

AMERICAN LASER GAMES™

OPERATING MANUAL

REVISION 2.00

Mad Dog McCree & Who Shot Johnny Rock

AMERICAN LASER GAMES

2715-J Broadbent Parkway N.E.

Albuquerque, NM 87107

(505) 344-3887

AMERICAN LASER GAMES

SPECIFICATIONS

POWER SUPPLY	120 VAC 60Hz
POWER CONSUMPTION	500 WATTS

TABLE OF CONTENTS

INSTALLATION.....	1
COMPONENT DIAGRAMS.....	2
SYSTEM WIRING DIAGRAM	2
CONSOLE WIRING DIAGRAM	3
FLYING LEAD CABLE DIAGRAM.....	3
SERIAL CABLE WIRING DIAGRAM.....	4
AUDIO AMPLIFIER DIAGRAM.....	4
MAIN ELECTRONICS AND ROM BOARD DIAGRAM.....	4
GUN WIRING DIAGRAM	5
COIN DOOR LIGHT WIRING DIAGRAM	6
AUDIO AND VIDEO WIRING DIAGRAMS	7
POWER WIRING DIAGRAM	8
OPTO ISOLATOR BOARD DIAGRAM	9
SHOT AMPLIFIER BOARD	10
TROUBLE SHOOTING	11 - 15
GAME OPERATION AND PLAY INSTRUCTIONS	A
SERVICE MODE	B

AMERICAN LASER GAMES

INSTALLATION

INITIAL INSPECTION

Your American Laser Game has been thoroughly tested and burned in at the factory. No special setup procedures should be required. However it is suggested that upon receiving the game you check the following to insure proper game operation.

- All connectors are firmly seated.
- All components on printed circuit boards are firmly seated.
- All fuses are installed firmly.
- All protective shipping materials have been removed.
- No loose screws, wires, Etc.. which may cause electrical shorting or mechanical binding.
- Unit is free of moisture.
- Coin and bill mechanisms are operating properly.

GAME INSTALLATION

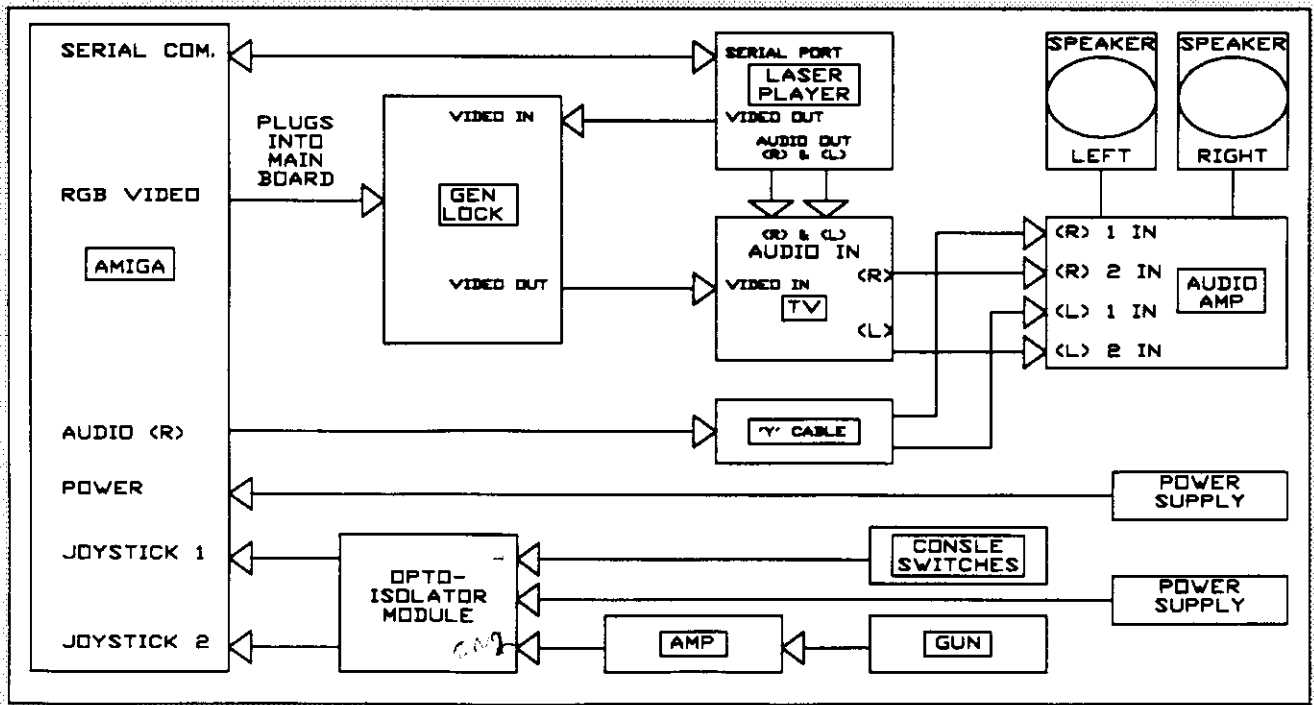
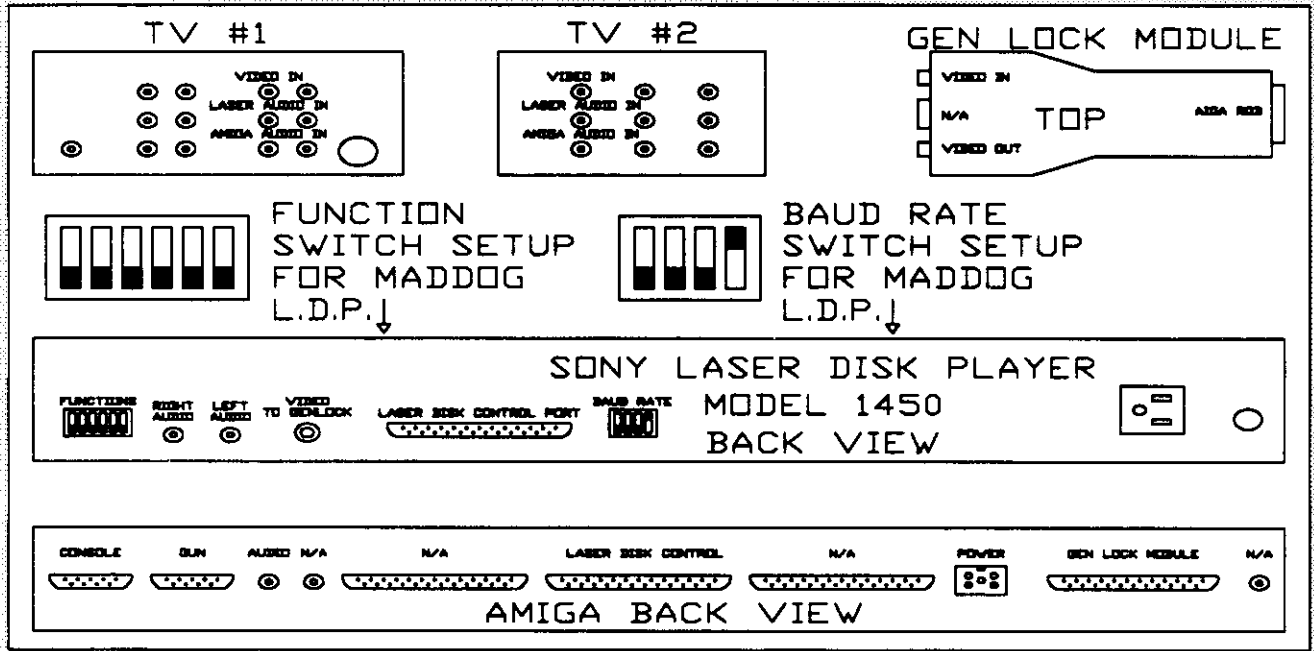
The following precautions should be taken when installing the game.

