BIG BUCK HUNTER II
SPORTSMAN'S PARADISE

incredible TECHNOLOGIES

PlayMechanix

KIT & DEDICATED

INSTALLATION
MANUAL

Version 03/04

it incredible TECHNOLOGIES

PlayMechanix

FEATURES

- Up to Four Players can Hunt in Head-To-Head Competition!

- Traditional Pump-Action Shotgun

- Photo-Realistic Backgrounds

- Over 200 Authentic and Unique 3D Hunting Scenes

- Hunt All Across the US and Southern Canada

- Hunt in Varying Weather Conditions: Sunlight, Rain, Fog and Snow

- Hunt During Different Times of Day: Early Morning, Afternoon and Night

- Hunt Deer and Elk

- Exciting Bonus Rounds Lets you test your skill on Doves, Pheasant, Squirrel, Duck, Skeet, and a Huge Variety of Targets

- Operator Selectable Bloodless and Tagging Modes

DEDICATED CABINETS

DEDICATED GAME CONTENTS

(1) Big Buck Hunter II Sportsman's Paradise
       Dedicated Cabinet with LED Sign
(1) Gun Assembly
(1) Big Buck Hunter II Manual
 (1) Monitor Manual
 (1) 50 ft. Telephone Cable
(1) Telephone Line Splitter

RECOMMENDED SUPPLIES

Normal telephone outlet that connects to a regular outside line.
Inexpensive telephone, used to test the line connection.

THE CABINET

Your Big Buck Hunter II cabinet comes with the hard drive packed in a padded box inside the cabinet. Install the hard drive carefully. Make sure all of the connectors, wires, harnesses and PCB cards are seated securely in their sockets before applying power.

Power Requirements

Big Buck Hunter II requires requires a 250 Watt ATX Power Supply.

+3 VDC   14 amps
+5 VDC   25 amps
+12 VDC 10 amps

> **WARNING!!!**
> The output level of many "regulated" switching power supplies actually varies with load. For this reason, the power supply from an old game may not be an ATX power supply required for a BIG BUCK HUNTER™ RED BOARD. This makes the existing power supply inappropriate and hazardous to your new game. Use only a 250 Watt ATX Power Supply with the RED BOARD.

Rifle and Holster Clips

Unwrap the rifle and mount it on the two holster clips on the control panel. You will want to calibrate your rifle for best game play results. Refer to the Gun Calibration section for proper calibration and adjustments procedures.

Hard Drive

BIG BUCK HUNTER II uses a hard drive to store its game data. The Hard Drive is shipped in a padded box inside the cabinet. Install the hard drive carefully, as it is very sensitive to shock. Make sure the hard drive is mounted securely and the power and data cables are secure. Refer to the Hard Drive section for proper mounting and replacement procedures.

The hard drive is shipped with a mounting bracket already attached. The bracket protects the electronics from damage due to improper handling. DO NOT REMOVE the bracket, as it may cause damage to the hard drive.

CAUTION!

Hard drives are sensitive to both physical and electrical shock. DO NOT DROP OR KNOCK OVER the hard drive. Avoid shocks and other electrical discharges. DO NOT REMOVE the mounting bracket from the hard drive. Removal may cause damage to the hard drive and will void the warranty. Keep the supplied padded box for shipping any returns. Failure to use the supplied shipping box will void the warranty. DO NOT USE POWER TOOLS.

Returns

The Hard Drive is shipped in a shipping box that is fastened to the inside bottom of the cabinet. Be sure to keep this box, in case you need to move the game or ship the hard drive. Ship the bracket with the hard drive. Do not remove the bracket from the hard drive. Failure to use the supplied box, or removal of the bracket, will VOID THE WARRANTY on the hard drive.

Volume and Test Switches

Your cabinet comes equipped with a bank of buttons mounted inside the coin door. The Test button activates Operator Test mode, for software audits, game adjustables, and system tests can be accessed. Refer to the Operator Test section of this manual for more information.

There are also two Volume control buttons mounted inside the coin door. Press the button on the left to decrease volume, and press the button on the right to increase volume. You can also adjust volume in the Operator Test mode by pressing the Test button.

LED Sign

Your Big Buck Hunter II cabinet has a scrolling LED sign installed in the marquee section of the cabinet. The LED sign is used by ITNet to advertise contests and game features. When the game is not registered to ITNet, the scrolling sign displays basic game features for Big Buck Hunter, as a way to attract players.

When ITNet features are enabled, special messages related to tournaments or contests will be sent through the phone line for automatic display. If the LED is required to be off in your state or location, it can be disabled in Operator Adjustables mode.

Card Reader

Your Big Buck Hunter II cabinet contains a card reader unit that is installed in the front of your cabinet. Players and operators use the card reader for access to exciting online game features. Make sure the card reader's power and data connectors are seated properly. Use the Card Reader test in Operator Test Mode to make sure the card reader is working properly.

Monitor

Your Big Buck Hunter II cabinet comes equipped with a digital monitor set to mid-res. Big Buck Hunter II dedicated cabinets support mid-res monitors, offering superb graphics and brilliant colors. Big Buck Hunter KITS support both low-res and mid-res monitors. Because this shooting game uses light to track targets and determine aiming, a properly adjusted monitor is extremely important. Make sure your monitor is adjusted properly for best game play results.

Security Bar

Big Buck Hunter II comes with a heavy-duty security bar, to help you protect your cash box. Use a strong padlock (not included) to lock the security bar in place.

DIP SWITCH SETTINGS

The **SW51-Dip switches** can be found on the main PCB near the JAMMA connector.

Dip Switch 1 (ON):	Normal Play (DEFAULT)
Dip switch 1 (OFF):	OPERATOR MODE
Dip switch 2 (ON):	Regular Targeting (DEFAULT)
Dip switch 2 (OFF):	Secondary Targeting
Dip switch 3 (ON):	Always "ON" (DEFAULT)
Dip switch 4 (ON):	Always "ON" (DEFAULT)

The **SW5-Dip switches** can be found near the flashing green LED.

Dip switch 1 (OFF):	Medium Resolution (DEFAULT)
Dip switch 1 (ON):	Low Resolution
**Dip switch 2 (OFF):	Low Resolution B Adjust
Dip switch 2 (ON):	Low Resolution A (DEFAULT)
Dip switch 3 (ON):	Always "ON" (DEFAULT)
Dip switch 4 (ON):	Always "ON" (DEFAULT)

**If you are experiencing a "jittery" image, try this mode to correct. Restart the game and adjust the monitor

BIG BUCK HUNTER II PCB CONNECTIONS
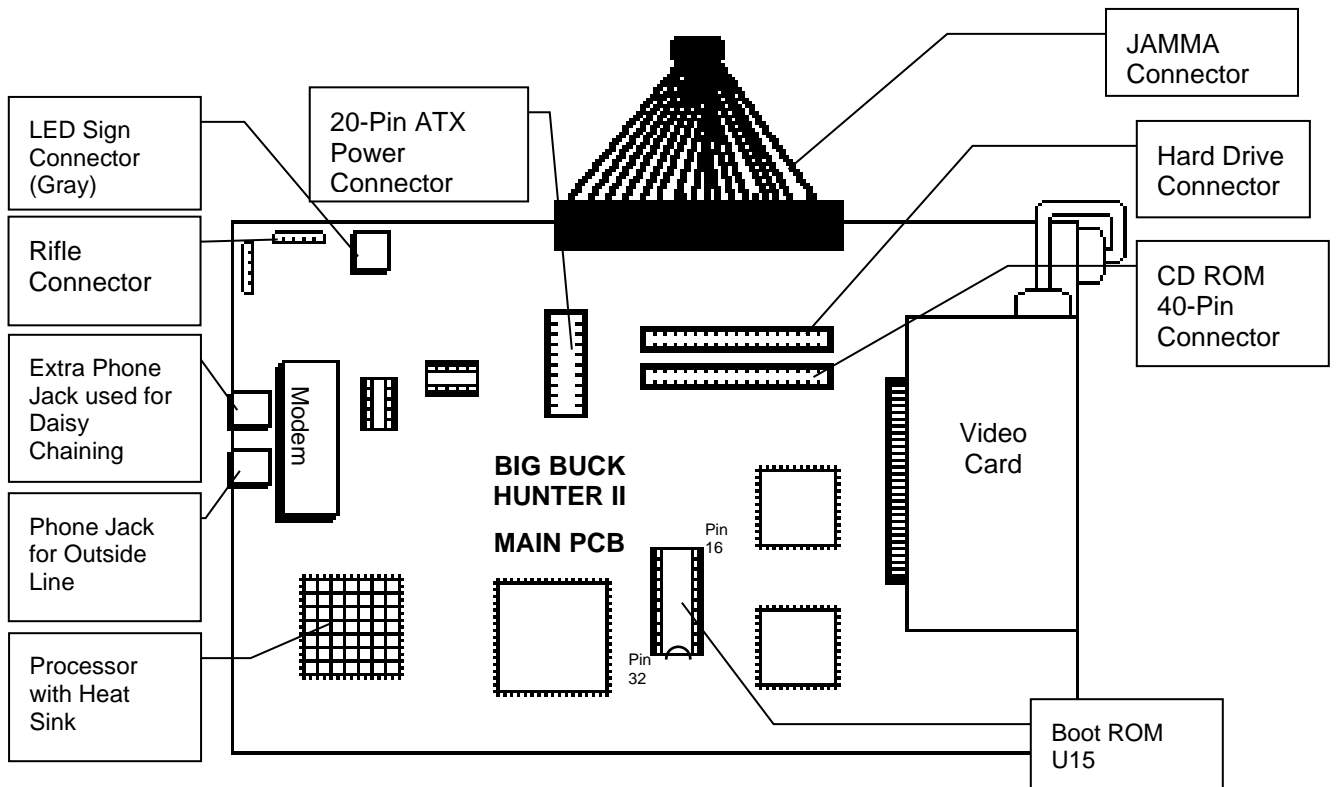
KIT GAME INSTALLATION

KIT PACKAGE CONTENTS

- (1) Printed Circuit Board (PCB) Assembly
- (1) Hard Drive and 40-Pin Ribbon Cable
- (1) ATX Power Supply
- (1) Gun Assembly
- (2) Gun Mounting Clips
- (1) Illuminated Button Assembly
- (1) Card Reader Assembly
- (1) Misc. Mounting Hardware
- (1) Marquee Styrene
- (1) Control Panel Overlay
- (1) Set Control Panel Labels
- (2) Side Decals
- (1) Set Installation Templates
- (1) 50 ft. Telephone Cable
- (1) Telephone Line Splitter
- (1) Manual

RECOMMENDED TOOLS AND SUPPLIES

- Phillips and Slotted Screwdrivers
- Socket Set, Wire Cutters and Strippers
- Pliers or Channel Locks
- Electric Drill with 3/32", ¼", and 7/16" Bits
- Chassis or Sheet Metal Punch
- Razor Knife and Sharp Blades
- Soldering Iron and 60/40 Resin Core Solder
- Assorted Fastening Hardware
- Heat Shrink Tubing (3/32", 1/8", and 3/16")
- Masking Tape or 4" Wire Ties

IF YOU DO YOUR OWN PAINTING, YOU'LL NEED THESE PAINT SUPPLIES:

- Air Brush or Paint Sprayer
- Paint Brush, Paint Roller and Pan
- Paint (and Primer)
- Sandpaper

INSTALLATION PREPARATION

BEFORE YOU START.....

1. Checks to see if all the needed parts have been included in your kit or tournament cabinet.

2. Do you have the necessary tools?

3. Do not work with any part of the system plugged in (lights, monitor, or power supply).

THE CABINET

Power Requirements

> **WARNING!**
> ATX Power Supplies require a load to operate. There will be no Voltage Output if the power supply is not connected to the main board.

Big Buck Hunter II requires an ATX Power Supply, supplied with this kit. Make sure the game you have chosen to convert is able to supply all the required voltages for Big Buck Hunter II.

+5 VDC   15 amps
+12 VDC   3 amps

> **WARNING!!!**
> The output level of many "regulated" switching power supplies actually varies with load. For this reason, the power supply from an old game may not be correctly adjusted for BIG BUCK HUNTER II. This makes the existing power supply inappropriate and hazardous to your new game. Measure power on the PCB, on the Boot ROM U15. Damage will occur if the power supply is outside the acceptable limits (between 5.0 and 5.15 VDC.)

Monitor Requirements

BIG BUCK HUNTER II requires a monitor in a horizontal mount raster scan with negative composite SYNC. It can be difficult to change the monitor from vertical to a horizontal unit. Therefore, installation will be easier if you choose a horizontal mount cabinet. BIG BUCK HUNTER II has been designed for **medium-resolution monitors**. For best results, choose a cabinet with a mid-res monitor. Consult your monitor for mid-res adjustment.

If you have a lo-res monitor, Big Buck Hunter II will work with the addition of a special Monitor Scaler Board. Check with your distributor for more details.

CAUTION! Monitors are extremely dangerous and can result in severe injury. Make sure you follow and observe all safety precautions as outlined in your monitor's manual.

Cabinet Selection

You can choose either a new cabinet or a used cabinet for your BIG BUCK HUNTER game. Reusing a cabinet is by far the most cost-effective way to maximize the return of your initial investment. In either case, all you need to provide is the cabinet with a power supply, bill acceptor and monitor. We provide the rest. The end result is a new game at a very low cost.

> **NOTE:**
> It is recommended that a cabinet used for similar types of games be used for your BIG BUCK HUNTER. Large monitors mounted at a right angle work best.
>
> **NOTE:**
> The monitor must be mounted perpendicular to the gun for the game to play correctly.

When selecting a cabinet, keep this in mind:

A cabinet with a 25" or larger monitor, mounted at a right angle, will produce the best game play results. The monitor must be perpendicular to the gun for the game to play correctly.

1. Remove the following from the cabinet: Main Logic Board(s), Control Panel, Monitor Plexiglas, Marquee, Cabinet Graphics

2. Thoroughly clean out your cabinet. Remove all the old buttons, joysticks and wires from the control panel. **DO NOT** remove monitor and speaker wires.

3. If your cabinet does not have switches or buttons inside the cabinet, you will need to install them for volume control and access to diagnostics and testing modes.

4. Remove the old graphics and adhesive from the control panel, and the side of the cabinet.

5. For a fresh look, painting is highly recommended. Spray painting gives a better finish, but if an air brush or paint sprayer is unavailable, a roller is second best. Remember to cover all exposed surfaces not to be painted.

