



VORTEK™ V3 Multi-Game System System Manual 040-1001-01 Rev C

- 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. These cables are equipped with 3-prong plugs to help ensure proper grounding. Do not use adapter plugs or remove the grounding prong from a cable. If you must use an extension cable, use a 3-wire cable with properly grounded plugs.
- To help protect your system from sudden 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

- The avoid injury and accidents, people who fall under the following categories should not play the game:
 - Those who need assistance when walking.
 - Those who have high blood pressure or a heart problem.
 - Those who have experienced muscle convulsions or loss of consciousness when playing a video game or similar activities.
 - Those who have trouble in the neck or spinal cord.
 - Intoxicated persons.
 - Pregnant women.
 - Persons susceptible to motion sickness.
 - Persons who do not abide by the warning labels on the game.
- A player who has never been adversely affected by light stimulus might experience dizziness or headache when playing the game. Small children can be especially susceptible to these conditions. Caution guardians of small children to keep watch over their children during play.
- Instruct those who feel sick during play to see a doctor.
- To avoid injury from falling objects, and electric shock due to spilled drinks, instruct players not to place heavy items, food, or drinks on the product.
- To avoid electric shock or short circuit, do not allow customers to put hands and fingers or extraneous matter in the openings of the product.
- To avoid risk of injury from falling, immediately stop customers from leaning against or climbing on the product.

Warnings

	<p>To avoid electrical shock, unplug the cabinet before performing installation or service procedures.</p>
	<p>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!</p>

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 a Regulatory EMC representative of GLOBAL VR® or 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

VORTEK™ V3 Multi-Game System Description

GLOBAL VR's VORTEK virtual reality system includes the smaller footprint **VORTEK V3**, and the **VORTEK Deluxe**, which provides additional exciting features such as a Force-Feedback Floor. The **VORTEK Deluxe** Force-Feedback Floor is perfectly synchronized with game action, to create an even more realistic experience.

The GLOBAL VR® design showcases the following features:

- Superior graphics with 640x480 resolution
- Far lower operating costs than other VR entertainment systems; competitive with high-end arcade systems
- Easily upgradeable with exciting new game titles
- Six degrees of freedom (DOF) of motion for the user
- Four real motion axes: yaw (turn) left/right rotation, and pitch (tilt) up/down
- Unattended operation, just like all competing arcade units, and unlike all competing VR systems

GLOBAL VR® VORTEK V3 uses a state-of-the-art PC-based interactive visual computing system with Nvidia GeForce graphics. The GLOBAL VR VORTEK Multi-Game software shell allows multiple games to be installed and played on one cabinet at any time. This PC-based configuration allows for periodic new game releases for the VORTEK cabinet, to keep players playing and earnings high.

VORTEK provides the following benefits to operators:

- Consistent earnings
- Multi-Game Shell: Upgrade and install new games for the VORTEK platform at any time. People can choose to play multiple games on one cabinet.
- Multi-player: Operation Blockade and Invasion Earth offer multi-player capabilities, so that players can compete against each other in real time.
- 6 Games on one cabinet: Operation Blockade; Beach Head 2000, 2002, and 2003; Dessert War; Incoming; and Invasion Earth, with more games in development.
- GLOBAL VR's superior reliability

Cabinet Features

Cabinet Dimension

Weight = 650 lbs

Depth = 40"

Width = 29"

Height = 95"



Hardware Features:

- Intel Celeron Computer
- Jaton 3DForce2 MX-64DDR Graphics
- 512 Megabytes of RAM
- 32 bit Color
- 640 x 480 Super VGA Monitor
- 640 x 480 LCD Boom-Mounted Display (BMD)

Chapter 2 — Installing a New Cabinet

Note: Special installation instructions for VORTEK Deluxe Cabinets are provided in the single-sheet Setup Information document (part # 040-0116-01) included with the cabinet.

Basic Setup

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. The 1st set of keys is located in the coin return slot, as shown by the arrow below. The 2nd set is hanging on the inside of the coin mech door, as shown by the circle in the picture below.



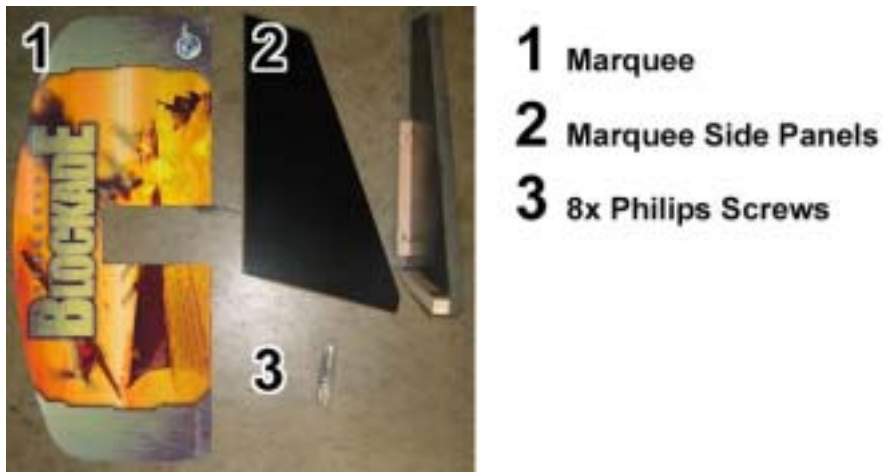
3. Remove the back door from the cabinet and inspect the computer system. Verify that all cables are securely connected, and major assemblies are securely mounted to the cabinet. Refer to *Chapter 8 — Diagrams and Schematics* on page 30 for wiring and connection diagrams.



4. Connect the AC power cord to a grounded (3-terminal) AC wall outlet.
5. Power ON the game using the ON/OFF switch located on the lower rear of the cabinet, and verify proper operation.

Marquee Installation

All of the parts needed to install the VORTEK Marquee on top of the cabinet are included with the cabinet.



1. Install both Marquee side panels onto the top of the cabinet using four (4) Philips screws, as shown by the arrows in the picture below.



2. Next, lower the Boom-Mounted Display and place the Marquee so it goes over the Boom. Secure the Marquee using four (4) Philips screws, as shown by the arrows in the picture below.



