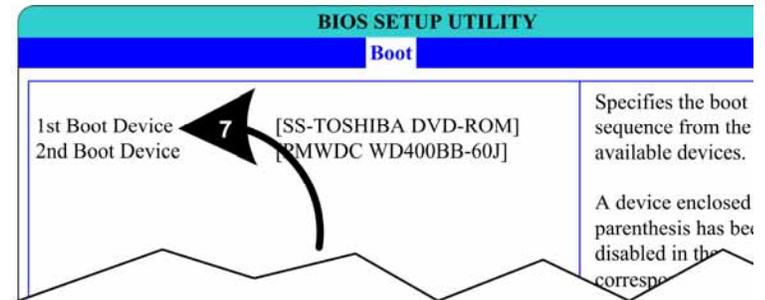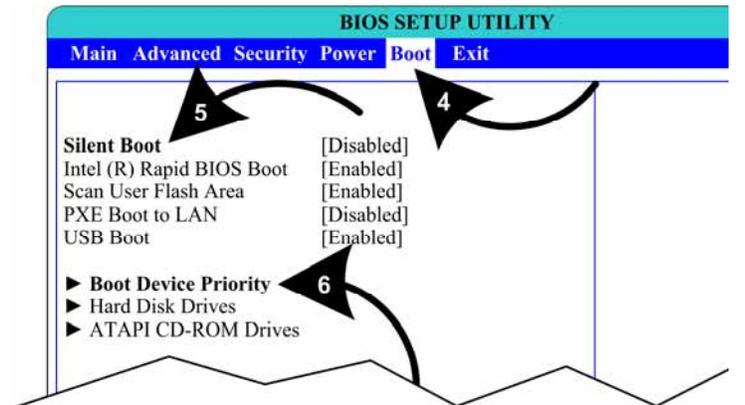
8. Use the left and right arrow keys (→←) to select the **Power** menu.

9. Use the up and down arrow keys (↑↓) to select **After Power Failure,** and press **Enter**. A pop-up window will appear. Use the up and down arrow keys (↑↓) to select **Power On,** and press **Enter**.

**BIOS SETUP UTILITY**

Main  Advanced  Security  Power  Boot  Exit

► ACPI

**After Power Failure**        [Power On]

The options below are no
Be ignored when shutting

Wake On PCI PME

Stay Off
Last State
**Power On**

Determines the
operation if a po
loss occurs. Sta
system will rem
once pwoer is re
Power On, boot
system after po
restored. Last S
restores the syst
the same state it
before power fa

↔      Select Scr
↑↓      Select Iter
Enter  Select Sul
F1      General H
F9      Setup Def
F10    Save and I
ESC   Exit

10. Use the left and right arrow keys (→←) to select the **Advanced** menu.

11. Use the up and down arrow keys (↑↓) to select **Floppy Configuration,** and press **Enter**. The **Floppy Configuration** menu will appear. Use the up and down arrow keys (↑↓) to select **Diskette Controller**, and press **Enter**. Use the up and down arrow keys (↑↓) set the Diskette Controller to **Disabled**, and press **Enter**. Press the **Esc** key to exit from the submenu.

**BIOS SETUP UTILITY**

Main  Advanced  Security  Power  Boot  Exit

Setup Warning:
Setting items on this screen to incorrect values
may cause your system to malfunction!

► PCI Configuration
► Boot Configuration
► Peripheral Configuration
► Drive Configuration
► **Floppy Configuration**
► Event Log Configuration
► Video Configuration
► **USB Configuration**
► PCI Configuration
► Chipset Configuration
► Fan Control Configuration
► Hardware Monitoring

↔      Select Scr
↑↓      Select Iter
Enter  Select Sul
F1      General H
F9      Setup Def
F10    Save and I
ESC   Exit

12. Use the up and down arrow keys (↑↓) to select **USB Configuration,** and press **Enter**. The **USB Configuration** menu will appear. Use the up and down arrow keys (↑↓) to select **High-Speed USB**, and press **Enter**. Use the up and down arrow keys (↑↓) change the setting to **Disabled**, and press **Enter**. Press the **Esc** key to exit from the submenu.