6. The "new game look" should always apply to the inside of your game as well. A few wire ties and shrink tubing on your harness, some fastening hardware on your subassemblies, and a sweep with the vacuum cleaner will help ensure that glitches do not occur.

CONTROL PANEL

Compare your cabinet's control panel to the diagram below to determine how to install the graphics and controls. The BIG BUCK HUNTER gun holster is mounted either on the front or side of the cabinet, so your control panel requires very little drilling.

Button Preparation

Big Buck Hunter comes with an illuminated Start button. When making the hole for the Start button, use the control panel layout diagram as a guide to where you should drill your new hole, and mark the center of the hole with a pencil.

START BUTTON HOLE TEMPLATE

DRILL 1" HOLE

DRILL 3/16" HOLE (2 PLACES)
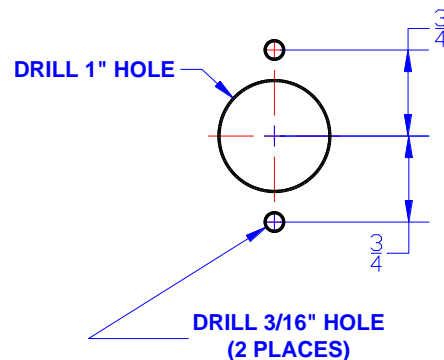
Locate and Mark the center of the control panel.

Position and attach the Start Button Hole Pattern Template to your control panel. Be sure that the location you have selected is free from obstructions inside the cabinet. Be sure that the template is oriented correctly.

Carefully drill and deburr the 1" center hole, and the two 3/16" mounting holes.

Use a file to smooth any rough edges on the holes.

Fill any old and unused holes with wood, resin, or a metal plate.

It is recommended that you cover your control panel with Plexiglas. Now would be a good time to cut it to fit while the dimensions and tools are at hand.

Install the control panel graphics and labels, following the instructions found in the manual. Cut away any graphics material from the button holes.

Insert the supplied button into the large hole. Two pins on the lower edge of the button are used to lock the button into position.

Tighten the large plastic nut securely onto the plastic button housing.

Snap the micro-switch and lamp into the button housing.

Attach the button assembly switch and lamp to the main harness connectors. Refer to the manual for correct wiring.

Volume and Test Switches

If your cabinet does not have switches or buttons inside the cabinet, you will need to install them for volume control and access to diagnostics and testing modes.

Big Buck Hunter requires three external switches to navigate through Operator Mode. Install a Test, Volume Up and Volume Down switch in a convenient location inside your coin door. Volume Up and Volume Down double as scroll up and scroll down when in Operator Mode. Refer to the JAMMA Connections diagram for proper wiring.

GRAPHIC OVERLAYS

BIG BUCK HUNTER comes equipped with graphics that will accommodate a variety of existing game cabinets. Remove any old control panel graphics and make sure the panel is clean and free of dirt, grease or adhesives before installing your new graphics.

Control Panel Overlay Installation

1. Make sure the control panel is clean and free from dust, grease, metal filings, and sawdust. The background overlay provided with the game is oversized to accommodate most control panel sizes. Center the background overlay on the control panel surface. Be sure to leave enough excess material above and below the control panel in order to trim it evenly.

2. Remove the protective backing from the background overlay. Center the background overlay over the control panel and place down gently, making sure to keep it square. Using your hands, press down firmly, starting from the center and smooth the background overlay outward, making sure all bubbles have been pressed out for a clean, flat surface.

3. Using a sharp razor knife, trim any excess from the background overlay. Carefully pierce through the overlay above the control panel hole that you have marked. Cut out material covering the pre-drilled holes with the razor knife. Be sure to cut and trim the background overlay cleanly and evenly.

Function Labels Overlay Installation

Line up the supplied function labels to correspond with the control panel layout on the previous page. Remove the backing and carefully press into place. Be sure they are straight. Refer to the control panel diagram for optimal placement.

It is highly recommended that you protect your control panel with a Plexiglas overlay. Cut it to fit and install now.

Insert the Start button into the control panel and tighten securely. Refer to the Wiring section of this manual for correct button wiring.

Marquee Installation

If your cabinet needs a new marquee glass, determine the correct size and cut to fit. Using the old marquee glass as a template, center the Plexiglas on your new marquee, making sure that all the printed images will be visible.

Using a razor knife, score the new marquee deeply, following the edges of the old glass. Carefully break off excess material. Be sure the light behind the marquee works and that the glass is clean on both sides. Now install the marquee graphics and glass securely.

Cabinet Side Graphics Installation

Carefully remove the backing from the supplied logo stickers and smooth in place on the side of your cabinet. Refer to the diagram below for optimal placement.

Preferred Side Graphics Layout

RIFLE HOLSTER INSTALLATION

Most BIG BUCK HUNTER games come equipped with a specially designed rifle. To mount the rifle to the cabinet, you need to attach a rifle holster. The rifle holster consists of two high-impact plastic brackets. These brackets can be mounted on the front of your cabinet, or on the side of your cabinet.

1. Determine where you want to mount the holster. The holster should be mounted at a comfortable height near the control panel. Make sure the cable attached to the rifle will reach the PCB when mounted in the proposed bracket position.

2. Use the dimensions on the cabinet diagrams for optimal placement.
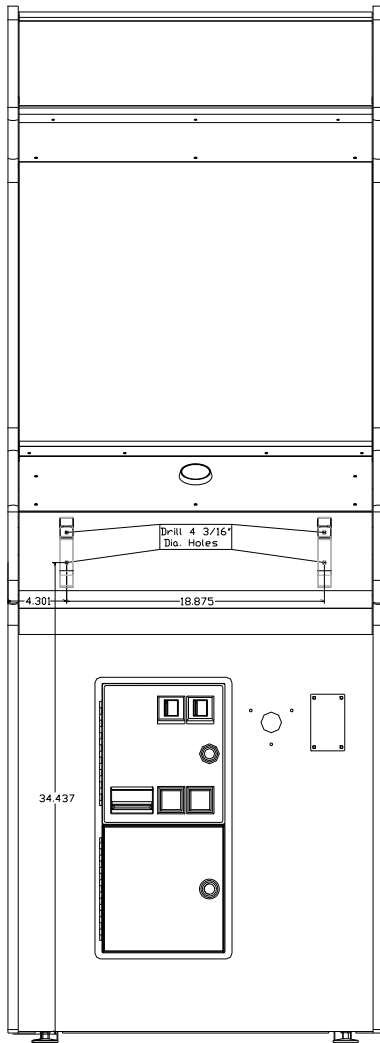
For **FRONT MOUNTING**, center the template on a vertical surface. Be sure the template is oriented correctly. Match the center of the template to the center line of the cabinet. Use only the brackets on the template labeled **A and C.** The center holes on the brackets should be 18.875" apart.

For **SIDE MOUNTING**, orient and attach the template to the cabinet at a 30 degree angle. Be sure the template is oriented correctly. Use only the brackets on the template labeled **A and B.** The center holes on the brackets should be 15.5" apart.

3. Punch or mark the center holes for the appropriate bracket mounting holes with an awl.

4. Remove the template and carefully drill and deburr the four 3/16" mounting holes.

5. Install the brackets using the supplied carriage bolts, flat washers and locking nuts. Fasten the nuts securely inside the cabinet.
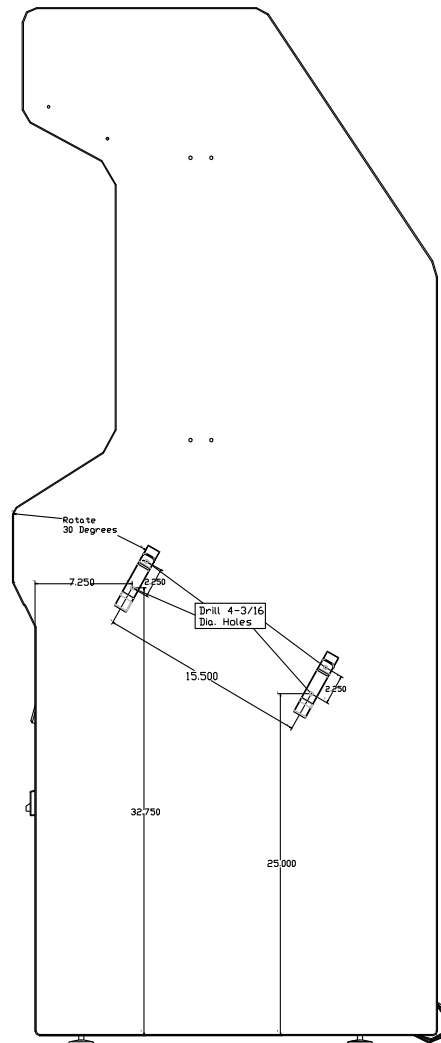
Gun Installation

Insert the gun into the newly mounted holster. The attached gun cable should be hanging freely, with no loops or kinks.

Determine the best location for the gun cable mounting bracket. Players should be able to move the gun freely. Use the dimensions indicated on the cabinet diagrams for approximate placement. Be sure that once installed, the wires from the gun cable assembly will reach the power supply and PCB inside the cabinet.

Position and attach the Gun Cable Mounting Template to the cabinet. Be sure that the location you have selected is free from bracing or wiring inside the cabinet.

Carefully drill and deburr the 1 ½" center hole, and the three .20 mounting holes.

Thread the cable connector and grounding wire through the center hole.

Mount the Gun Cable Mounting Plate using the supplied carriage bolts, flat washers and locking nuts. Make sure the bolts are seated firmly. Attach the grounding wire to any one of the carriage bolts before installing the washer and locking nut.

GUN CABLE MOUNTING PLATE HOLE PATTERN

DRILL HOLE 1-1/2"

DRILL HOLE 7/32" (3 PLACES)
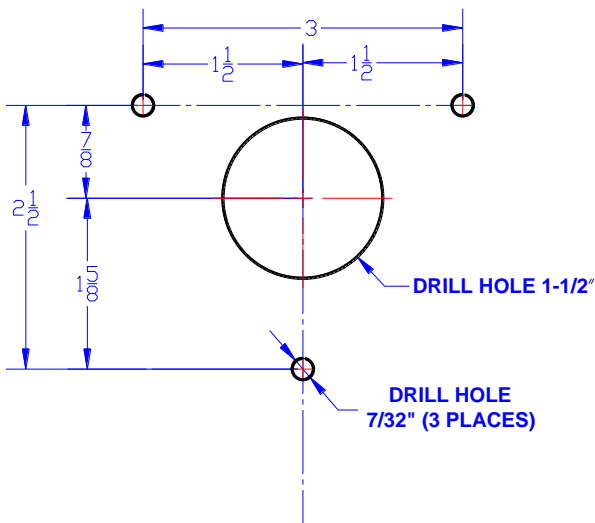
Once the Gun Cable Mounting Plate is mounted securely, Make sure the gun can move freely in all directions.

Inside the cabinet, connect the Cable Connector to the supplied Connecting Harness. The Connecting Harness then connects to GUN 1 connector on the main PCB. See the Wiring section of this manual for more details.

WIRING AND HARDWARE ASSEMBLY

REMEMBER! DO NOT WORK WITH ANY PART OF THIS SYSTEM PLUGGED IN (Lights, Monitor, or Power Supply).

> **NOTE:**
> All switch wires used in this game need to be wired to the normally open connection on the switches. Each switch requires a ground wire on the common connector and the appropriate control or switch wire on the other normally open connector of the switch.

Control Panel Assembly

1. Install the gun and Start button on the control panel by following the detailed instructions beginning on page 2.

2. If you are using Plexiglas for added protection, don't forget to place it on the panel before inserting the Start button.

3. Wire the controls using the JAMMA Harness Connection table. Connect the gun using the supplied connecting harness cable into GUN 1 on the main PCB.

Printed Circuit Board (PCB)

BIG BUCK HUNTER Uses a hard drive to store its game data. Make sure you mount your PCB in such a way as to allow easy connections to the hard drive cables. Refer to the next section for suggested mounting positions.

PCB and Hard Drive Installation

The hard drive is shipped with a mounting bracket already attached. The bracket allows installation with a minimal number of steps and protects the electronics from damage due to improper handling. DO NOT REMOVE the bracket, as it may cause damage to the hard drive. Use the diagram shown below for positioning the hard drive assembly in different types of cabinets. Make sure to position the game board and the drive close enough for the two supplied cables to reach.

A data cable is supplied for the hard drive and is required for proper operation. Test fit the cable supplied for the hard drive before securing to the mounting surface. See the insert for installation details. The supplied ribbon cable is for data transmission. Connect one end of this cable to the keyed connector at J21 on the game board, and the other end into the keyed connector on the hard drive.