- Handle the laser disk with care so as not to scratch it.
- Do NOT install the game in excessively humid or dusty environments.
- Do NOT install the game near a heat source or in direct sunlight. Doing so may cause the game's internal temperature to exceed it's maximum temperature and result in damage to the game.
- Insure that the game's power source is properly grounded to the power service entrance.
- When installing the game take adequate protection against static electricity.

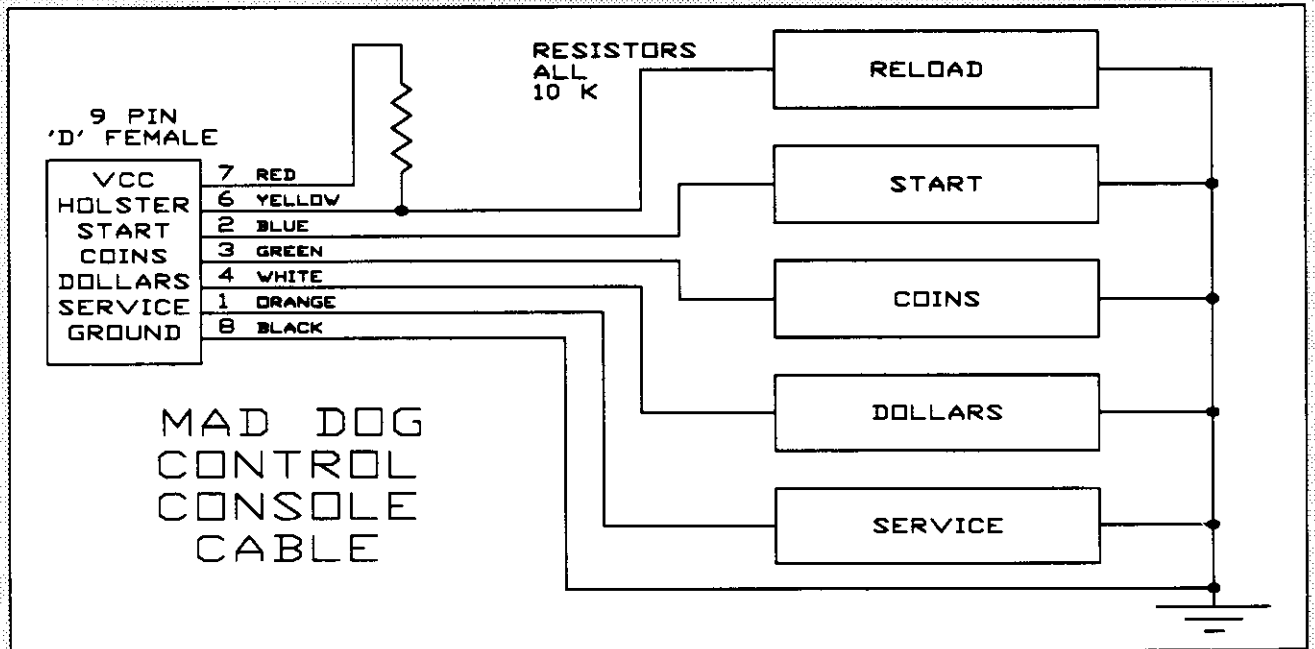
*** CAUTION ***

FOR SAFE OPERATION OF THIS GAME IT IS STRONGLY RECOMMENDED THAT THE CABINET BE PROPERLY GROUNDED. THIS GAME IS EQUIPPED WITH A THREE PRONGED POWER PLUG. THE ROUND PRONG ON THIS POWER PLUG WILL AUTOMATICALLY GROUND THE GAME WHEN PLUGGED INTO A PROPERLY GROUNDED THREE PRONG RECEPTACLE. IF IT IS NECESSARY TO USE A TWO PRONG ADAPTER, THE GROUNDING LUG OR WIRE ON THE ADAPTER MUST BE PROPERLY GROUNDED.