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

| Save configuration changes and exit now? |
|---|
| **[Ok]**    [Cancel] |
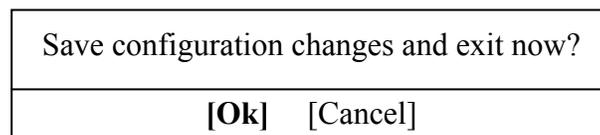
14. Make sure **Ok** is selected (use the arrow keys to select if necessary) and press **Enter**.

# Chapter 6 — Replacement Parts

## General Parts

| Item Number | Item Description |
|---|---|
| 040-0140-01 | System Manual |
| 050-0110-01 | System Installation CD |
| 050-0111-01 | Game Base Pack DVD |
| 115-AUDMINI-CBL | Audio Cable, 3.5 Mini-Stereo 6' |
| 115-TRKBALL-CBL | Trackball Cable |
| 115-USB06AB-CBL | USB Cable, A/B Male to Male 6' |
| 250-BLUEBTN-HAP | Pushbutton, Horizontal, Blue |
| 260-MAK25-MAK | Monitor, Makvision, 25" |
| 40-0697-01 | Coin Door Assembly |
| 45030-00 | Cabinet Ventilation Fan Assembly |
| 49-0963-40 | 7-Outlet Power Strip with Surge Protector |
| 49-1001-00 | Florescent Light Fixture, 18" |
| 56-0100-11HLGVR | 3" Trackball Assembly |
| 255-SUP8WAY-HAP | 8-Way Joystick Assembly |
| 990-0015-01 | Headphone Jack PCB |
| 990-USBLNX2-UCT | USBlinx II PCB |
| GAC-AW-01 | Artwork, Left Side Decal |
| GAC-AW-02 | Artwork, Right Side Decal |
| GAC-AW-03 | Artwork, Marquee |
| GAC-AW-04 | Artwork, Control Panel |
| GAC-AW-05 | Artwork, Headphone Panel |

## Trackball Parts

| REF. | QTY. | PART NO. | 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 |
| 13 | 1 | 90-1013-00 | TIE WRAP 4" LENGTH, SOLD EA. |
| 14 | 1 | 95-1828-00 | TRACKBALL MOUNTING SHIM |
| 15 | 2 | 43-2253-00 | SCREW 4-40 X 3/8 PHIL TRUSS HEAD MS W/LIGHT PATCH ZINC |
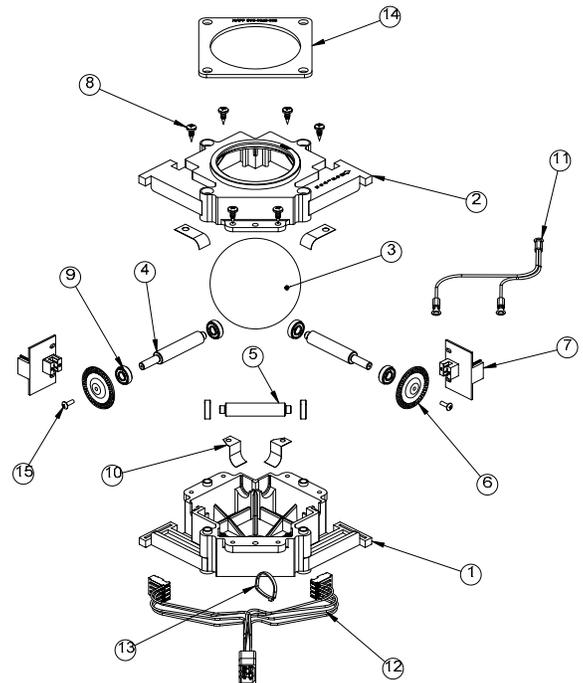