> **CAUTION!**
>
> **Hard drives are sensitive to both physical and electrical shock. DO NOT DROP OR KNOCK OVER the hard drive. Avoid shocks and other electrical discharges. DO NOT REMOVE the mounting bracket from the hard drive. Removal may cause damage to the hard drive and will void the warranty. Keep the supplied padded box for shipping any returns. Failure to use the supplied shipping box will void the warranty.**

Figure 1
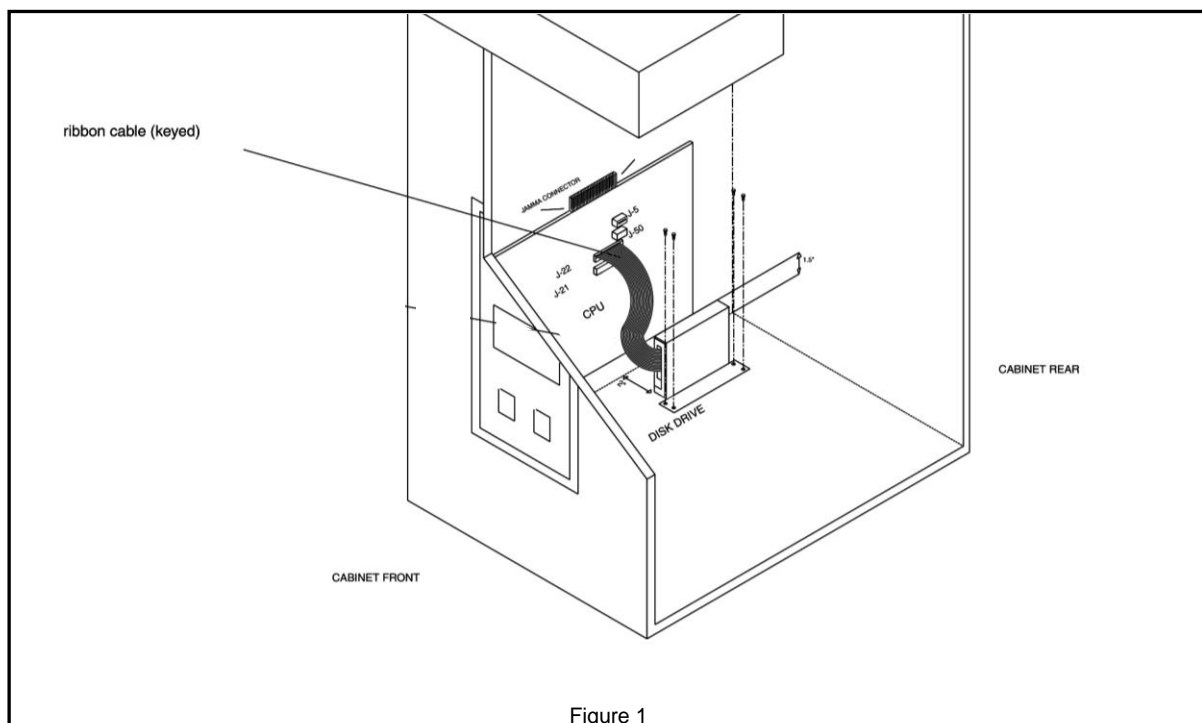
Installation in Lower Cabinet

1. Install the CPU Board on the inside wall of the cabinet (left or right), approximately 1 ½" above the cabinet floor. Secure the CPU board using the ten supplied #6x3/4" hex washer head sheet metal screws.
2. Locate the Hard Drive on the cabinet floor, approximately 2" from the cabinet wall, and directly in line with the JAMMA connector. Attach with 4 #8X ¾" wood screws (supplied). See figure 2. **Avoid jarring or vibrating the hard drive with power tools during installation.**
3. Connect the keyed Hard Drive ribbon cable to J21 on the CPU board, as shown in figure 2.

Returns

In kit games, the hard drive is shipped in a special padded box. In a dedicated cabinet, the shipping box is fastened to the inside bottom of the cabinet. Be sure to keep this box, in case you need to ship the hard drive. Ship the bracket with the hard drive. Do not remove the bracket from the hard drive. Failure to use the supplied box, or removal of the bracket, will VOID THE WARRANTY on the hard drive.

Wire Harness

1. If you are installing BIG BUCK HUNTER II into a cabinet with a pre-installed JAMMA harness, it may not have a wire for the test switch. You will have to add a contact to the edge connector at the proper position (position 15). Some cabinets have only one coin switch input and the coin switches are wired together. Connect the designated wires to the coin switches separately.

2. Attach the wire harness connector to the PCB. Be sure it is mounted correctly.

WARNING!
Make sure you have identified PIN 1 on the connector before powering up. Plugging the JAMMA connector in backwards will cause damage to the PCB.

3. It is best to use connectors (not supplied) whenever joining a set of harness wires to a subassembly. If you choose to solder wires together, follow this procedure:

4. Strip off about ½" of insulation from the wire.

5. Slide a piece of heat-shrink tubing over the end.

6. Do not leave a lot of excess wire spooled up in your cabinet. Cut the wires to the length you need plus a few extra inches. Leave enough for proper cable dressing. Do not make it stretch across the inside of the cabinet.

7. Solder the new wire to the original wire. Use a straight in-line splice.

Power Supply and Connections

Because of current consumption, your Big Buck Hunter II PCB connects directly to a 250 Watt ATX Power Supply. To correctly mount the ATX Power Supply, you will need to add a third bracket (supplied).
Attach the mounting bracket to the power supply using the 6-32x1/4" machine screw.
Place the power supply in its intended location.
Secure the power supply using the three supplied #6x1/2" hex washer head sheet metal screws.
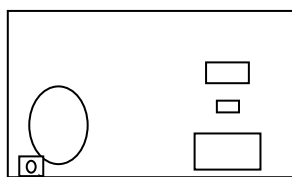
Back View
New Bracket
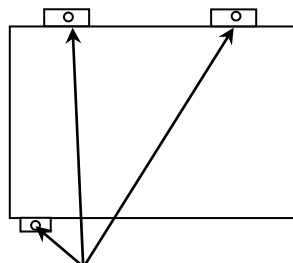
Top View
3 Mounting Brackets

Instructions for ATX Power Supplies:

1. Turn power to the cabinet and power supply completely off.

2. Connect the 20-Pin ATX Connector directly into the RED BOARD socket J5.

3. Locate one Hard Drive Power Connector from the ATX Power Supply. Use this connector for powering lights, meters and other non-pcb devices..

4. Locate another Hard Drive power connector on the ATX Power Supply. Connect this to the Hard Drive.

5. The third Hard Drive connector from the power supply remains unused. This is meant for future use to perform updates with a CD ROM drive. Always be sure the CD ROM drive is set to SLAVE Mode.

6. Turn power on while holding down the start button to initiate a diagnostic test. Run this test to make sure your RED BOARD is functioning properly.

7. Be sure to check your JAMMA connector and make sure it is tightly connected. Detailed instructions and photos of this installation can be viewed on the Operator Services section of the IT web site, www.itsgames.com.
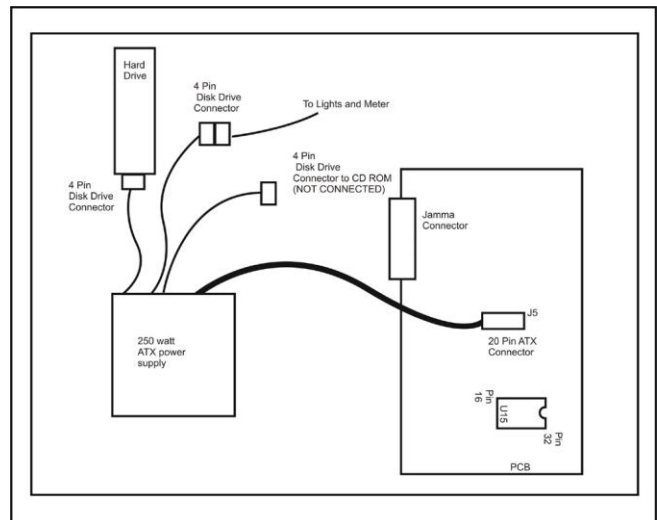
WARNING!

ATX Power Supplies require a load to operate. There will be no Voltage Output if the power supply is not connected to the main board.

SYNC

This is the recommended approach for a Wells-Gardner monitor and should work with some others as well.

If your monitor does not have a composite SYNC input but has separate horizontal and vertical SYNC inputs, try connecting the composite SYNC signal from the PCB to the negative horizontal SYNC signal on the monitor. This should produce a satisfactory result, although some adjustment of the monitor's SYNC controls may be necessary.

Coin Doors, Test Switch, Service Button, and Volume Control Panel

Wire the coin doors and the test / service switch(es) as per the JAMMA Harness Connection table on page 35. Connect the door lamps to the +12 vdc supply. Some games have separate power supply outputs for the lamps.

Install a test switch somewhere convenient inside the coin door area. This switch allows you to enter adjustables, run diagnostics, and see or clear audits. Make it readily accessible through the coin door. Wire it to the Test wire on the JAMMA Harness.

Install a service switch (not included) somewhere convenient inside the coin door area. This switch allows you to give credits to players without affecting the game's credit audits or coin meters. Example: A player puts in a coin and gets no credit, the operator can then push the service button and a credit is given to the player without affecting the game's audits and coin meter.

BIG BUCK HUNTER has the ability to adjust volume at any time during a game. Install two push button switches (not included) inside the coin door for easy access. Connect the switches to the JAMMA harness. Refer to the JAMMA Harness Connection table on page *35*.

Final Check

Check the game inside and out for any imperfections. Secure any loose wiring or fastening hardware.

Make sure the coin door is tight and the coin mechs are well adjusted.

> **NOTE:**
> Make sure all assemblies are firmly attached. Anything that is not mounted securely will rattle when the game is played. This game makes use of low-frequency sounds which can cause any loose joints to rattle.

DIP SWITCH SETTINGS

The **SW51-Dip switches** can be found on the main PCB near the JAMMA connector.

> Dip Switch 1 (ON):   Normal Play (DEFAULT)
> Dip switch 1 (OFF):   OPERATOR MODE
> Dip switch 2 (ON):   Always "ON" (DEFAULT)
> Dip switch 3 (ON):   Always "ON" (DEFAULT)
> Dip switch 4 (ON):   Always "ON" (DEFAULT)

The **SW5-Dip switches** can be found near the flashing green LED. These are used to adjust monitor resolution in Kits.

> Dip switch 1 (OFF): Medium Resolution (DEFAULT)
> Dip switch 1 (ON):   Low Resolution
> **Dip switch 2 (OFF): Low Resolution B Adjust
> Dip switch 2 (ON):   Low Resolution A (DEFAULT)
> Dip switch 3 (ON):   Always "ON" (DEFAULT)
> Dip switch 4 (ON):   Always "ON" (DEFAULT)
> **If you are experiencing a "jittery" image, try this mode to correct. Restart the game and adjust the monitor

CONNECTING THE PHONE LINE

In order for your game to enjoy online features, you must connect the game to a regular telephone line. ITNet requires a regular phone line that gives a dial tone. Phone systems that are not direct outside lines may not work.

1. Make sure that the supplied long telephone cable is plugged into the modem connector on the PCB labeled PHONE 1. Thread the cable through the mouse hole below the back door.

2. Connect the loose end of the long cable into any existing telephone jack. Use the included splitter if you are connecting to a jack already in use.
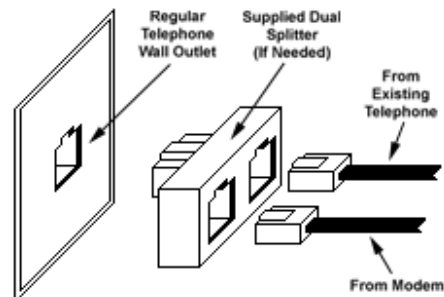
Connecting to the Wall

> **IMPORTANT!**
> Your game will receive code updates through the phone line, even if you are not registered with the ITNet system. However, you MUST be registered with ITNet and appropriate operator papers must be on file with Incredible Technologies, Inc. or your game will not receive the ITNet play features.

NODE CONNECTIONS

If you are planning to place more than one online machine in a location, you may want to connect them together so all of the ITNet machines share the same phone line. Follow the directions below to correctly daisy chain your cabinets together.

ITNet games can be connected together and share one phone line. Connect the first game cabinet to the phone line following the directions on the previous page.

From the first cabinet, connect the long round 50-foot telephone cable that is supplied with each game, to the phone jack on the PCB marked PHONE2. Connect the other end of this cable into the phone jack marked PHONE1 on the next cabinet in line. If a third cabinet is to be connected, attach another telephone cable to the jack marked PHONE2 on the second cabinet. Attach the other end of the cable to the jack marked PHONE1 on the third cabinet. Repeat this sequence until all of your tournament machines are daisy-chained together.

INITIAL POWER-UP

1. Connect the JAMMA Harness.

> **WARNING!**
> Make sure the JAMMA harness, hard drive, and all other connections are plugged in correctly. Damage to the PCB will occur if the JAMMA connector is plugged in wrong.

2. Check the game inside and out for any imperfections. Secure any loose wiring or fastening hardware.

> **NOTE:**
> Make sure all assemblies are firmly attached. Anything that is not mounted securely will rattle when the game is played. This game makes use of low-frequency sounds which can cause any loose joints to rattle.

3. Plug in the game and turn it ON.
4. Look and smell for smoke (TURN IT OFF IMMEDIATELY IF ANY IS NOTICED).

5. Make sure the LED's on the PCB are flashing. If not, something is wrong, turn off the game.

6. Listen for sound. Sounds should be heard in the attract mode if it is a new game on for the first time.

7. How is the picture? Is it centered? Is it too bright? Is it in focus? Adjust your monitor to get the best picture possible.

> **NOTE:**
> Check your monitor manual to make adjustments. Some test patterns are available through the game's system tests by pressing the Test switch. Use them when making any adjustments. (See System Tests Menu on page 23). Proper monitor adjustment is very important.

8. Try all coin switches. Drop quarters or tokens through to check the coin mechs. Insert a dollar bill into the bill validator and listen for the credits to ring up. Make sure the game is adding credits. You can use the PLAYER CONTROL TEST by pressing the test switch and entering the SYSTEM TESTS MENU on page 17. Do all of the controls work? Try playing the game with the volume up and listen for rattling as you play. Tighten anything that is making noise.

9. Upon initial power-up, the game will initialize to factory default settings. These settings affect game elements such as number of credits per coin, difficulty settings, etc. The OPERATOR ADJUSTABLES MODE section will describe how to alter these settings and view the system audits or run system tests.

10. If you wish to automatically run a series of system tests, hold down the START button when you power up the game cabinet. The game will automatically perform the MAIN MEMORY, VIDEO MEMORY, PLAYER CONTROL, SOUND TEST and HARD DRIVE tests. This is a good, quick way to check the integrity of your PCB.

ITNET OPERATOR REGISTRATION

Follow these simple instructions to become eligible to operate ITNet online features. If you are already a registered ITNet operator, you can skip- this step.

1. Fill out the ITNet Debit Account Form, found in Appendix A, and open a Debit Account at your local bank.
2. Read and sign the ITNet Operator Agreement, found in Appendix A.
3. Fax or mail these two forms to Incredible Technologies, Inc. to become an authorized ITNet Operator.
4. Once these forms are processed, you will receive your ITNet Operator ID Card in the mail.

The Operator ID Card allows you to:

Register your games for online play right on-site.

Activate games, add and change location information, and de-activate games at the location.

Gain access to the personalized IT Operator Services web site.

Check audits and bookkeeping from your home or office.

> **NOTE!:**
> If you are a brand new ITNet operator and can't wait for your Operator ID card to arrive in the mail, you can fax the GAME REGISTRATION FORM, found in your Appendix A, to Incredible Technologies. The ITNet staff will then enter your machine's location data for you. Please allow 3 to 5 business days for processing. When your machine calls in, it will automatically register to your account and activate the online features.