Linking Cabinets for Multi-Player Games

Operation Blockade and Invasion Earth allow players to compete in real time on linked cabinets.

To link two cabinets, connect a CAT5 Ethernet cable to the Ethernet port on each cabinet, and connect these two cables to each other with a crossover coupler. VORTEK cabinets are shipped with a 10-foot Ethernet cable and crossover coupler. Software kits that include linkable games also include an Ethernet cable and crossover coupler.

Operation Blockade also allows linking three or four cabinets by using an Ethernet Hub (not included). To link three or four cabinets, connect the Ethernet cable from each cabinet to the Ethernet hub (**do not** use a crossover coupler with an Ethernet hub). You will also have to provide power to the Ethernet hub.

Important: Do not use a crossover coupler to connect two Ethernet cables together to extend the length.

USB Game Dongles

The VORTEK Multi-Game software allows you to install and play up to six games on one cabinet. Each Game requires a USB Game Dongle to activate the game. If you purchased your cabinet with multiple games, all of the games in the kit will be activated by one multi-game dongle. If you buy game upgrades separately, you will receive additional dongles.

When the USB Dongle is installed and working properly, a Red LED will light up inside the Dongle. The dongle must be installed before the cabinet is powered ON or the software may not recognize the dongle. If you see a NO DONGLE message, power the cabinet OFF then ON to see if this resolves the problem.



To install multiple game dongles, use a USB hub to create more USB ports. You can daisy-chain two hubs if necessary, as shown below. You can purchase USB hubs at any computer store. The computer can also be upgraded with additional USB ports in the rear panel, as shown in the drawing on page 30.



Important: Do not connect the USB cable from the HAPP GCI Controller card to the USB Hub as this will cause the card to malfunction.

Chapter 3 — Playing a Game

Starting a Game

With the proper number of credits inserted, use the Headset to scroll up and down to choose the game you want to play, and press the Fire Button in either handle to confirm. (If only one game is installed on your VORTEK cabinet, you will go directly to the Difficulty Level screen.)



At the next screen choose the difficulty of play: Easy, Medium, or Hard. Each Degree of difficulty will add more enemy squadrons to the game and weaken your shield against the enemy. Use the Headset to scroll up or down through the available options and press the Trigger Button to confirm



Playing Beach Head 2000, 2002, or 2003 Games

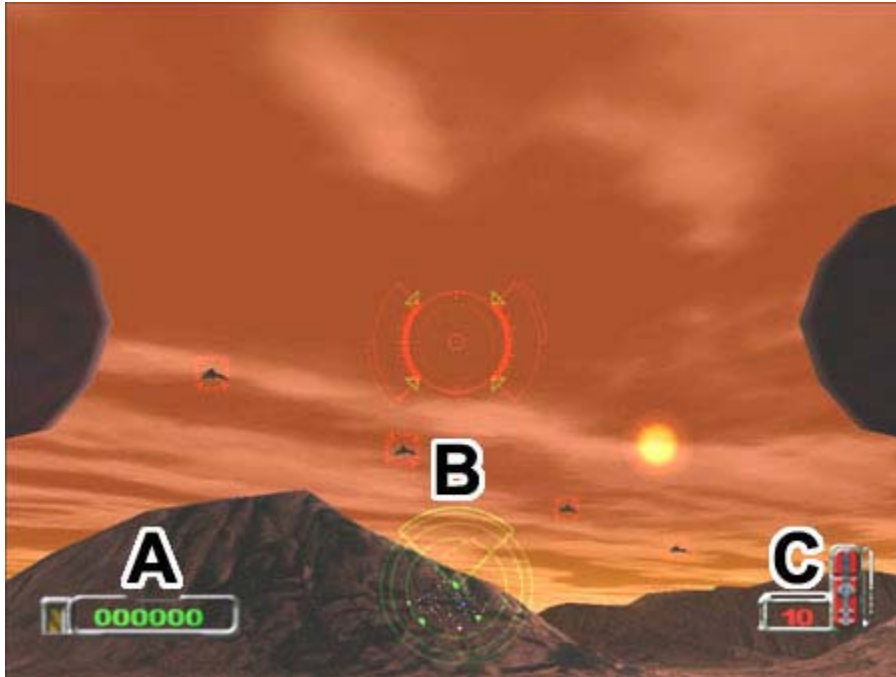


The outer edge of the screen is filled with information bars that help explain where the enemy is, and how many there are. Each information bar is described below. The goal of the game is to defend your post and destroy as much of the enemy as possible.

- A. This Information bar tells you how much of your shield you have left.
- B. This Information bar tells you what level you have achieved in the game.
- C. The Blue Information Bar tells you how many Enemy Aircraft are left to shoot down for this level. The Red Information Bar tells you how many Enemy Land Vehicles or Soldiers are left to shoot.
- D. The Blue and Red Arrows tell you which direction the Enemy is coming from. When the enemy comes into view on your monitor, the arrows will disappear.
- E. This Information bar shows your total score for the game. The more Enemies you strike down, the more points you earn.

Left Thumb Button	This button is used to Change Weapons between Machine Gun Fire used mostly against soldiers, and Cannon Fire used to destroy Tanks and Troop carriers.
Right Thumb Button	This button is used to fire Missiles. Aim Carefully. The Missiles fire in groups of two and it takes a moment to reload them.
Trigger Buttons	These buttons are used to Fire the Machine Gun or Cannon, depending on which one you have selected.

Playing INCOMING



The Radar Scope is used to show what direction the enemy is coming from, and how many there are. Each information bar in the game is described below. The goal of the game is to defend your Radar and your post, and destroy as much of the enemy as possible before they destroy you.

- A. This Information bar tells you your score for the game.
- B. The Radar scope tells you where the enemy is located. Enemy Aircraft are represented in Red on the Radar scope and on the screen. Friendly Aircraft are represented by Blue on the Radar scope and on the screen.
- C. This Information Bar tells you how many Missiles you have left for this level.

Left Thumb Button	These buttons are used to fire Missiles. Aim Carefully. You only get 10 Missiles per level.
Right Thumb Button	
Trigger Buttons	These buttons are used to fire the Machine Gun Cannons at the enemy aircraft.