*Figure 10.   Trackball Exploded-View Drawing*

# Chapter 7 — Troubleshooting

## 7.1 Video Troubleshooting

| Problem | Cause | Possible Solution |
|---|---|---|
| No picture on monitor | Power problem | Check the AC power connection to the monitor. You can verify that the monitor has power by looking for a dim glow in the neck of the CRT. |
| | Loose or faulty video cable | Verify that the video cable is firmly connected from the monitor to the VGA port in the computer. Make sure the cable is not pinched or frayed. To verify video is working at the computer, connect a VGA computer monitor. |
| | Blown fuse on monitor chassis | Refer to the monitor manufacturer's manual and check the fuse on the monitor chassis. |
| Picture is dim or faded | Brightness/contrast needs adjustment | Use the monitor remote control board to adjust the brightness and contrast settings. |
| Picture color is poor | Color needs adjustment | Use the monitor remote control board to adjust the red, green, and blue color settings. Use the color screens from Video Test in the Operator Menu to aid in adjusting colors. |
| Picture geometry is misaligned | Geometry needs adjustment | Use the monitor remote control board to adjust the picture height and width, and other geometry. Use the pin cushion screen from Video Test in the Operator Menu to aid with adjustments. |
| No video and no audio | No power to computer | Verify the computer is ON by the LED on the front of the computer. Verify the line voltage switch on the back of the computer is set to the correct voltage for your area (115V or 230V). Make sure the AC power cord is firmly connected to the computer and the power strip, and the power strip LED is on. Turn off the power strip, wait 20 seconds, and then turn it back on to reboot the computer. If the computer does not power on, make sure the On/Off switch on the back of the computer is in the On (I) position. Make sure that *After Power Failure* in the BIOS is set to *Power On* (see page 28). |
| | Corrupted software | Restore the software (see page 24). If you continue to have problems, you may have a faulty hard drive. |
| | Faulty hard drive | If you continue to have problems after you restore the software, you may have a faulty hard drive. Contact Technical Support. |

## 7.2 Audio Troubleshooting

| Problem | Cause | Possible Solution |
|---|---|---|
| No audio OR Poor sound from one or more speakers | Volume set too low | Adjust the audio from Sound Settings in the Operator Menu. |
| | Faulty wiring | Verify that all the wires are firmly connected to the speakers, USBlinx II PCB, headphone jack PCB, and **green** computer audio port. Verify that each wire is connected to the correct port and no wires are frayed or improperly shorting to ground. |
| | Blown speakers | Remove the speaker panel and inspect each speaker for visible damage. Run the Sound Test from the Operator Menu to verify each speaker is working. |
| | Reversed wires | A weak or low muffled sound is a sign of reversed speaker wires. Check for reversed wires on each speaker. |
| | Faulty USBlinx II PCB | To verify audio is working at the computer, connect stereo headphones to the **green** computer audio port. |
| | Faulty headphone jack PCB or audio cable | Connect the audio cable directly from the computer to the USBlinx II PCB. If audio still does not work, try a different audio cable. |
| No audio & no controls | USBlinx II PCB connected to a faulty USB port | Try connecting to a different computer USB port. Try a different USB cable. Reboot the game. |
| Audio hum | Faulty power supply | A constant low hum in the speakers can be caused by a faulty power supply in the system computer. |
| | Open ground | Check all ground wires in the cabinet.  Make sure the AC wall outlet is properly grounded. |

## 7.3 Control Troubleshooting

| Problem | Cause | Possible Solution |
|---|---|---|
| Buttons do not work | Faulty micro switch | Replace the micro switch on the button and re-test. Verify that the wires are connected to the correct spades on the micro switch (see page 25). |
| | Faulty wiring | Disconnect the cabinet from AC power. Verify that all wires are firmly connected to each button and the USBlinx II PCB. Verify that no wires are frayed or improperly shorting to ground. Verify that wires are connected to the correct spades on the micro switches. |
| | Faulty USBlinx II PCB | Make sure that all connections to the USBLINX II PCB are secure. Replace PCB if faulty. |
| Controls do not work & audio does not work | USBLINX II PCB connected to faulty USB port or cable | Try connecting to a different computer USB port. Try a different USB cable.  Reboot the game. |
| Joystick does not work in some directions | Faulty wiring or micro switches | Check all wires to the joystick. Test the four joystick micro switches (see page 27). If the joystick does not work in diagonal directions, make sure the actuator is in the 8-way position (see page 27). |

| Problem | Cause | Possible Solution |
|---------|-------|-------------------|
| Trackball does not work | Faulty wiring | Check the trackball connector. Verify that no wires are frayed or improperly shorting to ground. |
| Sloppy or poor trackball response | Dirty trackball or faulty TTL sensors | To clean trackball components or replace the sensors, see page 26. |