ITNET INSTALLATION PROCEDURE

Follow these simple instructions for game and ITNet setup.

1. Follow the instructions above to become an ITNet operator and receive your Operator ID card.
2. Set up your ITS-compatible game cabinet as you would any other video game. If you have a tournament version, be sure the LED sign is properly connected or you will not receive tournament play. Refer to other sections in this manual for further help. Power should remain OFF at this point.
3. Turn on the game. You may have to wait a few seconds for hard drive access. If the game is not registered a screen will appear asking you to swipe your operator card to start the registration process. If you do not have your card, or do not have it ready, it will time out after 60 seconds.
4. If the game is already turned on you can still use your card to register your game. Enter Operator Mode by pressing the test button inside the coin door. Then from the MAIN MENU, select ITNet MENU, then GAME AND LOCATION REGISTRATION. Follow the On-screen instructions. Insert your ITNet Operator Identification Card when prompted.

> **NOTE:**
> If you do not have your Operator ID Card yet, you can fax the Game Registration Form to Incredible Technologies. The ITNet staff will then enter your machine's location data for you. Please allow 2 to 5 business days for processing. When your machine calls in, it will automatically register to your account and activate the online features.

5. Enter all of the necessary location information carefully and accurately. When completed, the game will automatically attempt to connect to the ITNet. Pay attention to the various screen messages as the game makes its call, to spot any trouble areas.
6. Automatic installation is successful when the screen displays a SUCCESSFUL message. If any unsuccessful message appears, the game will try again automatically in a few minutes, or you can enter Operator Mode by pressing the test button inside the coin door and manually force a call. If your first few attempts to call are unsuccessful, refer to the troubleshooting guide in your manual or call your distributor.
7. The game is now connected to the ITNet System and ready for public play! Online features will be automatically activated by Incredible Technologies.

OPERATOR TEST MODE

Enter Operator Test Mode by pressing the Test Button inside the coin door, or by flipping SW51-DIP Switch 1 to the OFF position. Be sure the DIP Switch is returned to the ON position to return to the game. Test Mode allows you to adjust certain game settings and track valuable audits and bookkeeping information.

Use the gun or test buttons to navigate through the various menus.

Action	Gun Control	Switch Control
Scroll Down	Gun Trigger	Volume Down
Scroll Up	Gun Pump	Volume Up
Select	Start Button	Test

Note
The current code version number and the Board Serial ID are displayed at the top of every menu.
Call-in information is displayed at the bottom of each menu, including the Local time, the next scheduled call to ITNet, the last successful ITNet call, and the last attempted call to ITNet.

MAIN MENU

The first screen displayed in Operator Test Mode is the Main Menu. The Main Menu displays the various selections available to the operator.

```
BBH2 V2.00.05                        S\N: 00033376
MAIN MENU
Use Trigger and Pump to move.
Use Start button to select.
EXIT
ITNET COLLECTIONS & AUDITS RESET
OPERATOR ADJUSTABLES MENU
GAME AUDITS MENU
ITNet MENU
SYSTEM TESTS MENU
GUN CALIBRATION
MAILBOX
HIGH SCOREBOARDS MENU




            Local Time: 06\04\2002 05:08:14 PM
            Next ITNet Call: 12\31\1969 06:00:00 PM
            Last ITNet Call: 12\31\1969 06:00:00 PM
```

ITNET COLLECTIONS & AUDITS RESET displays the current machine coin counts, for use in separation of ITNet fees from your collections. You can also perform collections and audits resets from this menu.

OPERATOR ADJUSTABLES MENU is used for customizing the game to your location including player costs per game, skill level settings, attract mode sounds, etc.

GAME AUDITS MENU allows you to check your game's coin, play option, and lifetime audits.

ITNET MENU is redesigned to take advantage of many of the ITNet capabilities including registering your machine with ITNet, disabling/enabling calls to ITNet, and forcing a call to ITNet.

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SYSTEM TESTS MENU verifies the operation of the hardware, controls, and monitor through easy and automatic procedures accessed through this menu.

GUN CALIBRATION MENU tests the gun for aiming and accuracy, to achieve optimal game play ability.

MAILBOX was designed with the operator in mind. Although it is not functional in this current version, plans to make this available using ITNet's new capabilities are in development.

HIGH SCOREBOARDS MENU gives you quick and easy access to the Regular Play (offline) leaderboards for each region.

ITNET COLLECTIONS & AUDITS RESET

Use this screen to assist in bookkeeping when doing collections from your cabinet. This will show you the amount of money owed to ITNet as well as your portion currently in the cabinet.

```
BBH2 V2.00.05                        S\N: 00033376
ITNET COLLECTIONS & AUDITS RESET
Use Trigger and Pump to move.
Use Start button to select.
EXIT
DISPLAY AUDITS
DO COLLECTION, CLEAR VALUES, RESET AUDITS
.................................
LAST COLLECTION:            Tue Jun 04 16:01:11 2002
TOTALS SINCE LAST COLLECTION:          $ 6.00
ITNET PORTION:                         $ 0.00
OPERATOR\LOCATION PORTION:             $ 6.00
OPERATOR HUNT CLUB PORTION:            $ 0.00




            Local Time: 06\05\2002 10:44:53 AM
            Next ITNet Call: 12\31\1969 06:00:00 PM
            Last ITNet Call: 12\31\1969 06:00:00 PM
```

EXIT is used when you just want to see the current amount of money in the machine but a collection is not being made and you do not want to clear the values.

DISPLAY AUDITS will take you to the game audits menu. This can be useful when trying to do bookkeeping right at the cabinet or for seeing why the ITNet portion is a certain amount.

This menu is also accessible from the Main Menu under Game Audits Menu.

DO COLLECTION, CLEAR VALUES, RESET AUDITS is used to erase all of the collection counts stored in memory and reset the game audits. Pressing the START button here will take you to a verification screen asking if you are sure. If you say NO, it will take you back to the collections screen leaving all counts intact. If you say YES, it will complete the collection and take you back to the collections screen. You will notice all dollar amounts are now zero and two messages stating the collections were cleared and the audits reset will show up at the bottom in red.

```
BBH2 V2.00.05                    S\N: 00033376
DO COLLECTION
Use Trigger and Pump to move.
Use Start button to select.
ARE YOU SURE?
NO
YES




         Local Time: 06\05\2002 10:45:34 AM
         Next ITNet Call: 12\31\1969 06:00:00 PM
         Last ITNet Call: 12\31\1969 06:00:00 PM
```

This screen also displays important collection information that allows you to accurately determine your split with your location. Resetting this screen after every cash box collection will ensure the most accurate results.

LAST COLLECTION displays the date this screen was cleared last. Clearing this screen in conjunction with every collection will keep your readings the same as your cash box.

TOTALS SINCE LAST COLLECTION displays the total number of dollars in the machine since the audits were last reset.

ITNET PORTION displays the amount of money owed to ITNet. Separate this amount from your collection before you make your split, if any, with the location. Deposit this amount into your debit account on a timely basis to ensure proper funds.

OPERATOR/LOCATION PORTION displays the amount of money in the machine, minus the ITNet portion. This is the amount of your collection that you may split with your location.

NOTE:
In order to make bookkeeping easier, all audits but the lifetime coin count will reset with each collection, making everything more synchronized.
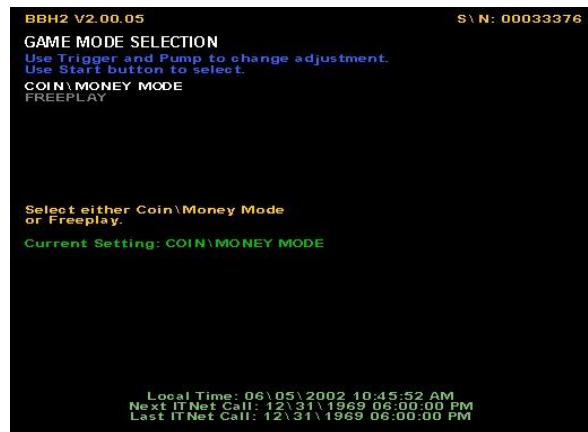

OPERATOR ADJUSTABLES MENU

You can control many customizing procedures. The following are brief descriptions of each adjustable function and what the screen looks like when displayed. Remember to select an item from any menu, use the trigger or pump to highlight the item, and then press the START button.


```
USA BBH2 V2.02.03                S\N: 00035076-B
OPERATOR ADJUSTABLES MENU
Use Trigger and Pump to move.
Use Start button to select.
EXIT
GAME MODE SELECTION
COIN DOOR SETTINGS MENU
SKILL LEVEL ADJUSTMENT
PLAYER COST SCHEDULE
VOLUME SETTINGS MENU
ATTRACT MODE SOUNDS
VIOLENCE
EMAIL REQUEST MENU
COIN PAGE PROMPT TEXT
RESET OPERATOR ADJUSTABLES




         Local Time: 02\18\2003 03:53:11 PM
         Next ITNet Call: 02\16\2003 08:09:00 AM
         Last ITNet Call: 02\14\2003 01:51:17 PM
```

GAME MODE SELECTION

This menu allows you to place the game in standard **COIN/MONEY MODE**, or choose **FREE PLAY**.


```
BBH2 V2.00.05                    S\N: 00033376
GAME MODE SELECTION
Use Trigger and Pump to change adjustment.
Use Start button to select.
COIN\MONEY MODE
FREEPLAY



Select either Coin\Money Mode
or Freeplay.

Current Setting: COIN\MONEY MODE




         Local Time: 06\05\2002 10:45:52 AM
         Next ITNet Call: 12\31\1969 06:00:00 PM
         Last ITNet Call: 12\31\1969 06:00:00 PM
```

In **COIN/MONEY MODE**, the game will only work if coins (or dollar bills if you have a bill acceptor) are deposited into the game.

In **FREE PLAY**, coins are not needed for play, and the START button is always active.

NOTE:
If FREE PLAY is set to ON, your machine will not allow tournament or Hunt Club play.

COIN DOOR SETTINGS

This menu allows you to change the values Big Buck Hunter™ II reads in for each activated door.

You can set each coin door to different coin/money values by highlighting DOOR 1 VALUE for coin door 1, DOOR 2 VALUE for coin door 2, etc. Use the trigger to increase the value, and the pump to decrease the value.

SKILL LEVEL ADJUSTMENT

Big Buck Hunter II lets you change the skill level of the game. This is helpful for locations with younger/novice players who are less skilled at the game, or expert/accomplished players who demand a greater challenge.

To set the game to an easy skill level, highlight **EASY**.

To set the game to a difficult skill level, highlight **HARD**.

MEDIUM is the default skill level and approximately the skill required for the average player. Sometimes it is best if the skill level is adjusted gradually over a period of time.

> **NOTE:**
> The skill level adjustment will only affect regular play. The skill level on all Tournament games is controlled by ITS via ITNet, so every machine plays the same. Hunt Club Play is at a pre-set, unchangeable level.

PLAYER COST SCHEDULE

The following costs can be set in this menu:

AREA, and **REGION**, in Regular, offline play, **AREA HUNT CLUB** and **REGION HUNT CLUB** for Hunt Club play, **REGION TOUR** for tournament play, and **HUNTING LICENSE** fees.

To change any of the costs press the trigger to move to the option you want to change. Then pressStart button to select.

> **NOTE:**
> This function will only change the **OPER FEE**, determining the amount you receive for each game option. Changing the **OPER FEE** automatically changes the **TOTAL** column. The **ITNET FEE** is a pre-set, unchangeable amount that will be set and adjusted by ITNet automatically if needed. Player Hunting Licenses have pre-set **OPER FEE**s and **ITNET FEE**s set by ITNet.

VOLUME SETTINGS
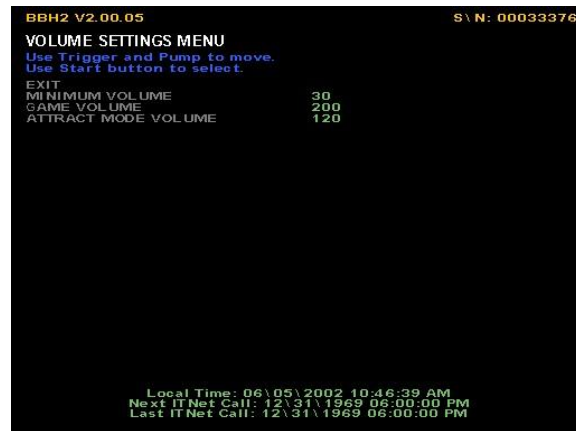
Select **MINIMUM VOLUME** to set the softest the sounds will go.

Once selected, use the trigger and pump on the gun to set the lowest sound value. The default setting is 30.

GAME VOLUME sets the volume of the sounds and music during the game. The default setting is 200.

ATTRACT MODE VOLUME sets the loudness or softness of the sounds and music when no one is playing. The default setting is 120.

Your cabinet is also equipped with volume increase/decrease push buttons located inside the coin door. These buttons will adjust the current mode that the game is in. For example, if you are in the attract mode, the volume buttons will only affect the volume in the attract mode. If you are in the game, the volume buttons will only affect the volume in the game.

ATTRACT MODE SOUNDS

This menu is used to adjust the sounds that are heard while no one is playing the game.
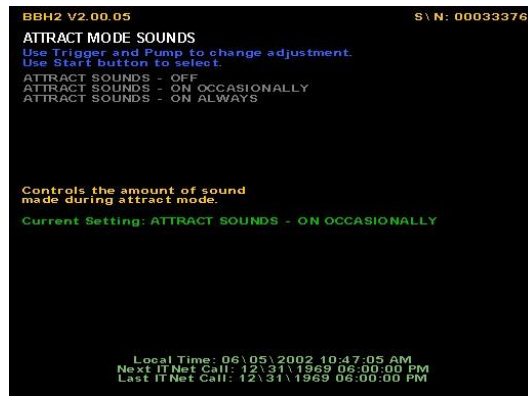
ATTRACT MODE SOUNDS - OFF will not allow any sounds to be played during the attract mode.

ATTRACT MODE SOUNDS - ON OCCASIONALLY plays sounds about every ten to twelve times the attract mode is repeated. This is the default.

ATTRACT MODE SOUNDS - ON ALWAYS will play sounds during every attract cycle.

VIOLENCE

Big Buck Hunter II allows you to adjust the violence settings on the game, depending on the location.


NORMAL violence settings displays some blood as the bucks are shot. This is the default setting.