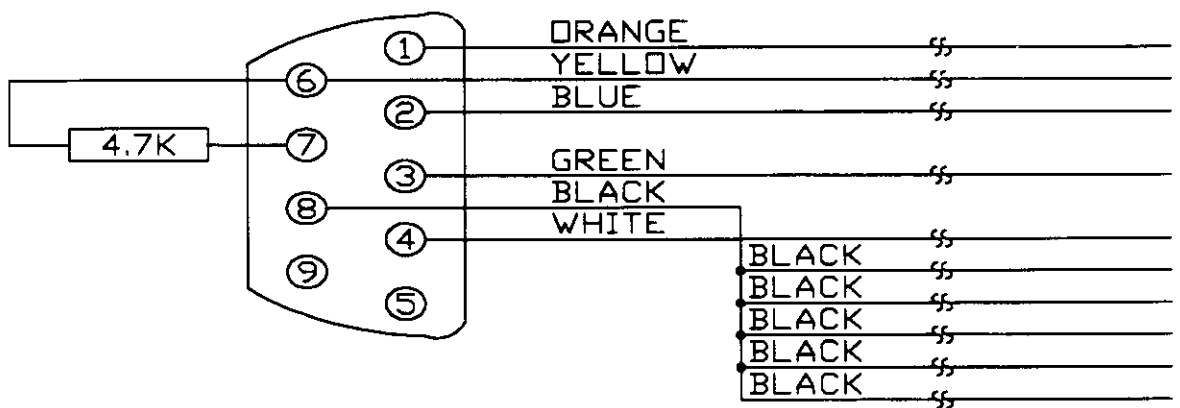
AMERICAN LASER GAMES



AMERICAN LASER GAMES

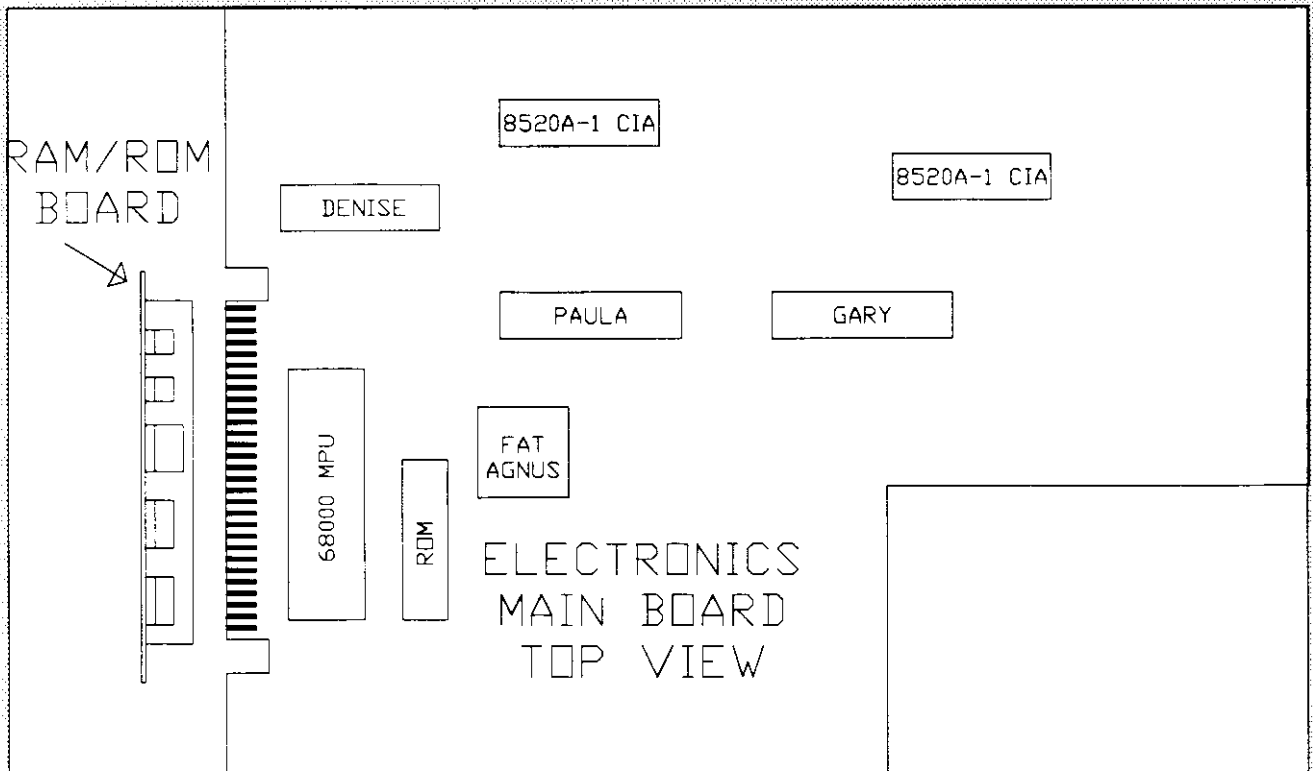
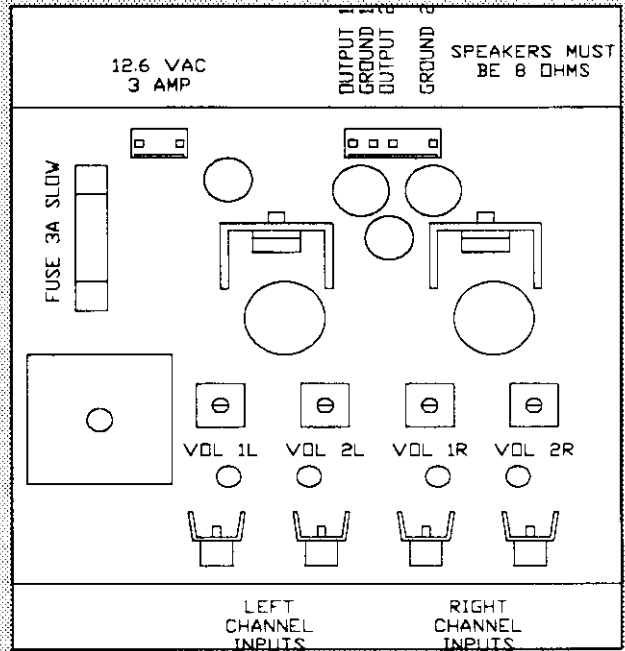
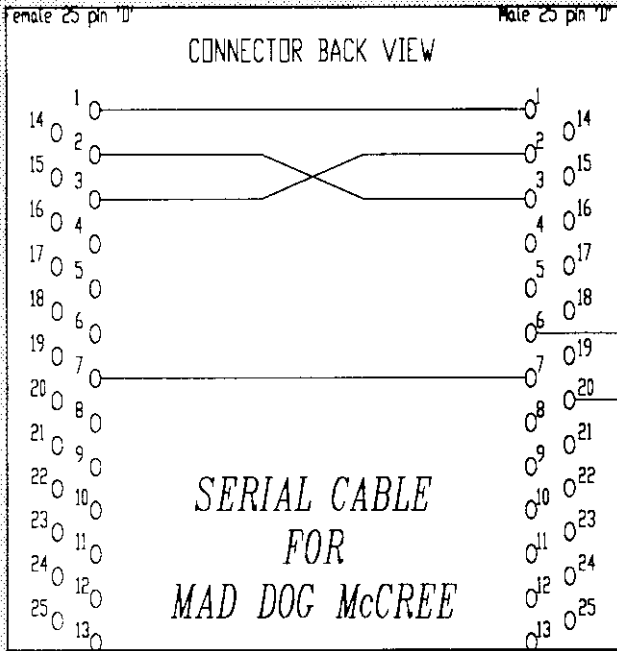


Control Console Cable

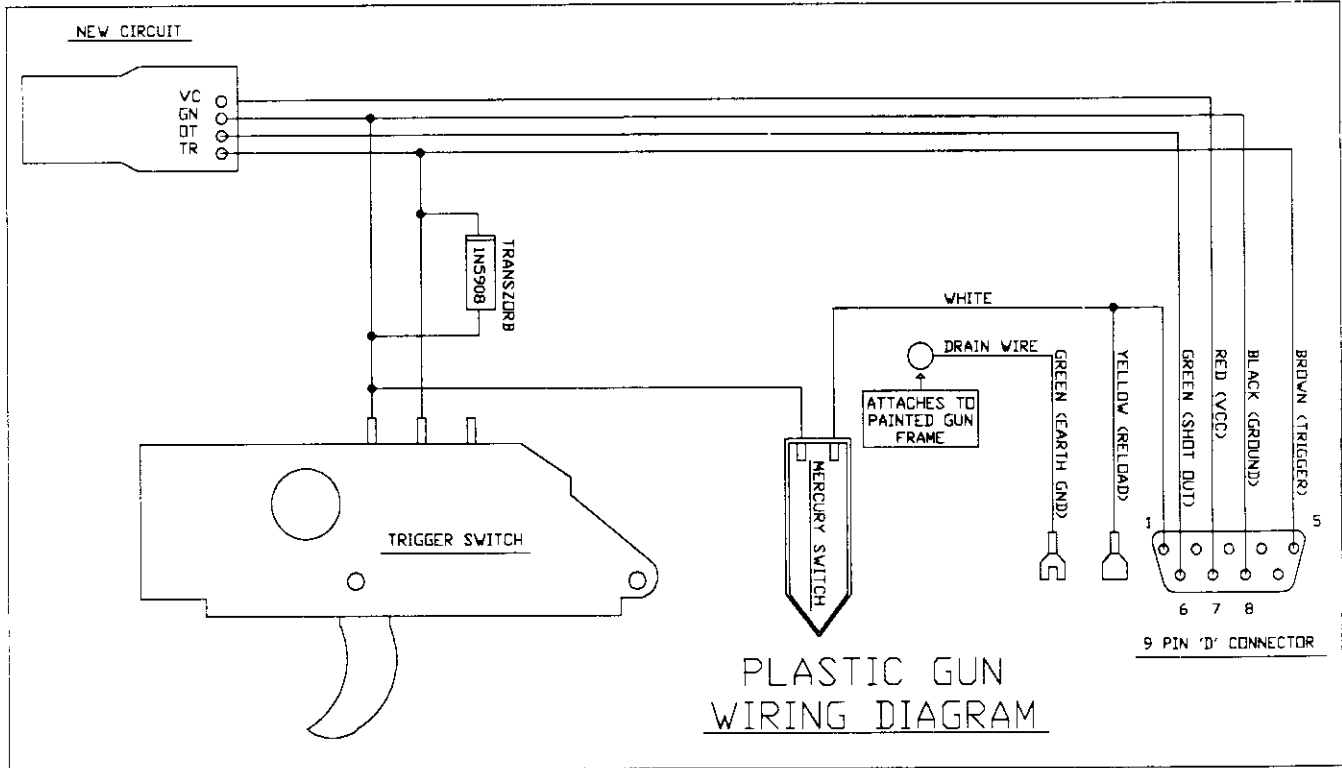


All wire lengths are 4 feet.
 The connector is a 9 pin 'D' sub-mini female
 The rear view of the connector is shown