Playing Operation Blockade

Note: Operation Blockade can be played by multiple players on linked cabinets (see page 9).



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The outer edge of the screen is filled with information bars that help explain where the enemy is and how many there are. Each information bar is described below. The goal of the game is to defend your post and destroy as much of the enemy as possible.

- A. This Information bar shows your total score for the game. The more Enemy you strike down, the more points you earn.
- B. The Blue and Red Arrows tell you which direction the Enemy is coming from. When the enemy comes into view on your monitor, the arrows will disappear.
- C. This shows how many Enemy Tanks, Ships, and Aircraft you have left to shoot down for this level.
- D. This shows which weapon you are using. The weapons to choose from are Anti- Aircraft Gun, Artillery, and Bazooka.

Left Thumb Button	This button is used to Zoom in and out on distant enemy crafts.
Right Thumb Button	This button is used to Change Weapons between the Anti-Aircraft Gun, used against enemy planes; artillery, used to destroy enemy ships; and the Bazooka, used to destroy tanks and small PT cruiser boats.
Trigger Buttons	These buttons are used to Fire the Anti-Aircraft Gun, Artillery, or Bazooka, depending on which one you have selected.

Playing Invasion Earth

Note: Invasion Earth can be played by two players on linked cabinets (see page 9).



The outer edge of the screen is filled with information. Each information bar is described below. The goal of the game is to defend Earth and destroy as many asteroids and alien ships as possible. Shoot Comets to get Weapon and Shield Power-Ups. Information bars may vary somewhat from level to level.

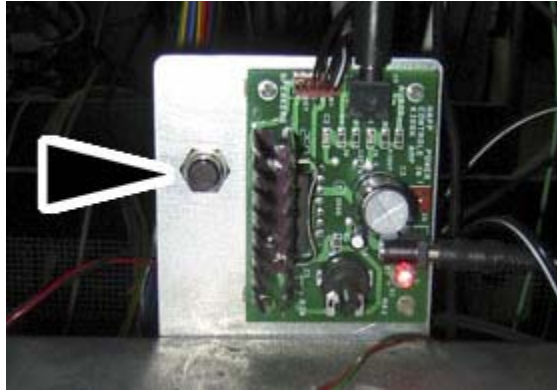
- A. This Information bar shows the condition of the Earth.
- B. This shows your score for the game.
- C. This shows the current game level you are playing. It also counts down when you are close to the end of the current game.
- D. The Blue bar shows your health, and the Red bar shows your shield strength.
- E. This shows the number of shots remaining for a Power-Up Weapon.
- F. This radarscope shows the number and location of Alien Ships and Asteroids, as well as comets that provide Power-Ups.
- G. This provides useful information during the game.
- H. This shows the number of asteroids and enemy vessels you have left to destroy for this level.
- I. The green arrow on the targeting scope shows you which direction the Enemy Asteroids or Ships are coming from.

Left Thumb Button	Hold either of these buttons down to activate your shield. Check the Shield Information bar (D) to see how much longer your shield will last.
Right Thumb Button	
Trigger Buttons	These buttons fire all weapons.

Chapter 4 — Game Operator Menu

All of VORTEK's game audits, game adjustments, and control diagnostics are accessed through the Game Operator Menu. Press the Operator Button behind the coin mech door in the cabinet to activate the Game Operator Menu.

Operator Button



The left side of the Game Operator Menu screens displays the Options menu. The right side displays the settings for each selected option. Use the headset and buttons to navigate the Game Operator Menu and make changes, as described in the following section.

Navigating the Game Operator Menus



Once you enter the Game Operator Menu, use the Headset to move left and right, the Thumb Buttons to move up and down through lists or options, and the trigger buttons to make selections.

As an example, the figure and steps below describe how to use the headset and buttons to change the Attract Volume.



1. Press the Operator Button to enter the Game Operator Menu. The default screen displayed is the Machine Menu.
2. Move the Headset right to move from the Options menu to the Machine Menu main screen, and then use the Thumb Buttons to highlight **Attract Volume**, as shown in Step 1 above.
3. With **Attract Volume** highlighted, press the Trigger button. The **Attract Volume** setting will turn red, as shown in step 2 of the picture above.
4. Press the Thumb Buttons to scroll up and down through the available settings, as shown in step 3, above.
5. When the desired setting is displayed, press the Trigger Button to select this setting. The setting will turn back to white, as shown by the arrow in step 4 of the picture above.
6. Move the Headset left to return to the Options menu.
7. If you wish to change other settings, use the Thumb Buttons to select another item from the Options menu, and press the Trigger button to open the menu screen for that option.
8. To return to the game, use the Thumb Buttons to select **Play** from the Options menu, and press the Trigger button.

Machine Menu



The Machine menu is the default screen displayed when you press the Operator Button to enter the Game Operator Menu.

Serial #	Reserved for future use of Multi-Player or Tournament Enabled Games
Machine Type	Reserved for future use of Multi-Player or Tournament Enabled Games
Hardware Version	Reserved for future use of Multi-Player or Tournament Enabled Games
Inserted Credits	Displays the number of Credits or Coins that are currently inserted on this cabinet.
Reset Credits Button	This button is used to reset the Inserted Credits to zero (0).
Attract Mode Sound	This sets the Attract Mode sound to On or Off.
Attract Volume	This sets the Attract Mode Volume level.
Contact	This is contact information for GLOBAL VR Technical Support.

Game Mode Menu



The Game Mode menu is used to setup the type of money used at your location, the number of coins that are needed to start a game, and game play timeout.

Credit Display	Defines whether Money or Arcade Credits are used to play this cabinet. The options are: Money or Credits.
International Setting	Defines the type of money that will be used in this cabinet. The options are: U.S.A or U.K.
Coins Per \$	Sets how many coin drops it takes to reach a unit of money. In the USA you would probably set this to 4, because 4 quarters equal a dollar. In the UK you might set this to 10, because 10 10-P coins equal a pound. The options are 1—20.
Play Mode	This sets the game to Coin/Money Mode, or Free Play.
Credits Per Game	This number defines how many coins or credits it will take to start a Game.
Credits Per Continue	This number defines how many coins or credits it will take to continue a current Game.
Starting Game Time	This number defines how long a player's game will last in seconds before the Continue Game Message appears.
Continue Time	This number defines how many seconds a continued game will last before the next Continue Game Message appears.