NO BLOOD removes the graphic elements, but the references to shots and gunfire remain.

TAGGING ONLY removes all video and audio references to killing or blood, and replaces them with references to humane tagging.

EMAIL REQUEST MENU

Your Big Buck Hunter II game will ask players if they wish to join the ITNet Email Club, where they will receive periodic information on ITS tournaments, special events and other exciting news designed to keep them interested and playing your games. You can turn this feature off by selecting OFF from this menu.
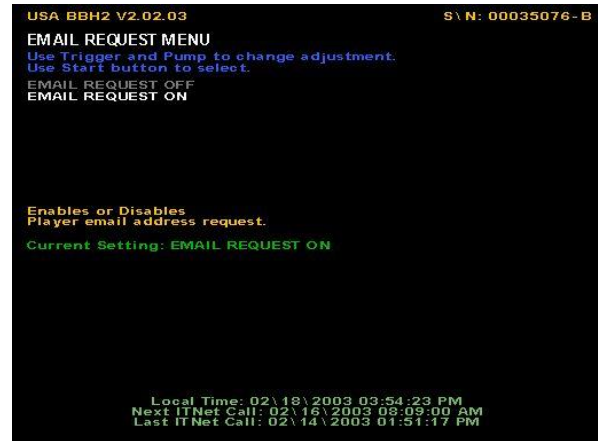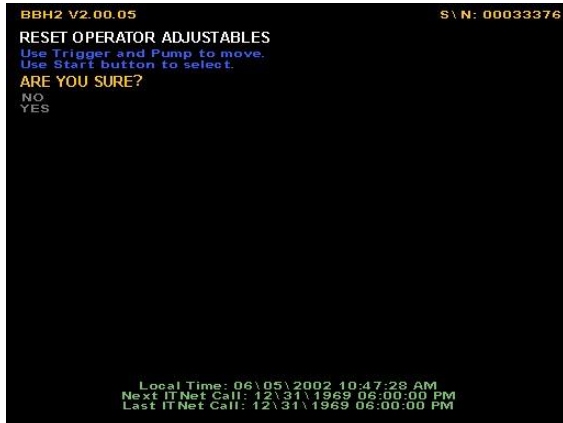

COIN PAGE PROMPT TEXT

If your Big Buck Hunter II is placed in a location that uses debit cards or special card pricing, you can change the request for more money at the start of a game. Select INSERT COINS for the traditional message, or SWIPE CARD for the message to request a card to start the game.
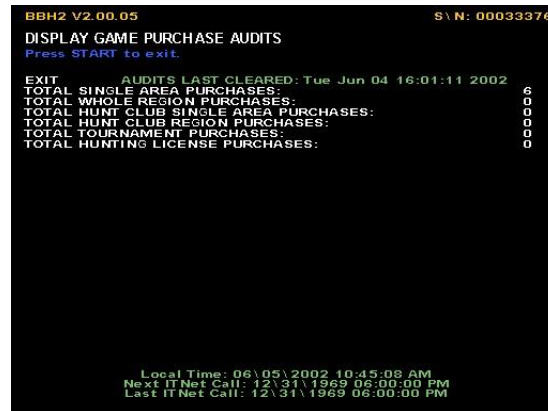
RESET OPERATOR ADJUSTABLES

You can quickly reset all options in operator adjustables back to factory settings using this menu. Select **YES** to return all settings to factory defaults.
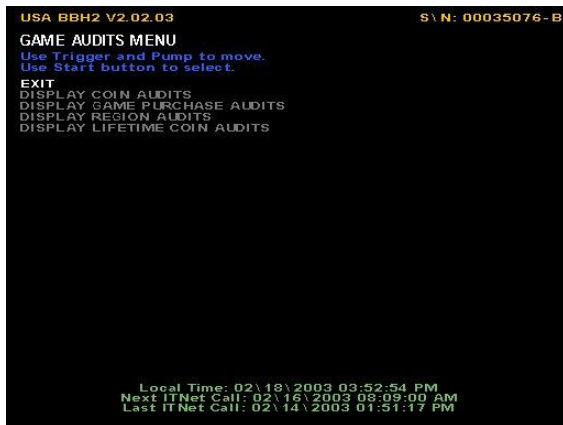
```
BBH2 V2.00.05                              S\N: 00033376
RESET OPERATOR ADJUSTABLES
Use Trigger and Pump to move.
Use Start button to select.
ARE YOU SURE?
NO
YES




                    Local Time: 06\05\2002 10:47:28 AM
                    Next ITNet Call: 12\31\1969 06:00:00 PM
                    Last ITNet Call: 12\31\1969 06:00:00 PM
```

GAME AUDITS MENU

The **GAME AUDITS MENU** will supply you with a detailed accounting of helpful and informative bookkeeping and statistics.

```
USA BBH2 V2.02.03                          S\N: 00035076-B
GAME AUDITS MENU
Use Trigger and Pump to move.
Use Start button to select.
EXIT
DISPLAY COIN AUDITS
DISPLAY GAME PURCHASE AUDITS
DISPLAY REGION AUDITS
DISPLAY LIFETIME COIN AUDITS




                    Local Time: 02\18\2003 03:52:54 PM
                    Next ITNet Call: 02\16\2003 03:09:00 AM
                    Last ITNet Call: 02\14\2003 01:51:17 PM
```

DISPLAY COIN AUDITS is when you choose to review the coin audits for the game. This will give you information concerning how many coins since the last reset are still available on the machine, how many went through each coin door, and how many coins were used as buy-ins during the course of a game.

```
BBH2 V2.00.05                              S\N: 00033376
DISPLAY COIN AUDITS
Press START to exit.

EXIT        AUDITS LAST CLEARED: Tue Jun 04 16:01:11 2002
TOTAL 1 COINS:                        $ 5.50
TOTAL 2 COINS:                        $ 0.25
TOTAL 3 COINS:                        $ 0.25
TOTAL COINS:                          $ 6.00
COINS AVAILABLE:                      $ 0.00
TOTAL CONTINUE COINS:                 $ 0.00




                    Local Time: 06\05\2002 10:45:02 AM
                    Next ITNet Call: 12\31\1969 06:00:00 PM
                    Last ITNet Call: 12\31\1969 06:00:00 PM
```

DISPLAY GAME PURCHASE AUDITS is designed to help in bookkeeping purposes. This screen has a similar format to the Player Cost Schedule, displaying the game types that were selected by players.
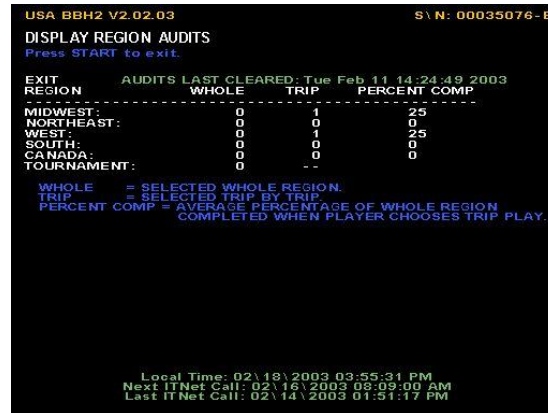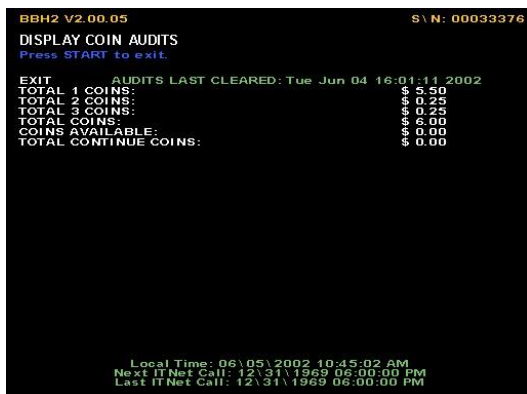
```
BBH2 V2.00.05                              S\N: 00033376
DISPLAY GAME PURCHASE AUDITS
Press START to exit.

EXIT           AUDITS LAST CLEARED: Tue Jun 04 16:01:11 2002
TOTAL SINGLE AREA PURCHASES:                           6
TOTAL WHOLE REGION PURCHASES:                          0
TOTAL HUNT CLUB SINGLE AREA PURCHASES:                 0
TOTAL HUNT CLUB REGION PURCHASES:                      0
TOTAL TOURNAMENT PURCHASES:                            0
TOTAL HUNTING LICENSE PURCHASES:                       0




                    Local Time: 06\05\2002 10:45:08 AM
                    Next ITNet Call: 12\31\1969 06:00:00 PM
                    Last ITNet Call: 12\31\1969 06:00:00 PM
```
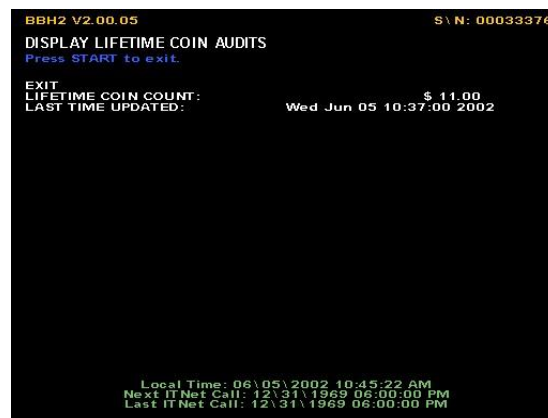
DISPLAY REGION AUDITS is a breakdown of how many games were played in each region. WHOLE means the player selected the entire region at the start of the game. AREA means the player selected a portion of a region at game start.

```
USA BBH2 V2.02.03                          S\N: 00035076-B
DISPLAY REGION AUDITS
Press START to exit.

EXIT       AUDITS LAST CLEARED: Tue Feb 11 14:24:49 2003
REGION            WHOLE      TRIP     PERCENT COMP
--------------------------------------------------
MIDWEST:            0          1          25
NORTHEAST:          0          0          0
WEST:               0          1          25
SOUTH:              0          0          0
CANADA:             0          0          0
TOURNAMENT:         0          --

WHOLE    = SELECTED WHOLE REGION.
TRIP     = SELECTED TRIP BY TRIP.
PERCENT COMP = AVERAGE PERCENTAGE OF WHOLE REGION
                 COMPLETED WHEN PLAYER CHOOSES TRIP PLAY.



                    Local Time: 02\18\2003 03:55:31 PM
                    Next ITNet Call: 02\16\2003 03:09:00 AM
                    Last ITNet Call: 02\14\2003 01:51:17 PM
```

DISPLAY LIFETIME COIN AUDITS displays the total amount of money put in the machine since the last hard drive update.

```
BBH2 V2.00.05                              S\N: 00033376
DISPLAY LIFETIME COIN AUDITS
Press START to exit.

EXIT
LIFETIME COIN COUNT:                   $ 11.00
LAST TIME UPDATED:            Wed Jun 05 10:37:00 2002




                    Local Time: 06\05\2002 10:45:22 AM
                    Next ITNet Call: 12\31\1969 06:00:00 PM
                    Last ITNet Call: 12\31\1969 06:00:00 PM
```

NOTE: The only time the LIFETIME COIN AUDITS screen will be reset is when the game is unregistered/registered or a new hard drive is installed.

ITNet Menu

This menu is designed for the operator to interface with ITNet at the game itself. Instant registration, quick location information changes, and changing dialing functions are available from this menu.

CURRENT REGISTRATION STATUS displays the ITNet information the machine is currently operating under. This will display the most current entered information, including the board serial number, your operator ID number, the location name, address, and phone number, and the modem dialing instructions.

This screen displays the current ITNet registration status. If the game has been successfully registered, the messages will read: "This machine is registered." If the game has never been registered, or has been unsuccessfully registered, the message will read: "This machine is not registered."

If you are updating location data on a registered machine, this screen will show the updated information after a successful call to ITNet. Note: If the machine is turned off before a call has been made, you will lose the new information until a successful call has been completed.

If you choose to register your machine via the Game Initialization form, send or fax it to Incredible Technologies. ITNet will try to process your paperwork within 3 to 5 business days. Make sure your machine makes a successful call to ITNet then the correct information will appear on this screen.

The following menus regarding machine registration and unregistration are for US machines only.

GAME AND LOCATION REGISTRATION is used to tie the game to the operator and its physical location. This is necessary for access to online ITNet features. This menu takes the place of the ITNet Registration Form. However you will still need to set up a debit account and sign an operator agreement, if you are not already a registered operator with ITS/ITNet. This menu is automatically displayed any time an unregistered machine is turned on. The menu will time out, or can be bypassed by pressing any button.

INSTRUCTIONS FOR REGISTERING YOUR MACHINE VIA ITNet:

1. Highlight GAME AND LOCATION REGISTRATION and press the START button.

2. Insert your Operator ID Card into the card reader.

3. Once you have read the introduction screen press the START button to continue.

4. Enter the LOCATION NAME (Up to 20 characters long)

5. Enter the LOCATION STREET ADDRESS (Up to 40 characters long)

6. Enter the LOCATION CITY (Up to 20 characters long)

7. Enter the LOCATION STATE (Initials Only)

8. Enter the LOCATION ZIP CODE (5 digits)

9. Enter the LOCATION PHONE NUMBER (incl. Area Code) of the phone line the machine is plugged into (10 digits). **It is VERY IMPORTANT that this phone number is correct.**

10. Do you need to dial a number for an outside line? If YES go to #11, if NO go to #12.

11. Enter the NUMBER TO DIAL FOR AN OUTSIDE LINE (Leave blank for nothing)

12. Do you need a delay to wait for an outside line? If YES go to #13, if NO go to #14.

13. Enter the NUMBER OF SECONDS TO WAIT FOR OUTSIDE LINE (Can leave blank if no delay is needed. The default is 2.)

14. Is your phone line a rotary/pulse (old style) line? If YES, go to #15. If NO go to VERIFICATION SCREEN section.

15. Press the START button on YES for YOU HAVE CHOSEN ROTARY.

VERIFICATION SCREEN:

At this point you will come to a screen that shows the information you entered and asks you to verify it. If anything is incorrect, this is your chance to go back and correct it. If everything is correct press the START button. This screen then tells you that you have completed entering in all the information and that the data must be transferred to ITNet in order to be successfully registered. Make sure the machine is plugged into a phone line.