AMERICAN LASER GAMES

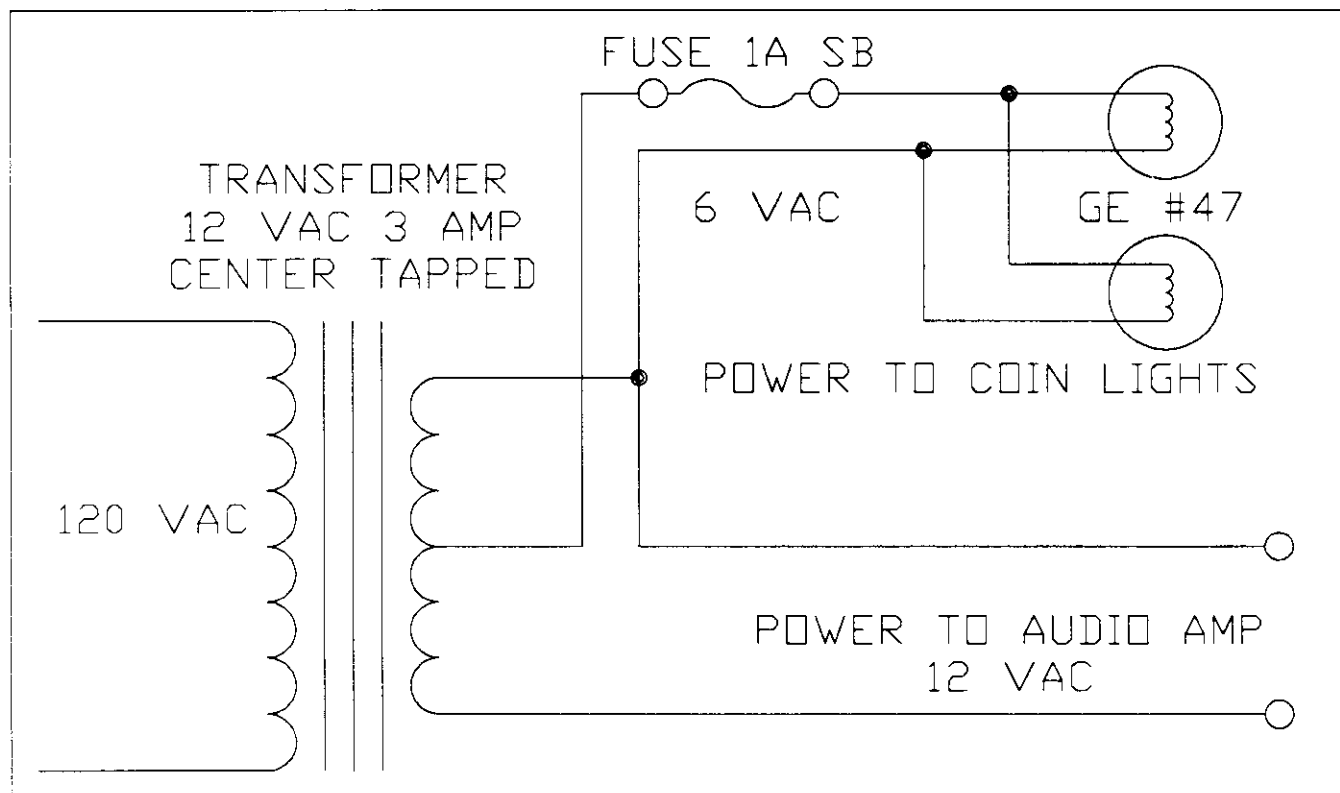


AMERICAN LASER GAMES



The American Laser Game gun wiring is very straight forward. A nine pin female 'D' type connector is wired to the various parts in side the gun. The yellow wire with a male spade lug is used in the reload circuit and attaches to the corresponding yellow wire with a female spade lug on the flying lead cable. The Green wire with a fork terminal is used to ground the gun to earth ground. This wire attaches to the plastic body of the gun. The gun body has been internally layered with a conductive coating. This coating along with the ground wire form a static electricity and electro-magnetic interference shield. The shot board is wired with power (VCC) and ground, it outputs a low (0 volt) pulse for every scan line of the monitor and has a pull up resistor for the trigger circuit. The mercury switch is used to control the reloading of bullets. When it is at the proper angle, the mercury switch sends a low (0 volt) signal to tell the computer it is reloading and a high (5 volt) signal when it is not reloading. In version 1C and higher of the software the gun will not fire when the mercury switch is reloading, this prevents players from defeating the mercury switch by using the gun up side down. The trigger switch sends a low (0 volt) signal to the computer when it is pressed and a high (5 volt) signal when it is not pressed.

AMERICAN LASER GAMES

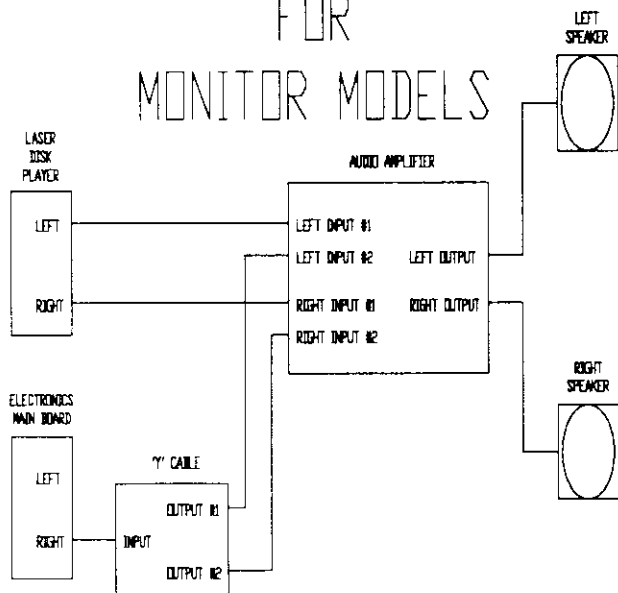


The lights on the coin mechanism are isolated from the rest of the game and may therefore be powered by the audio amplifier transformer. The audio amplifier transformer has a 12 volt secondary winding that is center tapped. Use one end of the transformer winding and the center tap for the proper voltage to power the coin mechanism lights. The current light bulb, a GE #47 is rated at 6.3 volts and will work fine in this arrangement. An in line fuse holder is in series with the cable that connects to the light bulbs to protect against accidental short circuits. The fuse amperage should not exceed 1 ampere.