## 7.4 Miscellaneous Troubleshooting

| Problem | Cause | Possible Solution |
|---------|-------|-------------------|
| No power | Power strip not plugged in or turned off | Make sure the power indicator light on the power strip is on. If it is off, make sure the connections to the AC power plate terminals are secure and the power strip ON/OFF switch is ON. |
| | Cabinet not connected or turned off | Make sure the AC power cord is firmly connected to the power plate and an active AC outlet, and **both** cabinet ON/OFF switches are ON. |
| | Blown fuse in power plate | Check the fuses in the power entry module in the power plate. |
| Cabinet gets very warm | Faulty ventilation fan | Verify that the ventilation fan is working. It is located behind the grill at the top of the cabinet. Make sure the fan is connected to the AC power strip. Replace the fan if it is worn or spinning slowly. |
| | Cabinet ventilation holes are blocked | Make sure you have adequate clearance between the cabinet rear and the wall. Make sure the vent holes are clear of dust and debris and that air can flow freely. |
| Marquee lamp does not light or is intermittent | Faulty florescent tube | Check the florescent tube for darkened or cracked ends. Replace the florescent tube if it looks worn. |
| | Faulty florescent fixture | Verify the florescent tube pins make a good connection with the lamp fixture. Check the ballast for proper operation. Replace fixture if faulty. |
| Improper number of credits given when coins are inserted | Incorrect setting in Operator Menu | Adjust from Credit/Coin Settings in the Operator Menu. |
| | Faulty wiring | Disconnect the cabinet from AC power. Verify that all wires are firmly connected to the coin mech. Verify that no wires are frayed or improperly shorting to ground. |
| | Faulty coin mech | Verify the coin mech is not jammed. Make sure the coin mech is properly aligned and latched to the coin door. Repair or replace if faulty. |
| Game will not exit from Operator Menu | Corrupted software or faulty hard drive | Restore the software (see page 24). If the problem recurs, the hard drive may be faulty. Contact Tech Support. |

# Chapter 8 — Diagrams and Schematics

**Computer Rear Panel Connectors
(Intel 915GAG Motherboard)**

Computer
ON/OFF Switch

Voltage Switch
(115V or 230V)

AC Power Connector

Computer
Power Supply
Cooling Fan

PS/2 Keyboard Port
(Purple)

Computer
Case Fan

Audio Out Port (**Green**)
To IN port on Headphone Jack
(OUT from Headphone Jack to
Audio In on USBlinX II PCB)

USB Ports
One Connection to USB Port
on USBlinx II PCB

**USBlinx II PCB Connectors**

JAMMA
Connector

USB Connector
To System Computer

Button 5 & 6
Connector

Trackball 1 Connector
To Trackball

Audio In
From System Computer
Through Headphone
Jack PCB

VGA Connector
(Not Used)

Fuses

DC Power In
From System Computer

*Figure 11.   Computer and USBlinx II Connections*

**USBlinx II PCB**

## JAMMA Connector

### SOLDER SIDE

| | | |
|---|---|---|
| GND | A | |
| GND | B | |
| +5V | C | |
| +5V | D | |
| -5V | E | |
| +12V | F | |
| Key | H | To Pin 10 |
| Not Used | J | To Pin 11 |
| Not Used | K | |
| L Speaker – | L | |
| R Speaker – | M | |
| Not Used | N | |
| Not Used | P | |
| Service | R | |
| Not Used | S | |
| Coin 2 | T | |
| Player 2 Start | U | |
| Player 2 Up | V | |
| Player 2 Down | W | |
| Player 2 Left | X | |
| Player 2 Right | Y | |
| Player 2 Button 1 | Z | |
| Player 2 Button 2 | Aa | |
| Player 2 Button 3 | Ab | |
| Player 2 Button 4 | Ac | |
| Not Used | Ad | |
| GND | Ae | |
| GND | Af | |

### COMPONENT SIDE

| | | |
|---|---|---|
| GND | 1 | |
| GND | 2 | |
| +5V | 3 | |
| +5V | 4 | |
| -5V | 5 | |
| +12V | 6 | |
| Key | 7 | Coin Meter |
| METER1 | 8 | |
| Not Used | 9 | |
| L Speaker + | 10 | |
| R Speaker + | 11 | |
| Not Used | 12 | |
| Not Used | 13 | To Pin M |
| Not Used | 14 | To Pin L |
| Test | 15 | |
| Coin 1 | 16 | |
| Player 1 Start | 17 | |
| Player 1 Up | 18 | |
| Player 1 Down | 19 | |
| Player 1 Left | 20 | |
| Player 1 Right | 21 | |
| Player 1 Button 1 | 22 | |
| Player 1 Button 2 | 23 | |
| Player 1 Button 3 | 24 | |
| Player 1 Button 4 | 25 | |
| Not Used | 26 | |
| GND | 27 | |
| GND | 28 | |