CONTINUING ON WITH THE REGISTRATION PROCESS:

If you want to proceed with the registration process activate YES to exit. The game will then proceed to make a call to ITNet. If the call fails your data will be saved, as long as power remains to the game. If there are no power ups or resets, the machine will continue to try and send the data on its next call until it is successful. If your information did not go through the first time and you later get a successful call, you can check the registration status of your machine by going to the menu selection **CURRENT REGISTRATION STATUS**. If the call is successful for the first time, a registration confirmation screen appears, confirming that the machine is now registered to ITNet. If the call is successful but there is a problem, a failure message is displayed. You may need to contact Incredible Technologies' Service Department.

CANCELING THE REGISTRATION PROCESS:

Any data you entered will be saved and will reappear (until you power the game off) if you later choose to register or change your information. Your game will not have access to League or Tournament Play until you have registered your machine.

CHANGE LOCATION INFORMATION is for when you have changed the physical location of the machine. The difference between this menu selection and the **GAME AND LOCATION REGISTRATION** is that you do not need to insert your Operator ID Card.
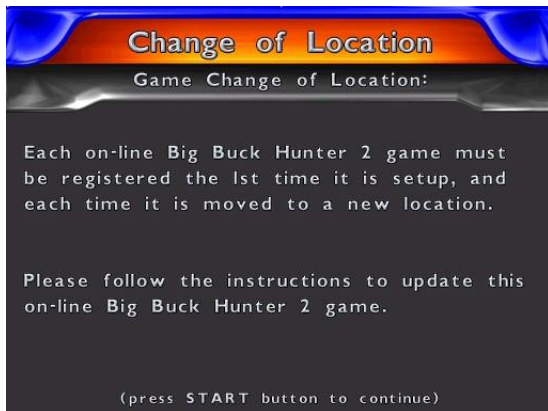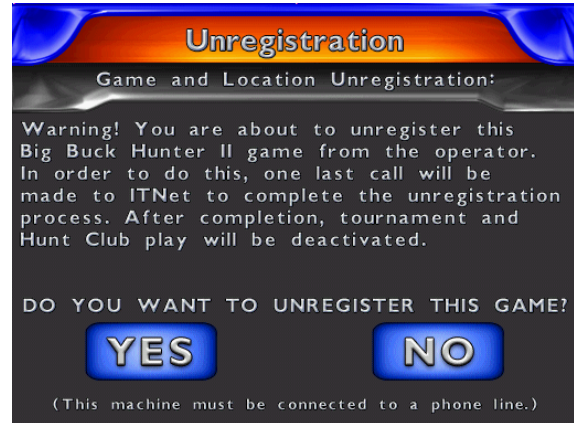

NOTE:
This function will only work if you have already registered that machine. If you have not, you will get an invalid option screen.

INSTRUCTIONS FOR CHANGING LOCATION INFORMATION:

1. Highlight CHANGE LOCATION INFORMATION and press the START button.

2. Once you have read the introduction screen press the START button to continue.

3. Enter the LOCATION NAME (Up to 20 characters long)

4. Enter the LOCATION STREET ADDRESS (Up to 40 characters long)

5. Enter the LOCATION CITY (Up to 20 characters long)

6. Enter the LOCATION STATE (Initials Only)

7. Enter the LOCATION ZIP CODE (5 digits)

8. Enter the LOCATION PHONE NUMBER (incl. Area Code) of the phone line the machine is plugged into (10 digits). **It is VERY IMPORTANT that this phone number is correct.**

9. When the process is complete you will get to a verification screen and then press the START button to complete the process. The game will then attempt a call to ITNet and the information will change as soon as a successful call to ITNet has been made.

As always, if you do not want to change your location information you can cancel at any time. All information will then be left as it was when you last registered the machine.

GAME AND LOCATION UNREGISTRATION is used when you want to communicate that you are no longer responsible for the machine. After a verification screen and then a successful phone call to ITNet, your game will be unassigned to you and the location. Hunt Club and Tournament play will be disabled as well. If you do not unregister successfully, you will still be held responsible for the game, and any subsequent ITNet billing.

NOTE:
These last two functions will only work on a machine that has already been registered with ITNet. If accessed on a game that is not properly registered, an Invalid Option screen will be displayed. Unregistering your machine will deactivate Hunt Club and tournament play and one final, successful call will be required to ITNet in order for unregistration to be complete.

INSTRUCTIONS FOR GAME AND LOCATION UNREGISTRATION:

Highlight **GAME AND LOCATION UNREGISTRATION** and press the START button.

1. Read the warning screen carefully and follow any instructions. As always you can cancel this procedure and go back to the ITNet menu.

2. If you proceed you will get a verification screen asking you if you are sure you want to unregister.

3. If you select NO, it will take you back to the ITNet menu. If you choose YES, a call will be made to ITNet.

If the call is successful you will get a verification saying: Your unregister request has been received and processed by ITNet. If the call is not successful you will get a failure message and the data will be processed on the next successful call.

If you ever wish to run league/tournaments again you will need to re-register your machine by going to the **GAME AND LOCATION REGISTRATION** menu.

ITNET ADJUSTABLES MENU

This menu is where you can disable or enable calling, change how your machine dials ITNet, or to force a call to ITNet.
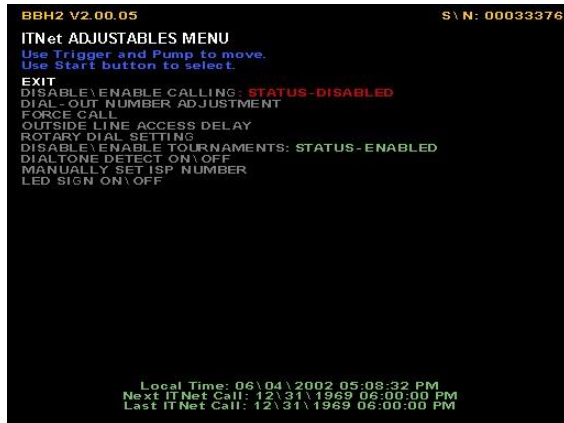
**DISABLE/ENABLE CALLING: STATUS –
DISABLED**(or **ENABLED**) is used when you temporarily want to disable ITNet on a certain machine (i.e. to get the phone line fixed), or when you want to re-enable a temporarily disabled machine back on ITNet calling. This does not take the place of UNREGISTRATION and you will still be responsible for that machine with ITNet. It is recommended that you only disable after the machine has made a successful call to ITNet.

NOTE:
Disabling calling will deactivate your machine from the Hunt Club and Tournament play functions.

To disable ITNet on your machine highlight the menu selection **DISABLE/ENABLE CALLING: STATUS - ENABLED** and then press the START button. A Verification Screen is displayed. Shoot at YES to disable calling and continue. Press the Start button to cancel and return to the **ITNET ADJUSTABLES MENU**.
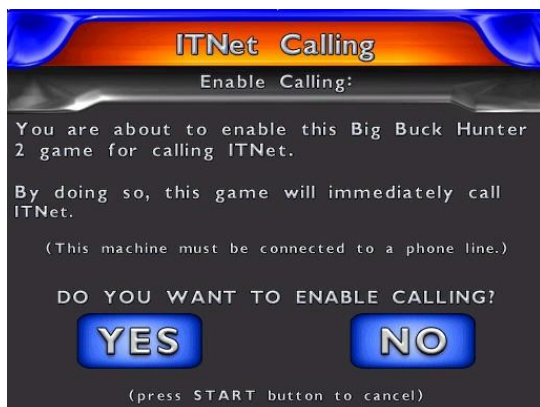

If you are re-enabling your machine, when the menu shows **DISABLE/ENABLE CALLING: STATUS - DISABLED** pressing the START button displays a message to make sure the machine is plugged into the phone line. Pressing START then brings you to the verification box with a YES/NO choice. Selecting NO

brings you back to the ITNet menu. Selecting YES will cause the machine to automatically attempt to call ITNet. ITNet will not be enabled and you will not be able to run Hunt Club or Tournament Play until a successful call has been made.

DIAL OUT NUMBER ADJUSTMENT is used when you need to change the number your machine uses to get an outside line. Use **SET FIRST OUTSIDE LINE NUMBER** if your phone system needs to dial a specific number to get a dial tone. You have the options of 0 through 9 and NOTHING (which means you do not require a prefix). Use **SET SECOND OUTSIDE LINE NUMBER** ONLY if your phone system needs to dial a two-digit prefix, such as 99, to get a dial tone. In most cases, this should be set to NOTHING.

WARNING!
Do NOT use the Second Outside Line setting unless you are sure you need it. Setting this to "1" could cause the machine to dial "911", which is not desirable.

If you have to dial an area code prefix, like "1" before the area code, be sure to set **COUNTRY CODE MODE** to **ON**.
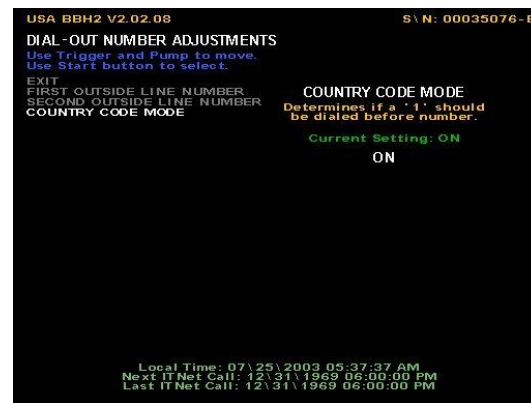
FORCE CALL menu can be used to make your machine manually call ITNet at a time other than its regularly scheduled hour. This can be used when you are trying to fix the modem or phone line on your machine, or if you are about to disable calling and want the last set of information to be transmitted to the ITNet servers. This setting defaults to NO. If you select YES, as soon as you exit all of the menus the machine will automatically attempt to call ITNet.

OUTSIDE LINE ACCESS DELAY is another quick access menu designed to help ensure calls get made successfully to ITNet. The number (2 is the default) you set here is the pause it uses to wait for the outside line. This is normally only required when you use a number to dial out with first, but won't hurt the machine if you leave the default set to 2.
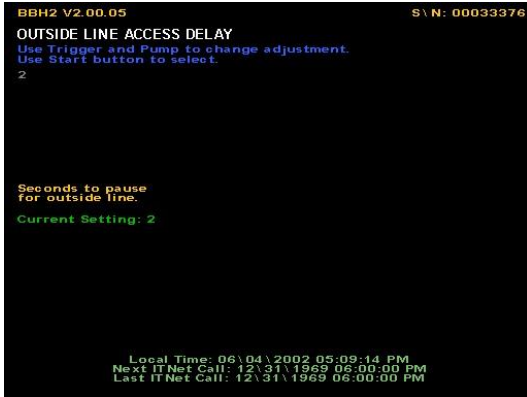
ROTARY DIAL PHONE LINE is the last of the quick ITNet/phone related menu functions you can access on this menu. While most phones use tone dialing, some still use rotary or pulse to dial. Accidentally setting this feature to YES on a tone line should not effect the call to ITNet.

DISABLE/ENABLE TOURNAMENTS You can disable ITS online tournament play from this setting. To disable ITS tournament play, select YES. To enable ITS tournament play, select NO. This setting will affect online ITS tournament play only. Hunt Club Play and other ITNet features not associated with prize money will still be available.

DIALTONE DETECT allows you to tell your machine whether or not to detect a dial tone when making an outside call. When set to ON, the machine's modem will wait to detect a dial tone before dialing. When set to OFF, the machine will not wait for a dial tone before dialing. For US machines, the default setting is ON and in most cases should not be changed.

NOTE:
If Dialtone Detect is set to OFF and there is a phone line connection problem, you will NOT see the "No Dialtone Detected" error message.

MANUALLY SET ISP NUMBER (INTERNATIONAL ONLY) is used to set the dial-up number of the closest Internet Service Provider connection. Select **SELECT ISP PHONE NUMBER** and use the trigger and pump to scroll through the list of available area codes and cities. Press Start to select. The game will then call that local ISP to connect to ITNet. Be sure to select the number closest to you so you do not incur long distance charges.

Select SET COUNTRY\AREA CODE MODE to choose the settings needed to make an outside call to the ISP. Choose DIAL PHONE NUMBER ONLY if you do not need to dial the area code first. Select DIAL AREA + PHONE NUMBER if you need to dial the area code as well as the phone number. Choose DIAL COUNTRY + AREA + PHONE NUMBER to dial the country code as well as the area code and phone number.

DISPLAY TIMERS

This screen displays various times that are important to the game and ITNet. Use this screen when checking on your ITNet call status and schedule for ITNet features.

CURRENT ITNet TIME (GMT) displays the time in Greenwich Mean Time, which is important to ITNet.

CURRENT LOCAL TIME is the current time in your area of the country.
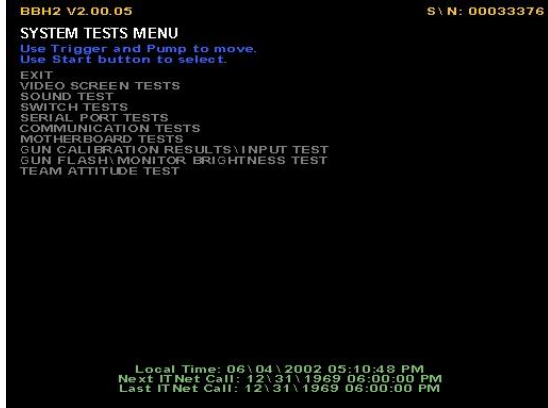
REGULAR CALL IN TIME is the general time of day that your machine is scheduled to make a call to ITNet. The call is generally short, and is required once every 48 hours.

NEXT ITNet CALL shows when the machine is scheduled to make its next call to ITNet.