Game Resets Menu



Restore Factory Settings	Restores the Factory Settings listed below.
All Audit Coin Stats	Resets the Coin Audits for the cabinet. This reset does not affect the Lifetime records stored by the game.
All Audit Game Stats	Resets the Game Purchase Audits for the cabinet. This reset does not affect the Lifetime records stored by the game.
All High Score Stats	Resets the Player High Scores for the cabinet. This reset does not affect the Lifetime records stored by the game.

U.S.A. Factory Settings

Credit Display	Money
International Setting	U.S.A.
Coins Per \$	4
Play Mode	Coin/Money Mode
Credits Per Game	4
Credits Per Continue	4
Starting Game Time	160 Sec
Continue Time	140 Sec

U.K. Factory Settings

Credit Display	Money
International Setting	U.K.
Coins Per \$	10
Play Mode	Coin/Money Mode
Credits Per Game	4
Credits Per Continue	4
Starting Game Time	160 Sec
Continue Time	140 Sec

Coin Audits



The Coin Audit menu shows the total number of coins collected for each game, and the cabinet total, as well as the last date and time the stats were reset. The Lifetime Stats are never reset unless you reload the operating system with the System Disk, and show the total number of Games Played for each game, and the cabinet total.

Game Purchase Audit



The Game Purchase Audit menu shows the total number of Games Played for each game, and the cabinet total, as well as the last date and time the stats were reset. The Lifetime Stats are never reset unless you reload the operating system with the System Disk, and show the total number of Games Played for each game, and the cabinet total.

Game Selection



The Game Selection window allows you to disable installed games so that they are not available to play.

Select the box next to a game title and press the Trigger Button to place an “X” next to that game. When you exit the Game Operator Menu, that game will not be available for play in the Multi-Game Selection screen. Disabled games are not deleted and can be re-enabled at any time by removing the “X” in the Game Selection Menu.

Note: Only games installed on your cabinet will be displayed in this menu.

If you have installed a game and it does not appear in the Multi-Game Selection window during the attract mode, or in the Game Selection Menu, check to make sure the USB Game Dongle is inserted correctly. When the USB dongle is inserted correctly and recognized by the Game Software, it will light up with a red LED (see page 9 for more information).

Player Control Test



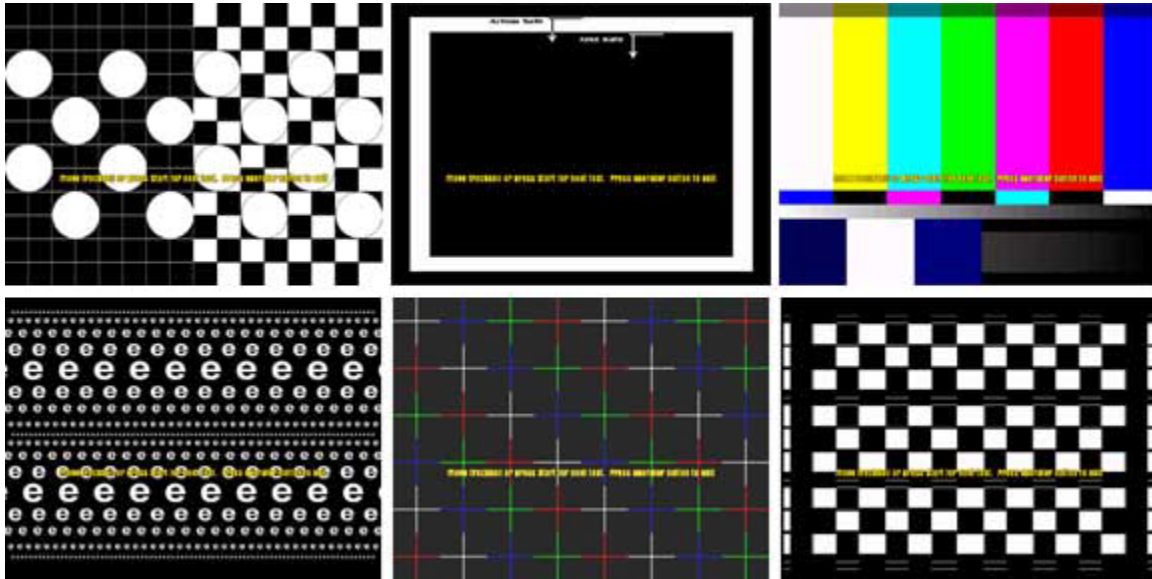
The Player Control Test will validate that the player controls are setup and working correctly.

When you press a button, a red arrow will appear on the test screen, indicating which button was pressed, as shown in the picture above. When you move the Headset in any direction, a red arrow will appear on the screen, indicating the direction that the Headset is moving.

If an arrow fails to appear or indicates the wrong button or direction of movement, check the cabinet wiring for problems.

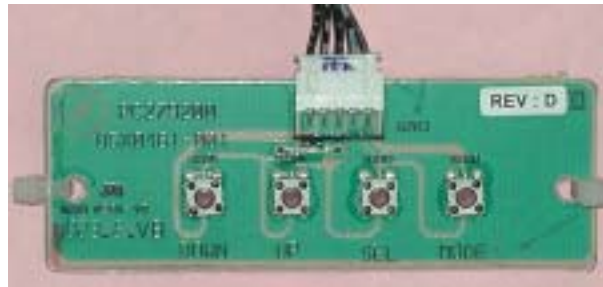
When you are finished testing the player controls, press the Operator Button to exit back to the main Game Operator Menu.

Monitor Calibration Test



When you begin the Monitor Calibration Test, use the Headset Trigger Buttons to scroll through each monitor screen test. To exit the Monitor Calibration Test, press the Operator Button behind the coin mech door. Use each monitor calibration screen test separately to adjust and fine-tune the picture on your monitor. Each screen is designed to either align the horizontal and vertical sync, or adjust the white balance and color hues. If you notice color distortion on the monitor, use the degausser feature from the Monitor Remote Control Panel.