**Player 3**

| | |
|---|---|
| Not Used | 1 |
| Not Used | 2 |
| Not Used | 3 |
| Not Used | 4 |
| Not Used | 5 |
| Not Used | 6 |
| EXIT Button | 7 |
| Player 1 Button 5 | 8 |
| Player 1 Button 6 | 9 |
| Player 2 Button 5 | 10 |
| Player 2 Button 6 | 11 |

**DC Power In**

| | | |
|---|---|---|
| +12 VDC | 1 | DC Power Harness from System PC |
| Ground | 2 | |
| Ground | 3 | |
| +5 VDC | 4 | |

**USB** — To System PC

**Trackball 1** — To Trackball

**Audio In**

**Headphone PCB**

Audio Out

Audio In — Audio Out from System PC

**Note:** The other connectors on the USBlinx II PCB are not used.

*Figure 12. Wiring Diagram*

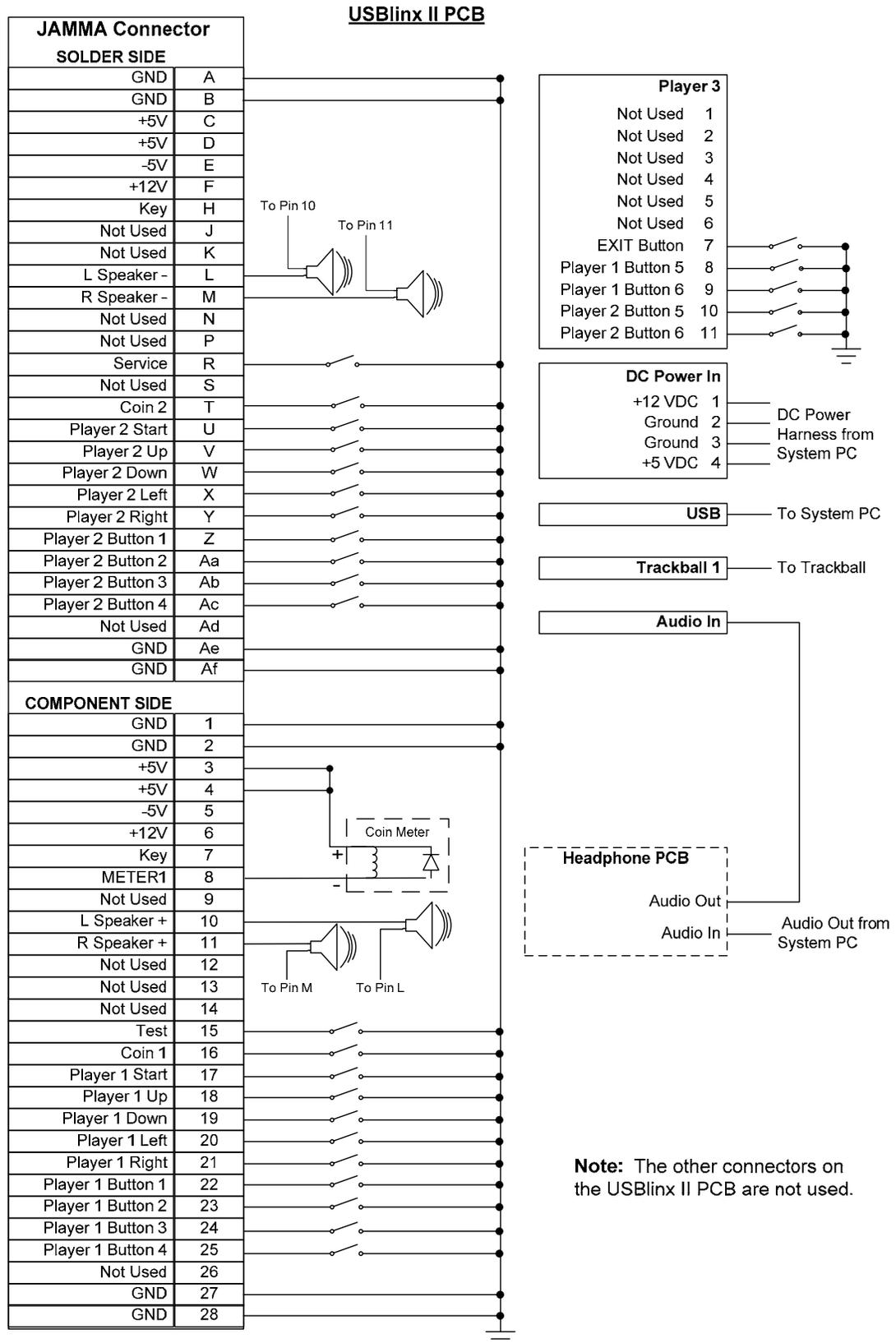*Figure 13. AC Power Distribution Diagram*