LAST CALL displays the machine's last successful call to ITNet.
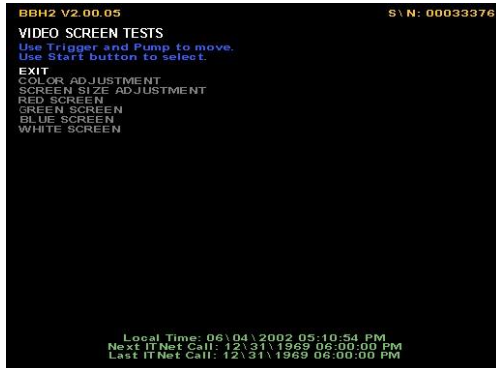
SYSTEM TESTS MENU

Big Buck Hunter II has been inspected and tested at the factory and should arrive to you in perfect working order. If you are experiencing any problems with the game, the **SYSTEM TESTS MENU** is a good place to start when tracking down the problem.

```
BBH2 V2.00.05                    S\N: 00033376
SYSTEM TESTS MENU
Use Trigger and Pump to move.
Use Start button to select.
EXIT
VIDEO SCREEN TESTS
SOUND TEST
SWITCH TESTS
SERIAL PORT TESTS
COMMUNICATION TESTS
MOTHERBOARD TESTS
GUN CALIBRATION RESULTS\INPUT TEST
GUN FLASH\MONITOR BRIGHTNESS TEST
TEAM ATTITUDE TEST




              Local Time: 06\04\2002 05:10:48 PM
              Next ITNet Call: 12\31\1969 06:00:00 PM
              Last ITNet Call: 12\31\1969 06:00:00 PM
```

VIDEO SCREEN TESTS

You can test your monitor and adjust colors or sizes by choosing **VIDEO SCREEN TESTS** and pressing the START button on the desired test.

```
BBH2 V2.00.05                    S\N: 00033376
VIDEO SCREEN TESTS
Use Trigger and Pump to move.
Use Start button to select.
EXIT
COLOR ADJUSTMENT
SCREEN SIZE ADJUSTMENT
RED SCREEN
GREEN SCREEN
BLUE SCREEN
WHITE SCREEN




              Local Time: 06\04\2002 05:10:54 PM
              Next ITNet Call: 12\31\1969 06:00:00 PM
              Last ITNet Call: 12\31\1969 06:00:00 PM
```

These tests can be exited at any time by pressing the START button. The screens are a grid of colored rectangles, a set of squares to test sizes, and then red, green, blue and white to test the condition of the monitor's components. Use these colors and grids to adjust your monitor so they look as good as possible.

SOUND TESTS

Choose **SOUND TEST** from the **SYSTEMS TESTS MENU** to test the sounds and speakers in the game.
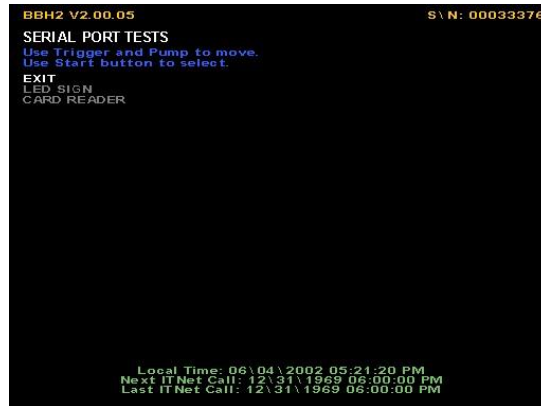
```
SOUND TEST
Use TRIGGER to change sound.
Use PUMP to repeat sound.
Use START to exit.


Current Sound:
None
```

Use the trigger on the gun to play and change a sound. Use the Pump to repeat the sound. The Start button exits this test.

SWITCH TESTS

When **SWITCH TESTS** is selected, the screen will display a diagram of the Big Buck Hunter II inputs. The controls are highlighted on the diagram when the controls are active. Test all of the controls, including test and service switches.

SERIAL PORT TESTS

These two tests check the basic functions of the LED Sign and the Card Reader, two of the primary elements required for ITNet features.

```
BBH2 V2.00.05                    S\N: 00033376
SERIAL PORT TESTS
Use Trigger and Pump to move.
Use Start button to select.
EXIT
LED SIGN
CARD READER




              Local Time: 06\04\2002 05:21:20 PM
              Next ITNet Call: 12\31\1969 06:00:00 PM
              Last ITNet Call: 12\31\1969 06:00:00 PM
```

LED SIGN tests the integrity of the connection from the game to the LED sign and LED hardware. Press the START button to activate the sign test. The video screen will display the communication status. The LED sign will display the code version number, followed by a string of letters and numbers, then a solid bar will scroll across the display. Use this test to visually check for non-functioning LED segments. If the status is bad, contact your distributor or the IT service department. Press the START button to exit out of this test.

CARD READER tests the card reader hardware. After pressing the START button, you will see the message "NO DATA DETECTED YET". Insert a card into the card reader. Normally the message "A CARD SWIPE HAS BEEN DETECTED." is displayed, as well as the recognized card type. If you do not get the "A CARD SWIPE HAS BEEN DETECTED" message try inserting a card at different speeds or use a different card. If still unsuccessful, contact your distributor or the IT service department.

COMMUNICATION TESTS

This menu is designed to help test the ways the board can communicate with ITNet.
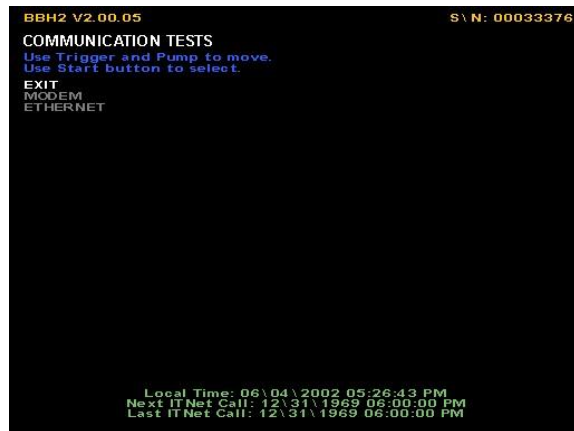
MODEM tests the existence of the modem as well as its ability to respond. Each machine needs its own working modem, even if daisy chained. Pressing the START button when MODEM is selected will activate the test and a pass or fail message will appear. If the modem test fails, contact your distributor or the IT Service Department.

ETHERNET tests for existence and response of your Ethernet controller. This feature is not currently being utilized by ITNet.

MOTHERBOARD TESTS

This menu is to help test some of the basic hardware located in your Big Buck Hunter II machine.
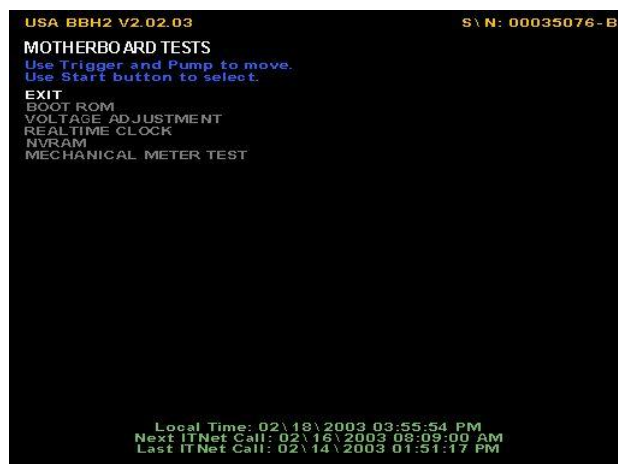
BOOT ROM tests the memory your game boots from. To activate this test press the START button. You will get one of two messages: "BOOT ROM CHECKSUM IS CORRECT" or "BOOT ROM CHECKSUM IS INCORRECT". If you get the failure message please contact your local distributor or the IT Service Department.

VOLTAGE ADJUSTMENT (GREEN BOARDS ONLY) tests the voltage levels of the game's power supply. This test reveals one of four messages the instant the menu selection is highlighted. "VOLTAGE IS WITHIN ACCEPTABLE RANGE" means that everything is working properly. "VOLTAGE IS HIGH" or "VOLTAGE IS LOW" means you have to adjust the voltage until you get the ACCEPTABLE RANGE message. "VOLTAGE DETECTION FAILURE" means there is a hardware failure with the voltage detect circuitry and you should contact your local distributor or the Incredible Technologies Service Department.

REALTIME CLOCK is used to display the board's clock in current local time. Pressing the START button will display the current local time and date. If the time is incorrect it can be adjusted by making a call to ITNet.

NVRAM tests the non-volatile RAM, or memory, on the game's board. Pressing the START button will activate this test. You will get one of two messages: NVRAM CHECKSUM SUCCEEDED or NVRAM CHECKSUM FAILED. As with all other tests if you get the failure message contact your local distributor or the Incredible Technologies Service department.

MECHANICAL METER TEST tests the hard meter in your cabinet. Press the trigger to increment the meter by 1 pulse.

GUN CALIBRATION RESULTS\INPUT TESTS

Gun Calibration is used to measure the sighting and accuracy of the gun.

Use this test to verify the degree of accuracy of the gun's sighting, in relation to the screen. Stand approximately 3 feet away from the cabinet and aim the gun at the center of the screen. The red dot will move with the gun, and you should be able to aim it accurately in the bullseye target on the screen.

If your aiming seems off, you can calibrate your gun for better accuracy in the Gun Calibration Menu, accessed from the Main Menu.

GUN FLASH/MONITOR BRIGHTNESS TEST

When the trigger is pulled during game play, the monitor flashes solid white for a short time. This white screen allows the gun to determine proper aiming. If not adjusted properly, some monitors can have trouble reading the gun, especially around the border. Big Buck Hunter II has added a test to determine if the gun and monitor are working properly together to allow for best game play.

The first screen displays instructions on how to correctly run this important test. When you have read the instructions, pull the trigger to begin the test.

The Test screen displays a signal strength meter on a white background. Be sure to aim the gun at all parts of the screen for a complete test. A good, thorough test should last about 60 seconds. When you have completed your test, press Start to display the results.

The Results screen displays the results of the test for the main, central area, and the outer edges of the monitor. If your test returns a PASS, your gun and monitor are adjusted correctly and the test is complete. If you return a FAIL result, press the Test button inside the cabinet, or SW51 #1 to the ON position, for a troubleshooting screen.

If you cannot adjust your monitor or calibrate your gun to give you satisfactory game play, try changing dip switch SW51 #2 to the OFF position. This setting lowers the gun tracking threshold and may return better results in some cases. The SW51-Dip switches can be found on the main PCB near the JAMMA connector.
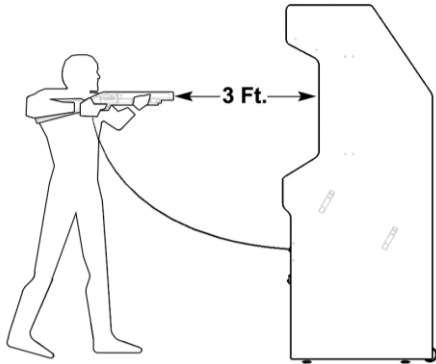
GUN CALIBRATION MENU

Gun Calibration is used to adjust the sighting and accuracy of the gun.

Follow the onscreen instructions to correctly format your gun.

Sighting the gun: Stand approximately 3 feet away from the cabinet and be sure the gun is positioned in the center of the screen.

A red dot will appear. Using the sight on the gun, position the red dot in the center of the gun's cursor and slowly pull the trigger.

Sight verification: Next, verify the degree of accuracy in relation to the gun sight by positioning the red dot in the center of the bulls eye target on screen. If the position is centered correctly, exit test to save the settings.

MAILBOX

This feature is designed to deliver messages to the operator through the game. Although it is not functional in this current version, plans to make this available using ITNet's new features are in development.

AUTOMATIC STARTUP TEST AND SWITCH TESTS

Big Buck Hunter II offers a quick startup test for game diagnostics integrity and switch testing. To initiate the Startup Test, press and hold down the Start button during power-up to the machine.

The Startup Test will run through a series of diagnostics tests, and stop on the Switch Test. Activating the various switches will change the displayed text to white. To exit and continue the Integrity Test, press the Gun Trigger and Gun Pump simultaneously. You may have to wait until the modem, sign and card reader tests are complete.

HIGH SCOREBOARDS MENU

This feature lets operators display and reset the various leaderboards available in Big Buck Hunter II.
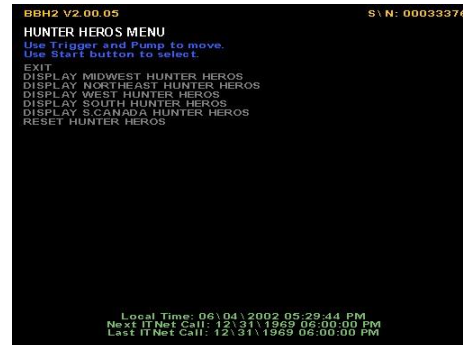
Select which region you wish to work with and then hit the start button to go to the next menu.
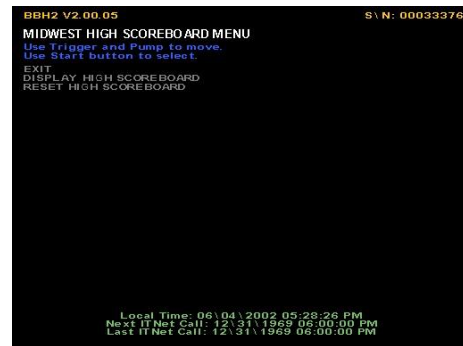
EXIT takes you back to the main LEADERBOARDS MENU.

DISPLAY HIGH SCOREBOARD lets you display the top 10 scores for that specific region.
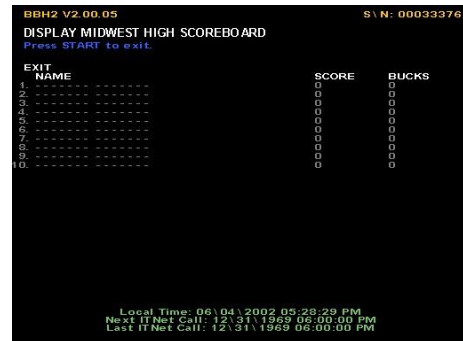
CLEAR/RESET LEADERBOARDS lets you clear the leaderboard for that specific region. The leaderboard will then be cleared in both the attract mode and in the game. A message will flash saying the leaderboard has been cleared for that region.