Use the Monitor Remote Control Panel to adjust and fine-tune the picture on your monitor. The panel is located inside the cabinet above the coin door. Use the buttons on the monitor control panel to access a series of menus allowing you to adjust the display size, color, and picture quality.



Chapter 5 — System Disk and Game Install CDs



GLOBAL VR provides CDs for restoring the VORTEK software in the event of problems.

Important: Please be aware that if you use the System Disk, you will erase all games as well as all settings and history for the coin and game audits stored in the game software.

GLOBAL VR is now shipping the Jaton 3DForce2 MX-64DDR video card in VORTEK Multi-Game System cabinets. This video card requires drivers that are supplied on the **Invasion Earth** Game Software CD, or on a separate VORTEK video driver CD. If you need to run the System Disk and re-install the games, follow the steps in this document to ensure that the drivers are installed properly.

Restoring the Operating System with the System Disk

The System Disk installs the Operating System on the computer.

1. Insert the **System Disk** in the CD-ROM drive and turn the computer OFF and then ON. The computer will boot from the CD. You will see the Hard-Drive Image process screens on the monitor.

Note: If the computer does not boot from the CD (the game starts), make sure CDRom is set as the first boot device in the BIOS settings under Advanced BIOS Features. Connect a keyboard and press the DEL key during boot to enter the BIOS setup utility. (See page 28 for more information.)

2. When the Hard-Drive Image process has finished, you will be prompted to remove the CD and reboot the computer.
3. When the computer reboots, a Found New Hardware wizard will appear onscreen.
Note: If your cabinet has a GeForce video card, the wizard will not appear, and you can proceed to install the games.
4. Insert the **Invasion Earth** Game Software CD (or the separate VORTEK video driver CD). The wizard will install the drivers from the CD.
Note: The Invasion Earth game will not be installed at this time.
5. Once the drivers are installed, you will see a dialog box with a Finish button. Remove the CD and reboot the game.
6. Install the Game Software as described in the next section.

Game Software CDs

Note: GLOBAL VR recommends that you install **Operation Blockade** first, and **Invasion Earth** last, as this has proven to be the most successful order to ensure that the games install properly. (Disregard if not installing these games).

The cabinet must be powered ON and running the attract mode to install new game software. If no games are installed, make sure that you see the mouse pointer for the Windows XP Operating System before inserting the game CD.

1. Open the CD-ROM drive and insert a game software CD. Close the drive and the game install will begin automatically. Within 30–60 seconds you will see onscreen information as the game software begins to copy files from the CD-ROM.
2. When the game software has finished installing, the computer will automatically reboot. Once the computer is rebooted, remove the Game software CD and keep it in a safe place.
3. Repeat the previous steps as necessary to install more games. Be sure to insert the CD only when the game is running the Attract Mode.
4. After all games are loaded, synchronize the game software by coining up the machine (insert 3 credits), and then verify that the three credits are shown (i.e., \$0.75) on the monitor. Power cycle the system to complete the synchronization process.
5. Once games are installed, they will appear in the Game Selection Menu and be available for players.
6. Play each game to verify that it is operating properly. Enter the Operator Menu to setup your games and to enable or disable games.

Chapter 6 — Replacement Parts

Description	Qty	Part#
DFI VORTEK Computer	1	DFI-CS35-TL
DFI Computer Mounts	2	V2-0183-00
Jaton 3DForce2 MX-64DDR	1	JAT-400-64DDR
Monitor 27" SVGA 800 x 600	1	49-6157-00
Monitor Bezel 27"	1	49-0106-00
Plastic Helmet Top	1	GVR-0160-00
Plastic Helmet Visor Inside	1	GVR-0106-00
MTL Optics Enclosure Box	1	V3-6050-00
MTL Optics Enclosure PCB	1	V3-6051-00
MTL Mounting Plate	1	V3-6052-00
MTL View Panel	1	V3-6053-00
MTL Face Plate	1	V3-6056-00
Yaw Frame Rev D	1	V3-6149-00
VORTEK Headset Spring	1	C-261
VORTEK Headset Slip-ring	1	V3-AC6460-01
LCD Headset Display 640 x 480	1	LQ64D343
LCD Driver Board	1	FCB-AO-AVG1-SHO
LCD Encoder Board 5 Volts	1	S1-512
LCD Encoder Cables	2	V2-0184-00
Lens Convex Shaped	1	PC300MOD
Control Bar w/ Plate	1	GVR-9070-05
Left Hand Grip	1	50-2943-00
Right Hand Grip	1	50-2944-00
VGA Splitter M-F-F	1	YS-004
BOM VGA Cable 10ft	1	V-1010
BOM Joystick Cable 10ft	1	JS-110
BOM PC Power Cable 12ft	1	V2-420035-00
YAW Bar Cable	1	V2-420-0044-00
USB Cable A to B, 6ft	1	USB-AB06MM
GCI to 15-pin + Audio Cable	1	V3-0190-00
Glo-AMP	1	GLO-AMP
PC-AT 250W Power Supply	1	DSPS250AT
HAPP GCI Controller Card	1	95-0800-30
Coin Door Assembly	1	40-3000-30
GCI Coin Harness Assembly	1	V2-0189-00
Ethernet Hub	1	345-08013-00
VORTEK USB Game Dongle	1	USB-EMMMQ
USB 4-Port Hub	1	V3-USB-4P-HUB
Software, VORTEK System Disk	1	050-0019-01
Software, VORTEK Game CDs	1	Various
Left Side Graphics	1	AW-V3-01
Right Side Graphics	1	AW-V3-02
Marquee	1	AW-V3-03
Console	1	AW-V3-04
System Manual	1	040-1001-01



Description	Qty
Keys, Rear Access Door	2
Keys, Coin Mech	2
Keys, Coin Door	2
PS/2 Keyboard	1

Note: The PS/2 keyboard is provided for future game software updates and diagnostic use. It should **not** be connected to the computer during normal game operation.