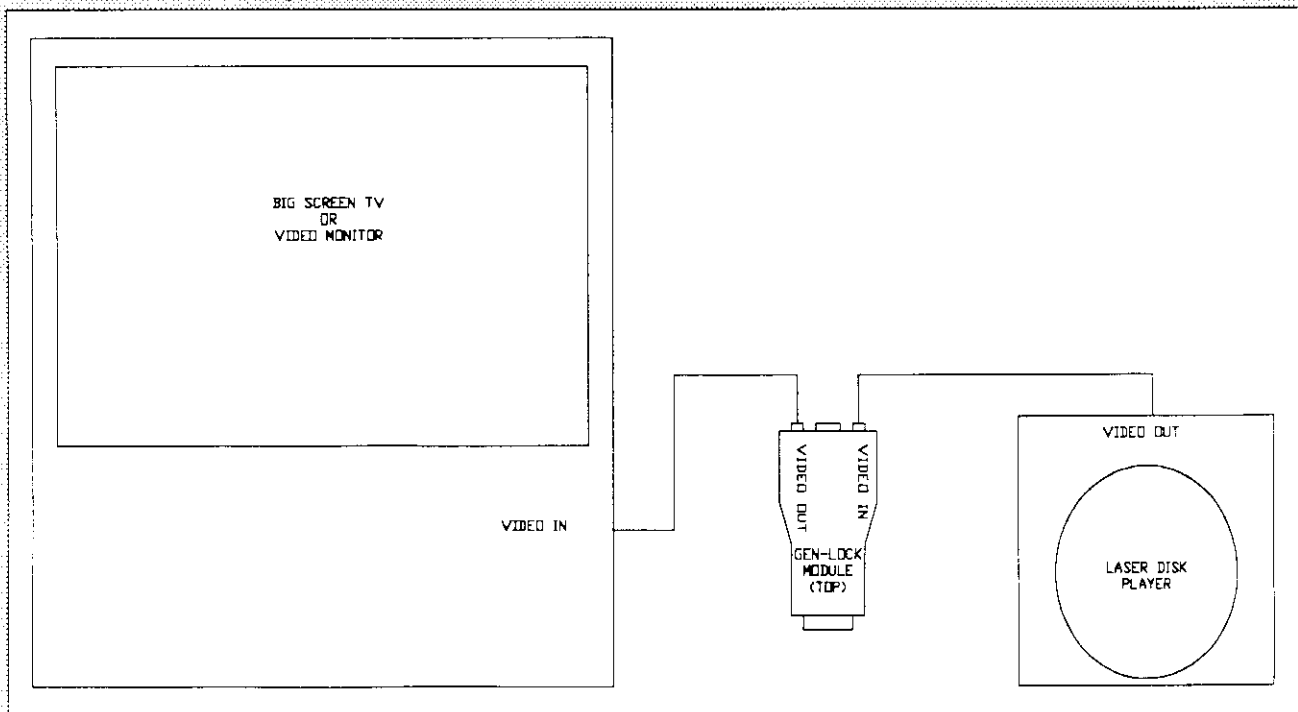
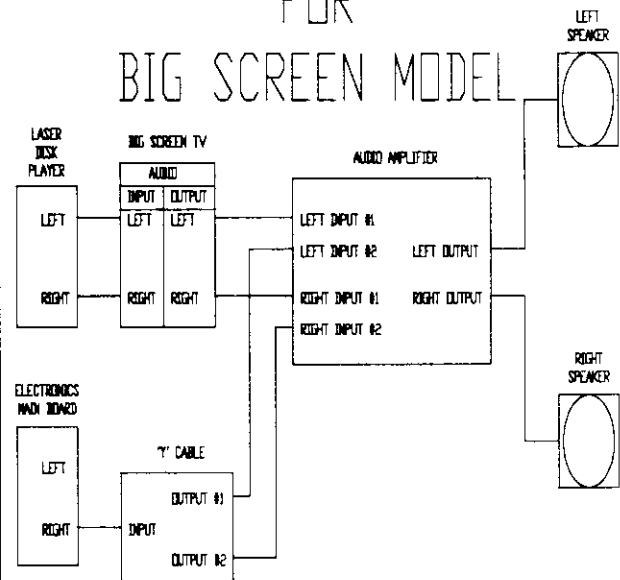
Some of the older models of the Mad Dog McCree game use the +5 VDC from the electronics main board to power the coin mechanism lights. These light bulbs draw almost 200 milliamperes each for a total of nearly half an ampere of current. Games with the new plastic gun that has the internal shot board powered from this same power supply may not function correctly.

