new code for your Black Rose pinball machine
by

Cardona Pinball Designs

MANUAL VERSION 20230501

WARRANTY STATEMENT

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CUSTOMER SUPPORT STATEMENT

The kit is meant to be installed by pinball professionals and then this should be your first resource for questions.

Links to all videos and pdf documents can be found at cardonapinball.com

If you do not find your answer there, please send us an email and we will try to help you through your problem. Tech@cardonapinball.com

KIT CONTENTS

Included in the box:

- Display panel, a 15.6-inch LCD screen, and associated wiring
- Metal mounting panel containing CPU, FAST audio controller, and associated wiring
- FAST controller board
- Display translite

LICENSE STATEMENT

Black Rose: Skull And Bones features the ability to play the original game code for the Black Rose pinball machine and is licensed through Planetary Pinball Supply. Your proof of authenticity is a PPS hologram seal and CPD serial number located on the CPU.

Black Rose: Skull And Bones
Table Of Contents

1	Installation Instructions	1
2	Loader Description	16
3	Game Play Description	18
4	Menu System Description	26
5	Troubleshooting: Component Operation	29
6	Troubleshooting: System Operation	31
7	Troubleshooting	32

INSTALLATION

The Black Rose: Skull And Bones kit is designed to be installed by a pinball professional. Additionally, the kit is designed to be installed into a fully functional Black Rose pinball machine that has no pre-existing errors or faults. If your machine has pre-existing problems, switch errors, blows fuses or has faulty coils, please fix all errors or problems prior to installing the Black Rose: Skull And Bones kit.

The below is an overview of how the installation should go. Also, check our youtube for installation videos and our quick start installation guide. Both can be found on our website at cardonapinball.com.

WARNING

CONNECTING OR DISCONNECTING POWER, AUDIO, OR VIDEO CABLES WHILE MACHINE IS ENERGIZED CAN CAUSE VOLTAGE SPIKES AND DESTROY VIDEO OR AUDIO CHANNELS.

WARNING

DANGER OF ELECTRIC SHOCK OR EQUIPMENT DESTRUCTION IF SERVICE OUTLET IS NOT PROPERLY WIRED AND PHASED

- POWER DOWN the machine and UNPLUG the game from the outlet.

- OPEN the back box and REMOVE the following:
  - CPU board (label the connectors before disconnecting!)
  - Audio Board
  - DMD controller

- MOUNT the FAST controller board in the CPU board location and PLUG IN all associated connectors.

- MOUNT the metal CPU panel in the audio/DMD board location.

- VERIFY that you actually, really, POWERED DOWN the machine like you were supposed to in the first step. Connecting the power connectors on the CPU or display panel while the machine is energized can destroy the audio or display channels.

- MOUNT the power supply in the cabinet and RUN the input cable to the service outlet and the 12 power feeds up to the back box. Ty-wrap wires running up to the backbone to prevent the wires from being destroyed when raising and lowering the playfield.

- CONNECT the wires and cables:
  - PLUG the micro USB cord from the CPU into of the FAST controller.
  - PLUG the HDMI cord from the CPU to the monitor on the display panel
  - CONNECT the speaker wires to the speaker connections on the audio controller. See specific detail on speaker detail sheet. ENSURE proper polarity. Use the provided 4-pin connectors as necessary.
  - CONNECT the audio out on the back of the monitor to the audio in on the audio controller.
  - CONNECT the power cable for the display to the 12v power out on the audio controller using the 2-pin connector
  - CONNECT the power cable that you ran from the bottom cabinet to the backbone to the audio controller power in using the 3-pin connector.

- PLUG in the machine

- POWER UP the game

Once the game is booted up, please note that you may need to adjust coil strengths for some of the coils of your machine if your outlet power is too low or too high, or if, perhaps, your machine is slightly different that our test machines. The default settings should work for the majority of installations, however, to adjust coil strengths, please see the settings menu section of this guide. Pay particular attention to the slam ramp.