Chapter 7 — Troubleshooting

Problem	Possible Solution
Computer does not boot from System Disk	Connect a keyboard and press the DEL key during boot to enter the BIOS setup utility. Look under Advanced BIOS Features and make sure that CDROM is set as the first boot device.
Game Software CD does not Auto Start	Try ejecting the CD and re-Inserting it to re-activate the auto-install process. Verify the CD-ROM tray has fully closed and is not jammed.
Turn Game On and Nothing Happens	Make sure the power cord is plugged into the computer and power strip, and the power strip is on. Make sure the cabinet On/Off switch is on. Confirm the power cord is plugged into a working AC outlet. If the computer boots when you press the power button, connect a keyboard and press the DEL key during boot to enter the BIOS setup utility. Look under Integrated Peripherals and make sure that PWR Lost Resume State is set to Turn On.
White Screen Displayed Game does not Start	This can sometimes occur if Invasion Earth was installed and other games were installed afterwards. Run the System Disk and then re-install all games. Be sure to install Operation Blockade first and Invasion Earth last.
No Picture or Distorted Picture	Check for a bad video cable or faulty video board or monitor. Check for a loose or disconnected video signal cable. Make sure the monitor has power.
No Sound	Make sure the audio cable is connected from the audio amp to the green audio port on the computer. Make sure the amp has power. Make sure the volume pot on the amp is not turned all the way down. Make sure the DC power supply on/off switch is on (see page 28).
No Response from Headset or Buttons	Check that the signal and ground wires are connected to the Headset and buttons. Confirm the HAPP UGCI card is connected to a USB port on the computer (not to a USB hub). Confirm the HAPP UGCI card has power by looking for the Green LED.
No Credit given when Coins are Inserted	Check the settings in the Operator Menu. Check the signal wires between the coin mech and HAPP UGCI card. Check the power wires to the coin mech.
To many Credits for Number of Coins Inserted	Check coins per \$ setting in the Operator Menu.
Game Dongle not found	Check to make sure the USB Game Dongle is connected to the USB port on the back of the computer. If the USB Game Dongle is present and working correctly it should light up with a Red LED. If the dongle is not present, plug it back in and reboot the computer. If you are using a USB hub, test the hub to make sure it is working properly.
No picture on headset monitor	Check the DC power supply. Make sure the DC power supply on/off switch is on (see page 28).

Checking the BIOS Settings (CS35-TL Motherboard)

Press **Delete** key during boot to enter BIOS settings screen. Check the critical settings shown below and change if necessary. Leave other settings at the default values. When finished, select **Save and Exit** and press **Enter**. Select **YES** to confirm.

Menu	Item	Setting
Standard CMOS Features	Halt On	No Errors
Advanced BIOS Features	First Boot Device	CDROM*
	Second Boot Device	HDD-0*
	Third Boot Device	Disabled*
Advanced Chipset Features	Memory Frequency For	DDR266
	Dram R/W Timing	Fast
Integrated Peripherals	PWR Loss Resume State	Turn On

DC Power Supply On/Off Switch




The DC Power Supply on the floor of the cabinet has an on/off switch, shown in the picture above.

Components powered by the DC power supply include the Audio Amp and the headset monitor screen. If these components are not working, press the switch to see if this resolves the problem. When the Audio Amp has power, a green LED will be lit on the board.

Correcting the Monitor out of Range Error

Perform these steps if you see "Monitor out of Range" displayed on the screen.

1. Connect a keyboard to the keyboard port of the system computer and reboot your game. (If you have a mouse, you can connect it to make navigating the menus easier. This procedure describes how to navigate without a mouse.)
2. While the computer is booting, press the **F8** key to enter Safe Mode.
3. Use the **Tab** key to select **Enable VGA Mode**.
4. After Windows starts, press the Windows flag key  on the keyboard (between the Ctrl and Alt keys) to launch the Windows Start Menu.
5. Press the **up arrow** key to select **Settings**, and then press the **right arrow** to select **Control Panel**, and press **Enter**.
6. Use the **arrow keys** to select **Display** from the control panel, and then press **Enter**.
7. In the Display Properties window, use the **Tab** key to select **Themes**, and then use the **arrow keys** to select the **Settings** tab.
8. Use the **Tab** key to select the **Advanced** tab and press **Enter**.
9. Use the **Tab** key to highlight **General**, and the **arrow keys** to select the **Monitor** tab, and then use the **Tab** key to select the **Properties** button and press **Enter**.
10. Press the **Tab** key to highlight **General** and the **arrow keys** to select the **Driver** tab, and then use the **Tab** key to select **Update Driver** and press **Enter**.
11. In the Hardware Update Wizard window, use the **arrow keys** to select **Install from a list or specific location** and press **Enter**.
12. Use the **arrow keys** to select **Don't search. I will choose the driver to install** and press **Enter**.
13. Press the **spacebar** to uncheck the **Show compatible hardware** checkbox and then press the **Tab** key to select the **Model** pane (the right pane).
14. Use the arrow keys to select **Digital Flat Panel (640x480)** and press **Enter**. If you don't see that setting, select **Laptop Display (640x480)**. You should see files being copied.
15. Press **Enter** to select **Finish**.
16. Press the **Tab** key to select **Close** or **OK** and press **Enter** to close each open window.
17. Disconnect the keyboard and mouse and reboot the game.

Note: If you repeat steps 4-7, you should now see **Digital Flat Panel (640x480)** listed in the Display Settings.