AMERICAN LASER GAMES

AUDIO WIRING FOR MONITOR MODELS



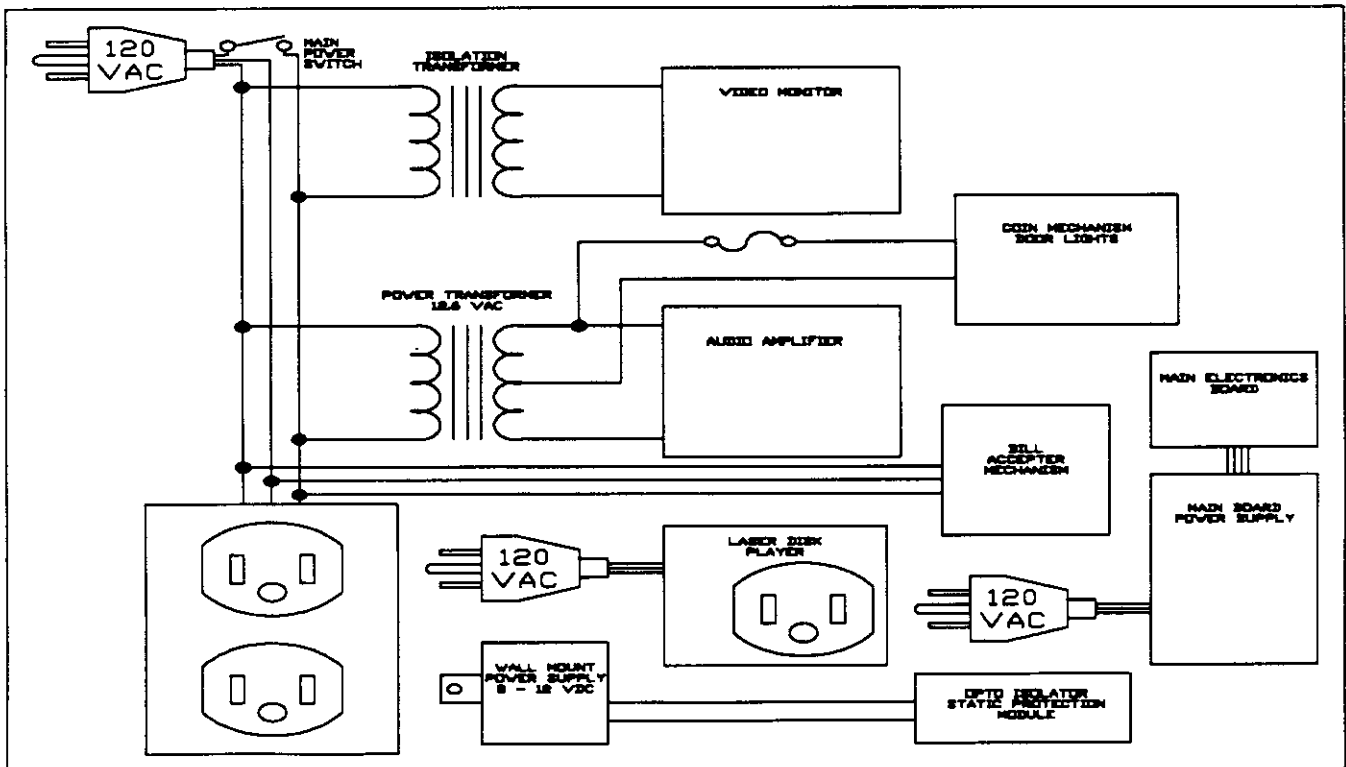
AUDIO WIRING FOR BIG SCREEN MODEL



AMERICAN LASER GAMES

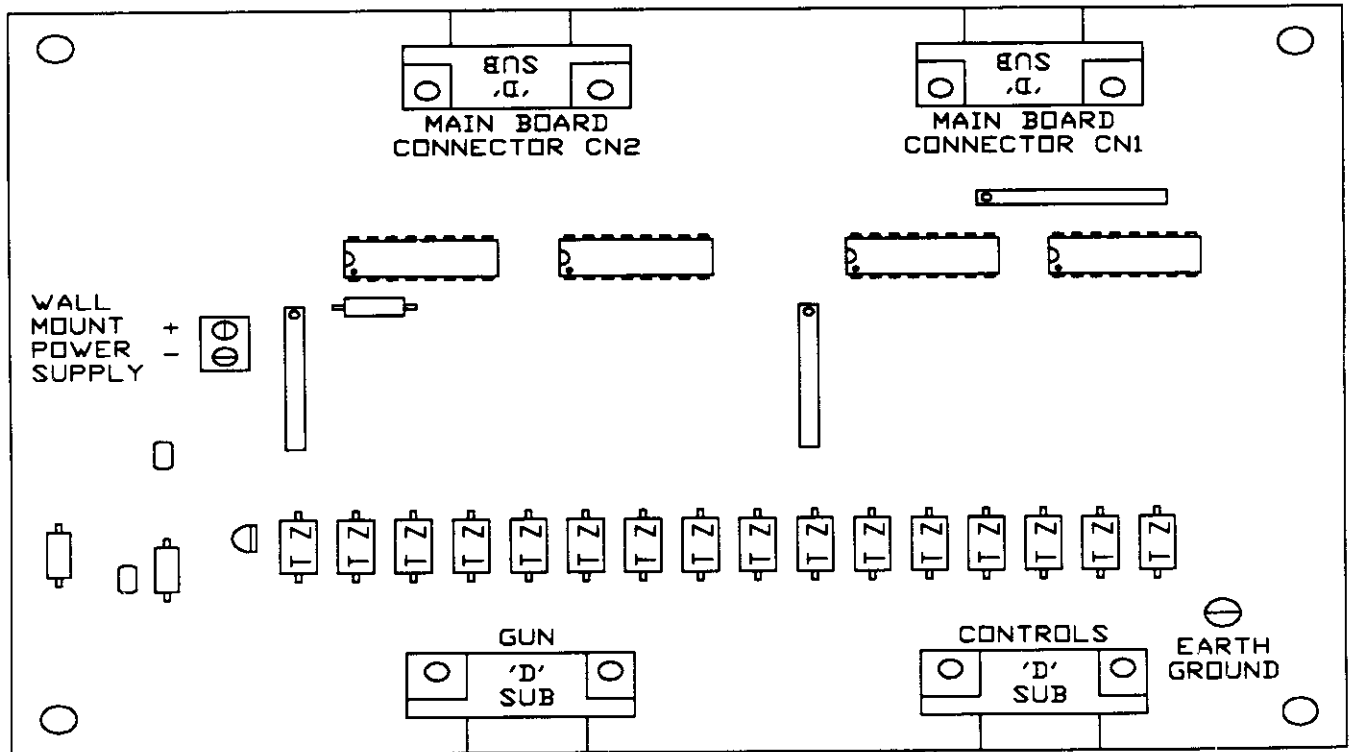
The wiring for the audio section of Mad Dog McCree is very straight forward. Audio comes from two separate places, the Laser Disk Player and the electronics main board. The Laser Disk audio is sent to the left #1 and right #1 channels of a special four input audio amplifier board, the output of which goes to the left and right speakers. If you have the 50" screen or larger model the sound first goes through the television set and out it's audio output jacks to the special audio amplifier board. The Audio from the electronics board goes to a 'Y' cable which connects to the left #2 and right #2 inputs of the special audio amplifier board.

The video wiring is even easier, video comes from the Laser Disk Player and goes to the input jack on the GEN-LOCK module. The video comes out of the GEN-LOCK output jack and goes to either your monitor or television video input jack.



The power wiring for American Laser Games consists of both line voltage (120 VAC) and low voltage (<30) sections. The low voltage sections are split up into two areas, low voltage AC for the audio amplifier board and coin door lights, and low voltage DC for the main electronics board and optoisolator board. The line voltage powers the laser disk player, the main board power supply, the opto isolator power supply, the bill acceptor and the video monitor through an isolation transformer.

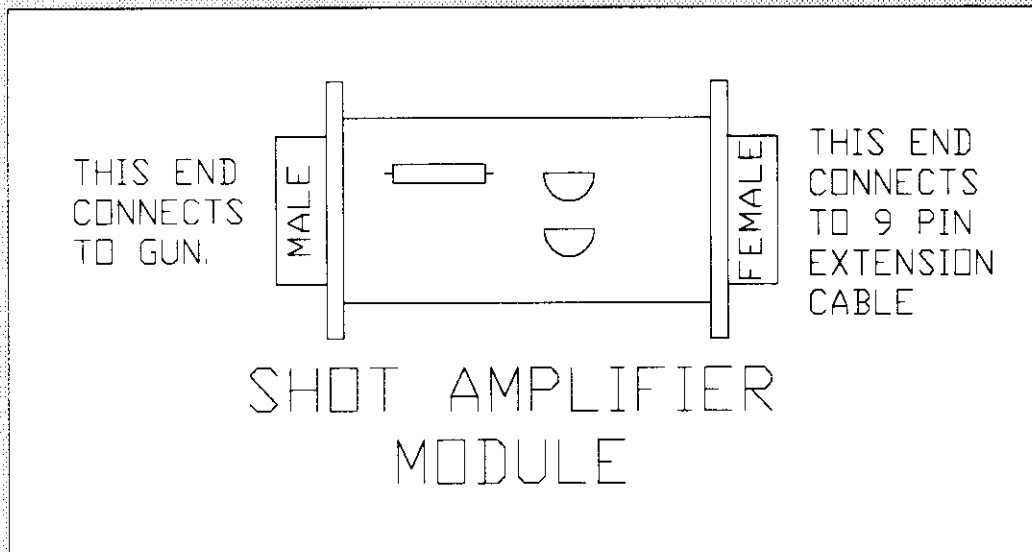
AMERICAN LASER GAMES



The Optoisolator board should be mounted within one and a half feet of the main electronics board. The four spacers are used to mount the board. Here are the steps to connect the optoisolator board to the American Laser Game system.