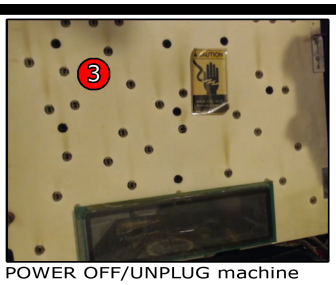
This should not be considered a substitute for replacing old and weak coils. Please be cautious and deliberate if changing coil settings as a power setting that is too high can tend to fire coils too hard and thus, break things. Additionally, coils energized longer will heat more.

Best practices and pitfalls for the installation

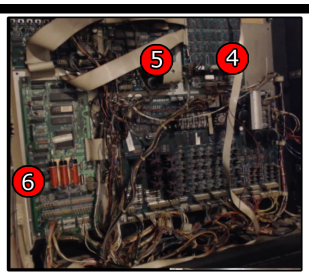
- The USB cord that runs from the CPU to the FAST controller board can pick up magnetic interference if it is run adjacent to power wiring. It is recommended to run this cord across the top of the back box vice across the middle where all the wire bundles are located. A tie wrap base or other cable bundle securing device can be attached to the top of the back box to hold the USB cord.

- The power cords for the monitor and audio controller should not have any strain on them. One good practice is to wrap the power cord around the exist plastic cable guides so there is no strain placed on the connector where it plugs into the device.

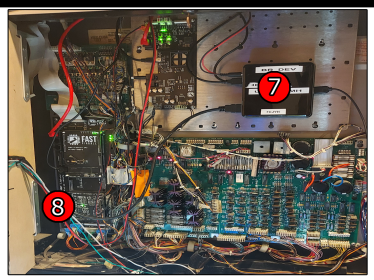
- The power supply has a voltage adjustment potentiometer that adjusts the output of the power supply. This should be set in the range of 14vdc.



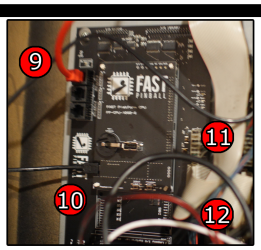
1 POWER OFF/UNPLUG machine
2 REMOVE backglass assembly
3 DISCONNECT all cables and REMOVE wood display panel.
REMOVE all metal mounts from display panel for use on new panel.



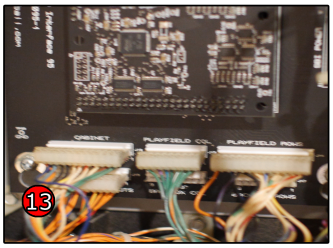
DISCONNECT all cables and REMOVE the following boards:
4 display controller
5 sound board
6 cpu board



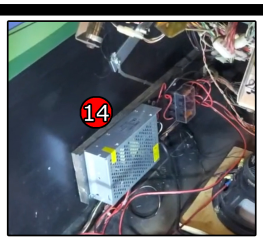
7 MOUNT CPD cpu panel
8 MOUNT FAST controller



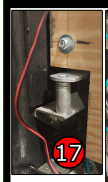
9 CONNECT ethernet cord
10 CONNECT mini usb cord
11 CONNECT power cable
12 CONNECT ribbon cable

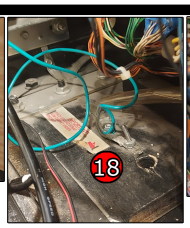


13 CONNECT all switch inputs to FAST controller



14 MOUNT power supply in bottom cabinet
15 PLUG input power into service outlet
16 RUN output power to backbox and secure wires using included ty-wraps



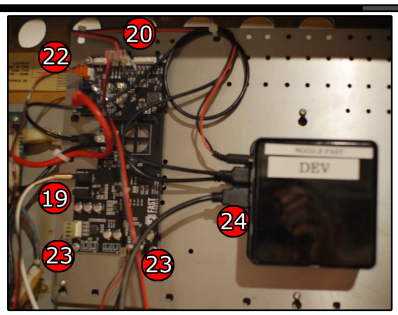


17 TRANSFER metal hardware to new panel and MOUNT display panel
18 CONNECT display ground wire to ground braid in backbox using the supplied screw