Chapter 8 — Diagrams and Schematics

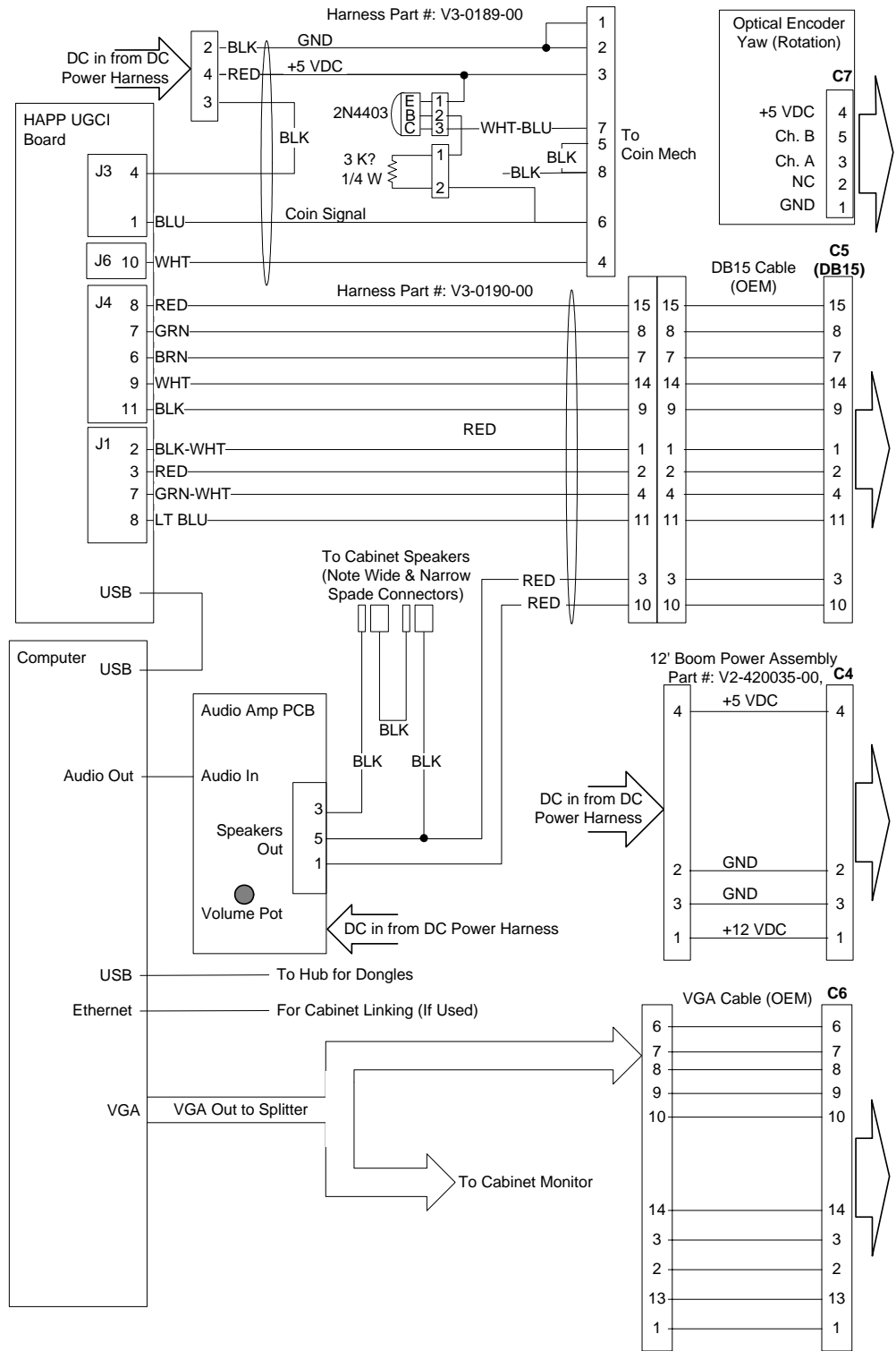


Figure 1. VORTEK V3 Wiring Diagram

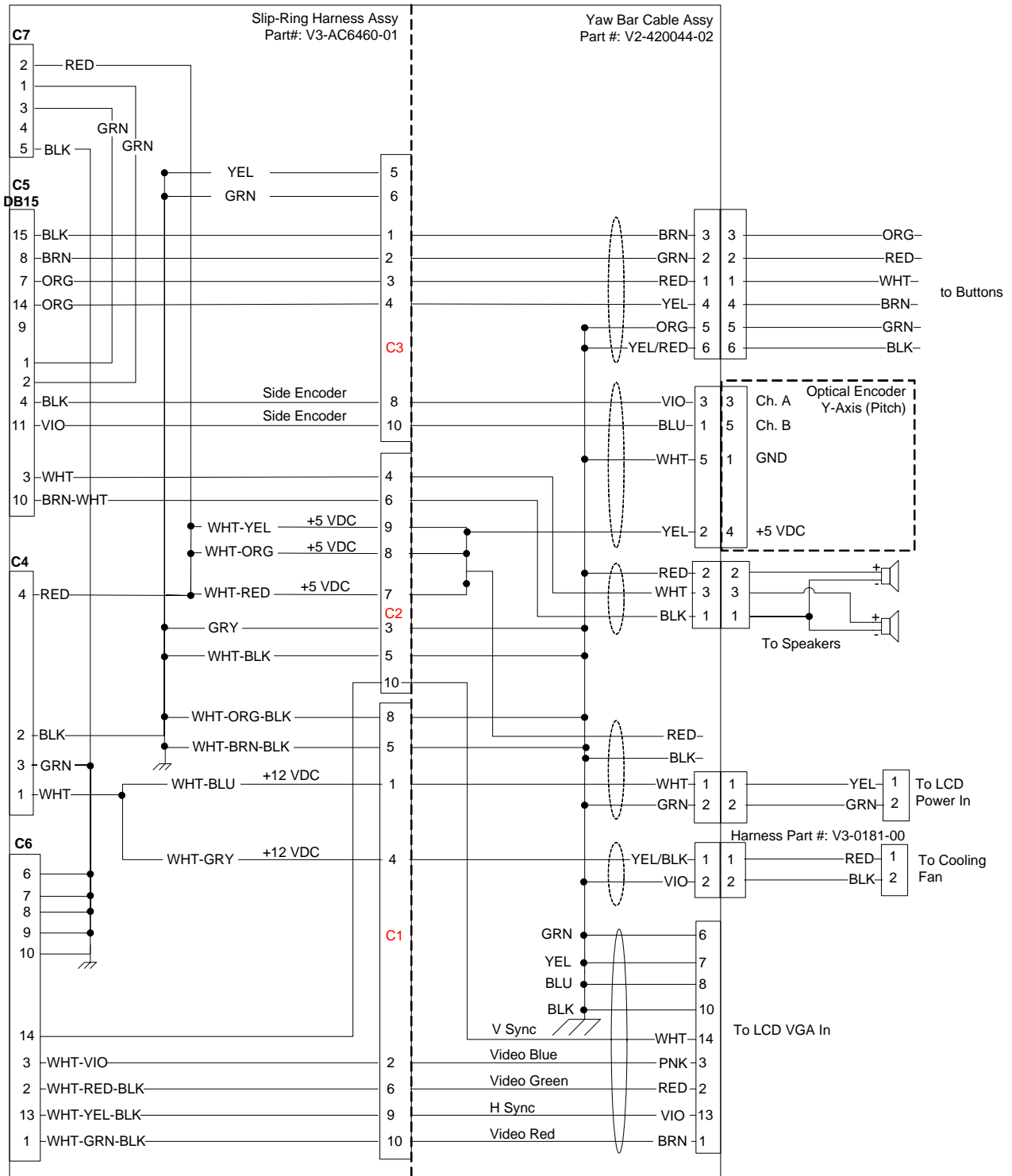
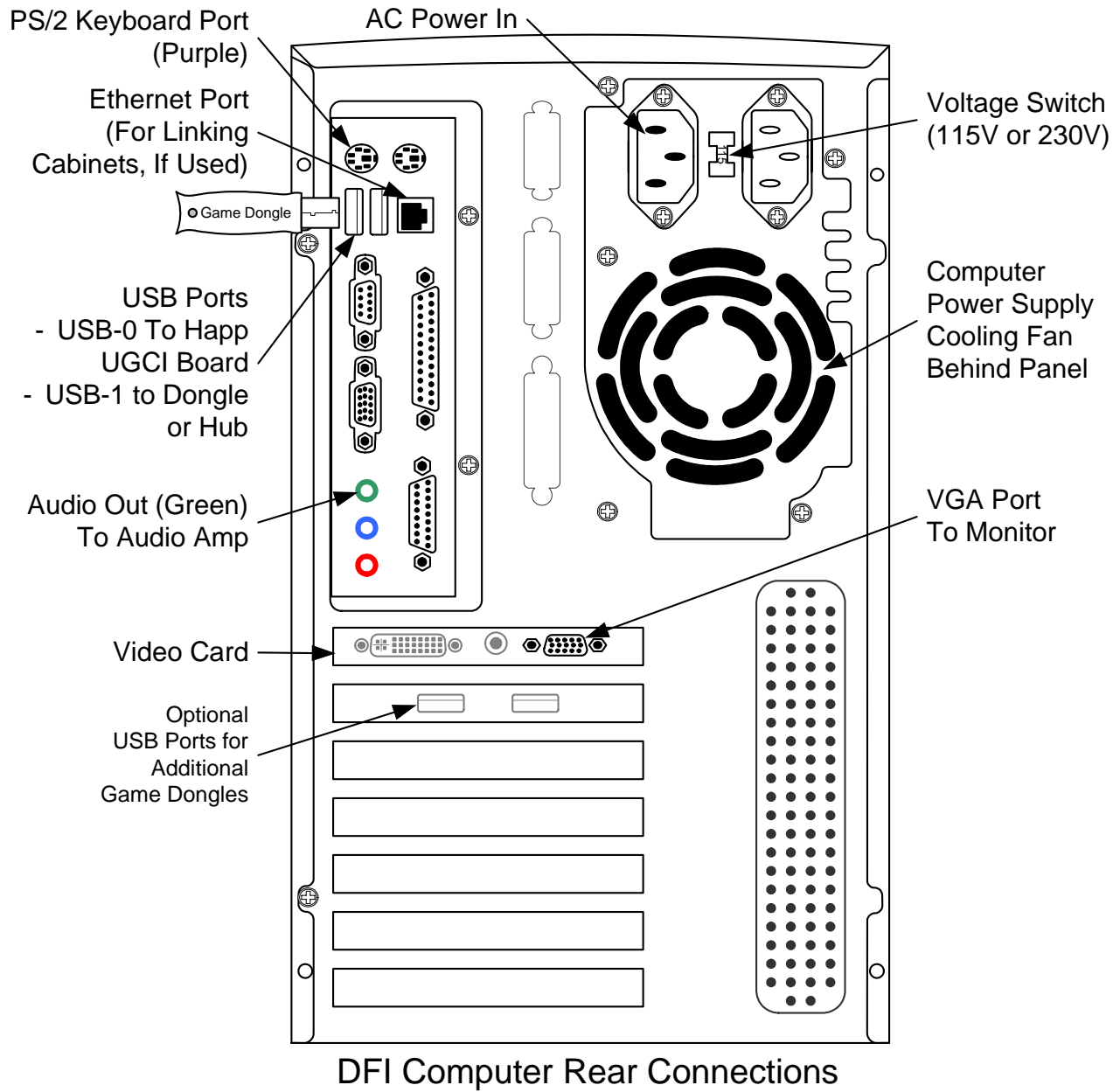


Figure 2. VORTEK V3 Wiring Diagram (Continued)



DFI Computer Rear Connections

Figure 3. Computer Rear Panel

VORTEK Warranty Info

Warranty Service

If at some point you require warranty service, contact your distributor. If the technical support staff determines that parts on your VORTEK cabinet are defective, a Return Merchandize Authorization (RMA) number will be issued.

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:

1. Purchaser believes that the Product is defective in material or workmanship and promptly notifies GLOBAL VR in writing with an explanation of the claim;
2. All claims for warranty service are made within the warranty period;
3. Products are returned adequately packed and freight prepaid to GLOBAL VR's designated service center;
4. 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.

IN NO EVENT SHALL GLOBAL VR BE LIABLE FOR LOSS OF PROFITS, LOSS OF USE, INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM OPERATION OF THE GAME IN ANY CONDITION. GLOBAL VR SHALL NOT BE RESPONSIBLE FOR THE SUITABILITY, PERFORMANCE, OR SAFETY OF ANY NON-GLOBAL VR PART OR ANY MODIFICATION PERFORMED BY ANY PRODUCT DISTRIBUTOR UNLESS SUCH WORK IS EXPRESSLY AUTHORIZED IN ADVANCE BY GLOBAL VR.

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Technical Support

Service & Parts

Hours: 7:00AM–5:00PM Pacific Time, Monday–Friday

Phone: 408.597.3435

Fax: 408.597.3437

E-mail: techsupport@globalvr.com

Website: <http://service.globalvr.com>

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: _____
- Operating System Version and Games Installed: _____
- 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

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