- Turn off all power to the game and unplug the game from the wall socket.
- Disconnect the gun from the gun extension cable at the control console. Plug the Amplifier onto the extension cable. Plug the gun into the amplifier.
- Connect a 9 pin ribbon extension cable between the optoisolator connector marked CN1 and the main board connector marked CN1.
- Connect a 9 pin ribbon extension cable between the optoisolator connector marked CN2 and the main board connector marked CN2.
- Connect the 9 pin 9 foot extension cable from the Gun to the connector marked GUN on the opto board.
- Connect the 9 pin extension Cable from the Console controls to the connector marked CONSOLE CONTROLS on the opto board.
- Connect the wires from the power supply to the connector block on the optoisolator.

AMERICAN LASER GAMES



- The striped wire goes in the connector marked plus (+) and the solid black wire goes in the connector marked (-). Power supplies vary so check polarity with a volt meter.
- Ground the optoisolator to earth ground using the ground screw provided on the optoisolator board.
- Plug the main board power supply into the back of the laser disk player.
- Plug the wall mount power supply into the power strip mounted on the rear of the cabinet.

This Completes the installation procedure. Turn power back on to the American Laser Game game and test it for proper function. The optoisolator will now protect the main electronics from static electricity.

AMERICAN LASER GAMES

TROUBLESHOOTING

Here is a list of commonly found problems and their possible solutions.

* CAUTION *

Many of the components found in American Laser Games are extremely static sensitive. Exposure to static electricity may cause permanent damage or result in significantly shorter product life span. When working on the American Laser Game always wear a static bracelet that is properly grounded.

Television or monitor does not turn on.

Check that the power cord is plugged in. Check the circuit breaker or fuse for being blown or not set. Check power at the outlet with an AC voltmeter.

Laser disk player does not turn on.

Check that the power cord is plugged in. Check the circuit breaker or fuse for being blown or not set. Check power at the outlet with an AC voltmeter.

Main electronics board does not turn on.

Check that the power cord is plugged in. Check the fuse for being blown . Check power at the outlet with an AC voltmeter.

Start push-button switch does not respond.

Check that the nine (9) pin 'D' type connector for the console controls is plugged into the last nine (9) pin connector on the opto isolator board. Check that the nine (9) pin 'D' type jumper cable is connected between the main electronics board and the opto isolator board. Check continuity of the console control cable with an ohm meter. Check continuity of the jumper cable with an ohm meter. Check for switch closure with an ohm meter. Check that the cable is properly connected to the start push-button (I.E. Common and Normally Open contacts). Check that there are credits to play on the machine.

Service push-button switch does not respond.

Check that the nine (9) pin 'D' type connector for the console controls is plugged into the last nine (9) pin connector on the opto isolator board. Check that the nine (9) pin 'D' type jumper cable is connected between the main electronics board and the opto isolator board. Check continuity of the console control cable with an ohm meter. Check continuity of the jumper cable with an ohm meter. Check for switch closure with an ohm meter. Check that the cable is properly connected to the service push-button (I.E. Common and Normally Open contacts).

AMERICAN LASER GAMES

Coin mechanism does not respond.

Check that the nine (9) pin 'D' type connector for the console controls is plugged into the last nine (9) pin connector on the opto isolator board. Check that the nine (9) pin 'D' type jumper cable is connected between the main electronics board and the opto isolator board. Check continuity of the console control cable with an ohm meter. Check continuity of the jumper cable with an ohm meter. Check for switch closure with an ohm meter. Check that the cable is properly connected to the coin mechanism switch (I.E. Common and Normally Open contacts).

Bill acceptor does not operate.

Check that the nine (9) pin 'D' type connector for the console controls is plugged into the last nine (9) pin connector on the opto isolator board. Check that the nine (9) pin 'D' type jumper cable is connected between the main electronics board and the opto isolator board. Check continuity of the console control cable with an ohm meter. Check continuity of the jumper cable with an ohm meter. Check for switch closure with an ohm meter. Check that the cable is properly connected to the bill acceptor switch (I.E. Common and Normally Open contacts). Check that bill acceptor is plugged into 120 VAC power. Check that power is applied to bill acceptor with AC voltmeter.

No laser disk video.

Check that the laser disk is inserted into the machine properly, the shiny side must face down. Check that BNC to RCA cable is properly connected between the laser disk player video output and the GEN-LOCK video input. If this is not the problem, here is a simple test to determine in what area the problem lies. Disconnect the serial cable from the back of the laser disk player. Turn the power to the laser disk player off and then on again. A female RCA to female RCA adapter may be used as a test fixture to jump laser disk video around the GEN-LOCK, Connect video from the laser disk player to one side of the female adapter, connect the cable from the monitor to the other side of the female adapter. If you now have video the GEN-LOCK or main board is at fault. If you still don't have video connect the video output from the laser disk player to a known good monitor. If you still don't have video then the laser disk player is bad, if you do have video then the internal monitor is likely to be at fault.

No laser disk sound

Check that the RCA cables are connected to the laser disk player right and left audio outputs. Check that the other ends of the RCA cables are connected to the audio amplifier board and / or television left and right inputs. Check the volume control on the television or audio amplifier.

AMERICAN LASER GAMES

No gun shot sound.

Check that the RCA cable is connected between the right audio output of the electronics board and the 'Y' cable. Check that the outputs of the 'Y' cable are connected to the left and right inputs of the audio amplifier board. Check the volume controls on the audio amplifier board. Refer to the audio board wiring diagrams and audio board connector placement diagram.

No gun shots.

Check that the nine pin connector on the gun is plugged into the shot amplifier module. Check that the gun control cable is properly connected to the shot amplifier module and that the other end of the cable is connected to the second nine (9) pin 'D' connector on the opto isolator board. Check that the jumper cable is connected between the opto isolator board and the electronics main board. Refer to the opto isolator diagram the correct connector assignment.

Erratic gun shot placement.

Check to see that there is no reflected light from fluorescent or neon lights bouncing off of the screen. Strong sunlight also affects the shot placement. Earlier versions of the plastic gun were not painted inside and strong lighting affected shot placement. To remedy this simply paint the inside of the gun barrel with a flat black lacquer.

No video text displayed.

Check to see that the GEN-LOCK module is properly connected to the twenty three pin 'D' connector on the main electronics board. The main board may also be at fault.

Laser disk player not responding.

Check that the serial cable is properly connected between the laser disk player and the electronics main board. Check the video disk for scratches and excessive dirt build up. Clean if necessary. Check the laser optics in the laser disk player for dirt or dust build up. Clean if necessary.

No picture on television or monitor.

Check brightness and contrast controls. Check that video cable from GEN-LOCK is connected between video out of the GEN-LOCK and Video in of the television or monitor.

AMERICAN LASER GAMES

White images or text outlined by red, green, or blue.

Check the convergence controls on the monitor or television and adjust if necessary.

Too few or many credits per game.

Check and adjust credits per game / continue in service mode.

Loses accounting information.

Battery in ram chip on Ram / Rom board is low. Ram / Rom board is not securely connected to the main electronics board. Defective Ram / Rom board.

Video jumps or is scratchy.

Check the video disk for scratches and excessive dirt build up. Clean if necessary. Check the laser optics in the laser disk player for dirt or dust build up. Clean if necessary.

Television is in wrong input mode.

Check the input mode and change with the remote control or front panel push-button on the television.

Laser disk player not on external C.P.U. control.

Check to see if the serial cable is properly connected between the laser disk player and the electronics main board. The cable may be faulty so check continuity with an ohm meter to insure that the wiring is in compliance with our diagram.

Video goes blank after start button is pressed.

Go into the service mode and check if the DUAL LANGUAGE option is set to YES. To use this option you must have a dual language laser disk. Set this option to no if you have an English only version of Mad Dog McCree.