GENERAL TROUBLESHOOTING

VIDEO PROBLEMS

Symptom	Probable Cause	Solution
No Picture	Dip switches set incorrectly.	Make sure SW-5 switches are in the correct positions.
	Power Bypass Cable not installed correctly(GREEN BOARD ONLY).	Make sure the Power Bypass Cable is installed correctly.
	Bad cable connection.	Make sure there are good connections from the board's video outputs to the monitor's video inputs. Make sure the video card cable is connected to the main PCB.
No Picture	Possible problem with Main PCB.	Run the power-up test by holding the START button during power-up. Watch for LED Status 1 and a flash code. Check all hard drive connections.
	Monitor.	Make sure the monitor is operating correctly. (Check it with another compatible logic board).
	Voltage too high/low (GREEN BOARD ONLY).	Check all power supply voltages. Adjust from 5.0 to 5.2 volts. At the Boot ROM (U15, Pins 16 & 32).
	JAMMA Harness connected improperly.	Identify Pin 1 on the JAMMA connector and on the PCB. If installed incorrectly, damage to the PCB may have occurred.
Scrambled Picture	Missing sync connection or misadjusted monitor.	Check the sync connection - Adjust monitor.
	Dip SW-5 set in the wrong resolution.	Make sure SW-5 switches are in the correct positions.
Missing colors or washed out color	Bad video connections or misadjusted monitor.	Check the video red, green, and blue connections. Adjust the monitor
Bright, blurry, or rolling picture	Misadjusted monitor.	Adjust the monitor, not the board. (Refer to your monitor manual).
Picture too large, too small, or off center	Misadjusted monitor.	Adjust the monitor, not the board. (Refer to your monitor manual).
Video image is flipped	Misadjusted monitor.	Reverse the monitor's convergence wires or flip the monitor 180º. (Refer to your monitor manual).
Diagonal white lines	GND problem.	Earth and Logic GND's should be connected at the power supply.

CONTROL PROBLEMS

Symptom	Probable Cause	Solution
Start Button does not work or is partly inoperable. Or the selections keep scrolling on Operator Mode menus.	Switches not properly connected.	Make sure that the common post of the switch is connected to ground.
		Make sure each individual switch is working by doing the Control Panel Test found in the SYSTEM TESTS section.
		Make sure that the signal wire for that particular switch is connected to the normally open post of the switch.
	JAMMA Harness connected improperly.	Identify Pin 1 on the JAMMA connector and on the PCB. If installed incorrectly, damage to the PCB may have occurred.
Coin counter not working	Miscellaneous.	Make sure that the signal wire has a connection from the counter to the board.
		Make sure counter has correct voltage supply connected. +12 or +5, depending on the model.
		Verify that the counter is good.
Gun does not work	No +5 voltage.	Bad inductor (L52) or bad connection to Gun.
		Check for +5V on J52 Pin 1 on GREEN BOARDS, and J59 Pin 1 on RED BOARDS.
	Bad gun or gun cable.	Change with known, good gun and/or gun cable.
	Gun not connected to gun connector.	Connect gun cable to J52 Gun 1 for GREEN BOARDS, and J59 Gun 1 for RED BOARDS.
Gun fails to hit targets	Sun, fluorescent lights, or glare on monitor	Darken room or re-position machine.
	Gun out of adjustment	Use game software to adjust gun calibration.
	Black level may be out of adjustment	Adjust screen's Black Level so black looks black. Re-adjust brightness and contrast as needed.
Intermittent or non-functioning gun, normal game starts	Dirty Optics	Clean dirt and debris from gun. Do not apply cleaning fluids into the gun barrel.

NOTE: Bright overhead lights, direct sunlight or neon lighting may interfere with the optical gun operation. Reduce the light levels, re-position cabinet and/or adjust the screen brightness to reduce this interference.

GUN PROBLEMS CONTINUED

Symptom	Probable Cause	Solution
Intermittent or non-functioning gun, normal game starts (continued).	Loose or missing parts	Inspect gun for repair or replacement requirements.
	Faulty switches	Use the Control Tests menu in software to verify switch operation.
		Check for loose wires or debris caught in switch contacts.
		Check the continuity at each switch position.
	Faulty gun interface	Check inductor L52 (GREEN BOARDS) or L57 (RED BOARDS) at Gun Connector for 5V on both sides.
	Faulty wiring	Check for wires caught in door hinges, latches or switch contacts.
		Make sure the harnesses connectors are seated properly and securely.
		Make sure the cabinet wiring is correct for this game, and all switches are free and working.
		Make sure the gun switch wires are connected securely into the gun connector. Make sure the connector is connected securely to the cable and PCB.
		Check the continuity of the gun wires to the Main Board.
	Misc.	Remove screws from gun and carefully separate gun halves. Be aware that the pump and trigger are spring loaded, so take care not to unseat them. Carefully clean the lens and gun components. Reassemble gun and verify that it is in working condition.

POWER-UP PROBLEMS

Symptom	Probable Cause	Solution
No reaction when game is turned ON	Voltage too high or too low.	Defective Power Supply or wiring problem.
		Short between power and ground. Check for foreign material.
		Disconnect the harness and measure the resistance between power and ground. It should read around 600 ohms. (0 ohms is a dead short).
		Make sure the harness is not shorting to anything, such as bare or frayed wires shorting out each other or hitting bare metal.
	No power from the power supply.	Replace power supply.
	Short on the board.	Check for loose or foreign material on the board.
	Hard drive connected improperly.	Run the power-up test by holding down the START button during power-up. Check all Hard Drive connections.
	JAMMA Harness connected improperly.	Identify Pin 1 on the JAMMA connector and on the PCB. If installed incorrectly, damage to the PCB may have occurred.
	Open on socketed IC's	Check for bent pins on socketed parts. Make sure that all IC's are seated in their sockets properly.

SOUND PROBLEMS

Symptom	Probable Cause	Solution
No sound	+12 vdc power supply is bad	Replace +12 vdc power supply.
	Bad connection to the board.	Check for +12 vdc power on the board.
		Check for +5 vdc power on the board at pins 16(-) and 32 (+).
	Sound adjustment in Operator Adjustables	Check the volume setting in the OPERATORS ADJUSTABLE section of the Operator Mode.
		All of the attract mode sounds are "OFF".
	JAMMA Harness connected improperly	Check the speaker connection.
	Miscellaneous	Identify Pin 1 on the JAMMA connector and on the PCB. If installed incorrectly, damage to the PCB may have occurred.

MISCELLANEOUS PROBLEMS

Symptom	Probable Cause	Solution
Green LED not blinking (D5A or D20)	Program not running.	Make sure all socketed IC's are seated correctly. Look for bent pins. Run the power-up test by holding down the START button during power-up.
	Bad connections.	Make sure you have continuity from PCB to power supply.
Sounds Bad	Miscellaneous	Check the speaker connections. Try another main PCB to verify the problem.
On power up the game goes through a long test ending with the Player Control Test	Start switch is stuck or the signal wire is connected to the normally closed post.	Fix the Start switch. Put the signal wire on the normally open post.

JAMMA HARNESS AND GUN CONNECTIONS

JAMMA Harness Connection

| WIRE COLOR	SOLDER SIDE			PARTS SIDE	WIRE COLOR
Black	*	A	1	*	Black
Black	*	B	2	*	Black
Red	*	C	3	*	Red
Red	*	D	4	*	Red
		E	5		
Orange	*	F	6	*	Orange
KEY		H	7	KEY	
		J	8	Coin Counter	Red-Green
		K	9		
Yellow-Green	Left Speaker (-)	L	10	Left Speaker (+)	Yellow-Red
		M	11		
Green-Black	Video Green	N	12	Video Red	Red-Black
White	Video Sync	P	13	Video Blue	Blue-Black
Orange-Black	Service	R	14	Video GND	White-Black
		S	15	Test	Blue
Green-Blue	Coin2	T	16	Coin1	Red-Blue
		U	17	Start 1	Red-White
		V	18		
		W	19		
		X	20		
		Y	21		
		Z	22		
		a	23		
Orange-Yellow	Volume Down	b	24	Volume Up	Orange-White
		c	25	Coin 3	Gray-White
		d	26		
Black	GND	e	27	GND	Black
Black	GND	f	28	GND	Black

*** Power is NOT routed through the JAMMA connector.
Power is now routed through the ATX Power Supply cable for RED BOARDS.**

Gun Harness Connection

Main Board Connector			Gun Connector	
PIN WIRE #6 - Black	GND		PIN WIRE #1 - Black	
PIN WIRE #1 - Red	VCC		PIN WIRE #2 - Red	
PIN WIRE #2 - Yellow	Trigger		PIN WIRE #3 - Yellow	
PIN WIRE #3 - Green	Sense		PIN WIRE #4 - Green	
PIN WIRE #5 - Blue	GND		PIN WIRE #5 - Blue	
PIN WIRE #4 - Purple	Pump		PIN WIRE #6 - Purple	

NOTE: Connect the Gun cable to J54 of the Main Board (Labeled as Gun 1).

RIFLE SCHEMATIC
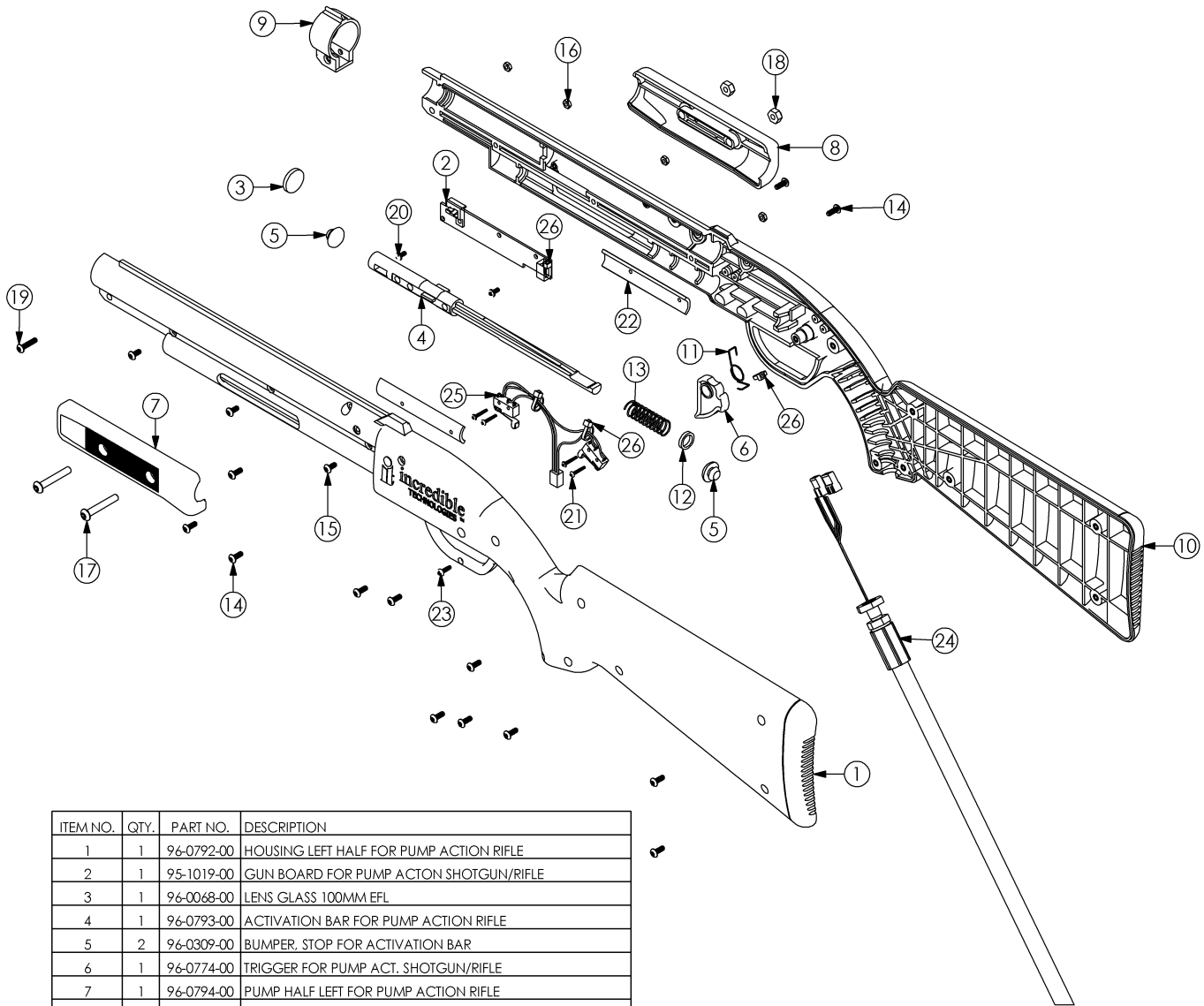
ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	96-0792-00	HOUSING LEFT HALF FOR PUMP ACTION RIFLE
2	1	95-1019-00	GUN BOARD FOR PUMP ACTON SHOTGUN/RIFLE
3	1	96-0068-00	LENS GLASS 100MM EFL
4	1	96-0793-00	ACTIVATION BAR FOR PUMP ACTION RIFLE
5	2	96-0309-00	BUMPER, STOP FOR ACTIVATION BAR
6	1	96-0774-00	TRIGGER FOR PUMP ACT. SHOTGUN/RIFLE
7	1	96-0794-00	PUMP HALF LEFT FOR PUMP ACTION RIFLE
8	1	96-0795-00	PUMP HALF RIGHT FOR PUMP ACTION RIFLE
9	1	96-0796-00	FRONT CAP FOR PUMP ACTION RIFLE
10	1	96-0791-00	HOUSING RIGHT HALF FOR PUMP ACTION RIFLE
11	1	96-0311-00	TORSION SPRING TRIGGER PUMP SHOTGUN
12	1	43-1245-00	PLASTIC WASHER
13	1	96-0308-00	SPRING PUMP CARNEVIL PUMP SHOTGUN
14	13	43-0095-00	SCREW 6-32 x3/8 BHMS T-10 TORX
15	3	43-1294-00	SCREW 6-32 x 5/16 BHMS T-10 TORX
16	4	43-0094-00	NUT HEX 6-32 .25 A.F. BLK OX.
17	2	43-1248-00	SCR 10-32 X 1-1/4 BH TORX BLACK
18	2	43-0253-00	NUT HEX 10-32 JAM NYLOCK ZINC PLATED
19	1	43-1247-00	SCR 6-32 X 5/8 BH TORX BLACK
20	2	43-0492-00	SCREW, 4-40 X .25 PH. PN. HD
21	4	43-0172-00	SCREW, #2 X 1/2 TYPE B. PPH
22	2	96-0548-00	SUPPORT BRACKET
23	1	43-0562-00	SCREW, #4 PH PN HD TP B .38 L.
24	1	95-1494-00	TETHER HOSE AND HARNESS ASSY PUMP ACTION RIFLE I.T.
25	1	95-1519-00	SWITCH AND HARNESS ASSY I.T. TRIGGER AND PUMP
26	4	90-1013-00	TIE WRAP 4" LENGTH

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