# License and Warranty Information

## Warranty Information

If at some point you require warranty service, contact your authorized GLOBAL VR distributor.

### LIMITED WARRANTY

GLOBAL VR® warrants that its computer circuit boards, hard drives, power supplies, monitors, displays, controls, sensors, and mechanical structures are free from defects in materials and workmanship under normal use and service for a period of ninety (90) days from the date of shipment.

All software and accompanying documentation furnished with, or as part of the Product, is supplied "AS IS" with no warranty of any kind except where expressly provided otherwise in any documentation or license agreement furnished with the Product.

During the warranty period, GLOBAL VR® will, at no charge, repair the Product, provided:

- Purchaser believes that the Product is defective in material or workmanship and promptly notifies GLOBAL VR® in writing with an explanation of the claim;
- All claims for warranty service are made within the warranty period;
- Products are returned adequately packed and freight prepaid to GLOBAL VR®'s designated service center;
- GLOBAL VR®'s inspection or test of the Product verifies to GLOBAL VR®'s satisfaction that the alleged defect(s) existed and were not caused by accident, misuse, neglect, unauthorized or attempted repair or testing, unauthorized modification, incorrect installation, vandalism, failure to follow the maintenance schedule or procedures; or operation in out-of-specification environmental conditions.

GLOBAL VR® will return the repaired Product freight prepaid to the Purchaser. All freight costs associated with replacement of warranty parts after expiration of the original warranty period are the responsibility of the Purchaser. GLOBAL VR® is not obligated to provide the Purchaser with a substitute unit or on-site service during the warranty period or at any time. If after investigation GLOBAL VR® determines that the reported problem was not covered by the warranty, Purchaser shall pay GLOBAL VR® for the cost of investigating the problem at its then prevailing per incident billing rate. No repair or replacement of any Product or part therein shall extend the warranty period as to the entire Product. The warranty on the repaired part only shall be in effect for a period of ninety (90) days following the repair or replacement of that part or the remaining period of the Product parts warranty, whichever is greater.

Purchaser's exclusive remedy and GLOBAL VR®'s sole obligation is to supply or pay for all labor necessary to repair any Product found to be defective within the warranty period and to supply, at no extra charge, new or rebuilt replacements for defective parts. If repair or replacement fails to remedy the defect, then, and only in such event, shall GLOBAL VR® refund to Purchaser the purchase price for said Product. Purchaser's failure to make a claim as provided above or continued use of the Product shall constitute an unqualified acceptance of said Product and a waiver by Purchaser of all claims thereto.

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# Technical Support

Free telephone, e-mail, and online support are provided for systems during the warranty period. GLOBAL VR® Technical Support can help you troubleshoot problems and diagnose defective parts. We can also answer questions about the operation of your game.

When you contact Technical Support, please provide the information listed below, as applicable, to assist the Technical Support representative in solving your problem quickly. For your convenience, space is provided to write important numbers.

- Cabinet Serial Number: _____

- Software Version Number (from Operator Main Menu): _____

- MCID Number (from Operator Main Menu): _____

- Game Base Pack DVD Serial Number: _____

- Game Base Pack Unlock Code (Obtained from Service): _____

- Proof of Purchase information

- Your mailing address and telephone number

- A summary of the question or a detailed description of the problem

- Specific error message

- Date of latest install or upgrade

- Any changes made to the system

- For game-play issues, the game and number of players

- To comment on this manual, please e-mail: techpubs@globalvr.com