Screen flashes different colors and does not continue.

Check to see if the laser disk player is turned on and connected to the electronics main board serial port. Check to see that the serial port baud rate on the laser disk player is set correctly (refer to diagram for proper laser disk switch settings).

AMERICAN LASER GAMES

Screen flashes when trigger is pulled but no shot is made.

The most likely cause of this problem is a bad or latched up gun circuit. Turn power off and then on to reset this condition. The other likely causes are a bad opto isolator board / power supply, shot amplifier module or a bad main electronics board.

Screen says ' LASER DISK OUT OF FOCUS '

The serial cable between the laser disk player and the main electronics board is broken or not connected. The laser disk player may also be at fault. Test the serial cable for opens and shorts with an ohm meter, refer to the serial cable wiring diagram for the wiring list. Try turning the laser disk player off and then on to reset the laser disk player internal microprocessor.

AMERICAN LASER GAMES

GAME DESCRIPTION (Mad Dog McCree)

A mean hombre, Mad Dog McCree has kidnapped the mayor and his daughter. The sheriff is in jail, and you need to get him out. Nobody in the town can stand up to Mad Dog, to beat Mad Dog you need to be a real gun slinger. It is up to you to get through all of Mad dog's men, ambushes and puzzles to save the mayor's daughter.

- Shooting cow skulls and spittoons give you more bullets.
- Listen to the clues given to you to make the right choices.
- Don't shoot innocent people.
- Reload your gun by holstering it (I.E. pointing the barrel down.)
- Your gun must be holstered before a gun fight.

GAME OBJECTIVES

- Save the prospector and get a Clue.
- Get the keys for the jail.
- Get the sheriff out of jail and get a clue.
- Foil the bank robbery attempt and get a clue.
- Kill all of Mad Dog's men in the corral and barn.
- Save the prospector from being blown up and get a clue.
- Get the map to Mad Dog's hideout
- Kill all of Mad Dog's men on the way to the hideout.
- Enter the hideout.
- Kill all of Mad Dog's men in the hotel.
- Kill Mad Dog.

AMERICAN LASER GAMES

GAME DESCRIPTION (Who Shot Johnny Rock)

Johnny Rock has been murdered by one of four People. You must get the clues that will lead you to the killer. Visit all the places on the map to find these clues. The clues in turn lead you to the combination of Johnny Rock's safe. The key to the killer is inside.

- Money can be earned by getting through the scenes alive.
- Money can be won by shooting your lucky number when it appears throughout the game.
- Bullets can be bought at the ammo store.
- Don't shoot innocent people, you will pay for it.
- A visit to the doctor will cost you money.

GAME OBJECTIVES

- Goto the pool hall and get a clue.
- Goto the casino and get a clue.
- Goto the warehouse and get a clue.
- Goto the garage and get a clue.
- Goto the mansion and open the safe to find the evidence on the killer.
- Goto the where the evidence leads you and find the killer.
- Shoot the object out of the killers hand to win the game.

AMERICAN LASER GAMES

SERVICE MODE. (Mad Dog McCree)

To enter service mode press the service button between games. A screen showing all of the right and left credits, average playing time and longest playing time will appear. To clear out this information press the start button. An example of this screen is shown below.

LEFT COINS:	975
RIGHT COINS:	948
TOTAL GAMES:	480
AVE. TIME:	1.15
MOST TIME:	9.06
PRESS START:	CLEAR

Press the service button again to get to the play / continue amount and game play level screens. The first screen will show these lines of text.

LEFT SLOT INFO	
COINS PER TICK:	4
CONTINUE COINS:	2
CREDITS PER TICK:	1
LEVEL:	EASY
DONE	
PRESS START:	CHANGE

Press the service button to select which variable to change. Press the start button to change the numbers or level of game play. To exit this screen press the service button until DONE is selected, then press the start button. The second screen will show these lines of text.

RIGHT SLOT INFO	
COINS PER TICK:	4
CONTINUE COINS:	2
CREDITS PER TICK:	1
DONE	
PRESS START:	CHANGE

The program coin and tick counting is set up to handle coins of various denominations and currencies. In the above example the player will have to deposit 4 coins for each tick. The player is then given 1 game credit for each tick. The player may continue the game by inserting 2 coins and pressing the start button.

The next screen shown is used to sight in the gun. Aim at the circle on the center of the screen. Pull the trigger a few times and see if the gun is aligned. If the gun shoots within approximately one inch of the circle you are aligned fine. If you want to realign the gun hold the start button in and shoot at the circle on the center of the screen. Then release the start button and check the gun alignment by shooting at the circle again. This should complete the gun sight alignment. Press the service button to resume normal operation.

AMERICAN LASER GAMES

SERVICE MODE. (Who Shot Johnny Rock)

To enter service mode press the service button between games. A screen showing this menu information will appear.

```
COIN INFO
GAME SETTINGS
GUN AIMING
HARDWARE TESTS
DONE
PRESS START:SELECT
```

Using the service button move the blinking text until it is the one that you want. Press the start button to select it.

```
COIN INFO. (SCREEN 1)
LEFT COINS:
RIGHT COINS:
TOTAL GAMES:
AVE. TIME:
MOST TIME:
PRESS START : CLEAR
```

Done: Press Service

```
COIN INFO. (SCREEN 2)
TOTAL L COINS:
TOTAL R COINS:
GAMES TO DATE:
CONTINUE GAMES:
```

Done: Press Service

```
GAME SETTINGS. (SCREEN 1)
LEFT SLOT INFO
COINS PER TICK:
CONTINUE COINS:
CREDITS PER TICK:
LEVEL:
DONE
PRESS START : CHANGE
```

Refer to Mad Dog McCree section on coins, ticks, credits ETC...

AMERICAN LASER GAMES

GAME SETTINGS. (SCREEN 2)
RIGHT SLOT INFO:
COINS PER TICK:
CONTINUE COINS:
CREDITS PER TICK:
DONE
PRESS START : CHANGE

Refer to Mad Dog McCree section on coins, ticks, credits ETC...

GAME SETTINGS. (SCREEN 3)
LANGUAGE INFO
DUAL LANGUAGE: (NO)
ATTRACT AUDIO: (YES, 1 THRU 9)
DONE
PRESS START : CHANGE
GUN AIMING. (SCREEN 1)
to calibrate gun:
hold start, aim at
the spot in circle and shoot

HARDWARE TESTS. (SCREEN 1)

(color bars) This screen is used for color alignment of the monitor.

PRESS START: DONE

HARDWARE TESTS. (SCREEN 2)
AUDIO TEST:

You will hear a changing tone from each speaker. Done: Press service

HARDWARE TESTS. (SCREEN 3)	
SWITCH TEST	CLOSED
LEFT COIN:	CLOSED
RIGHT COIN:	CLOSED
SERVICE:	CLOSED
START:	CLOSED
HOLSTER 1:	CLOSED
HOLSTER 2:	CLOSED
TRIGGER:	CLOSED

Activate each switch and watch the screen to see if the switch registers OPEN or CLOSED.

AMERICAN LASER GAMES

HARDWARE TESTS. (SCREEN 4)
TESTING ROMS:

The screen will say OK if the roms test out good.

New gun Bd.
Res over IC
1/8w

Trigger gnd.
meter to Gnd. should have continuity.
Plug.