19 CONNECT audio out from display panel to audio in on audio controller board

20 CONNECT power in for display panel to power out on audio controller board using 2-pin connector

21 CONNECT LED strip lights to J118 on power driver board using 4-pin connector



22 CONNECT power from power supply to audio controller board using 3-pin connector

23 CONNECT speaker wires for speaker panel and cabinet subwoofer to audio controller board using 4-pin connectors

24 CONNECT HDMI cord from monitor to cpu

25 PLUG in machine and have fun!

Black Rose
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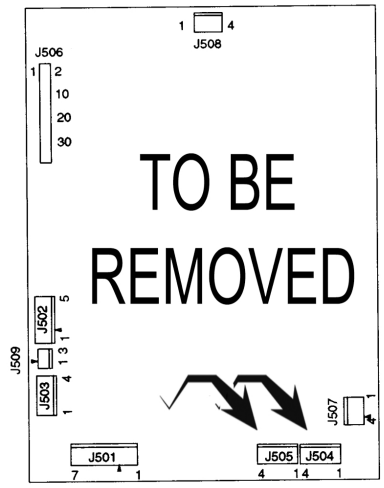
Black Rose: Skull and Bones speaker wiring detail

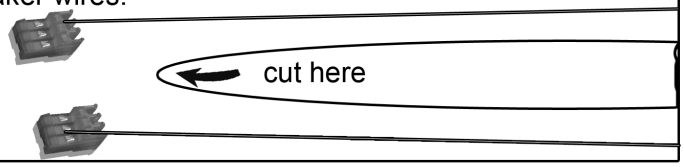


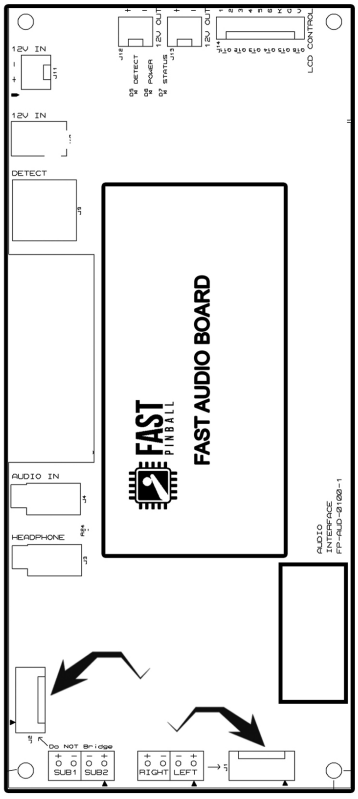
Original design has all speakers in series, back box and base cabinet, and this series loop connected to two different 4-pin connectors, one wire on each of J504 and J505

J504-1 Not Used
J504-2 Not Used
J504-3 Black, Signal to speaker
J504-4 Not Used

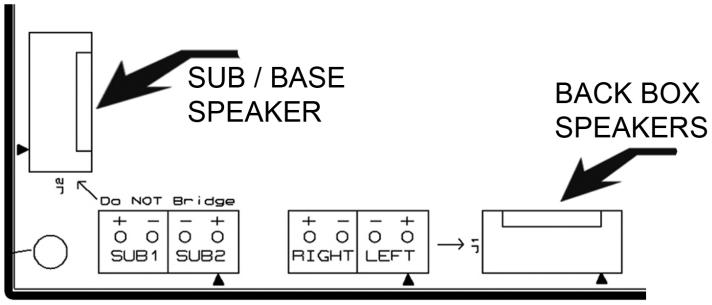
J505-1 Not Used
J505-2 Black-Yellow, Signal to speaker
J505-3 Not Used
J505-4 Not Used

Remove the wires from these two 4-pin connectors and split or cut the series jumper between the back box speakers and the cabinet speaker so that you have 4 speaker wires.





Connect the 4 speaker wires as follows:
Connect the two wires that go to the backbox speakers to pins 1 and 2 of one 4 pin connector and plug that connector to the bottom right speaker connector on the FAST audio board (RIGHT or LEFT).
Connect the two wires that go to the base speaker to pins 1 and 2 of one 4 pin connector and plug that connector to the bottom left speaker connector on the FAST audio board (SUB 1 or SUB2).
You can reuse the 4-pin connectors or use the new ones included in the kit.
Please make sure both sets of speakers observe polarity by having the wire with the stripe connect to the same polarity connection point.



CPU BOARD
A-12742-20013

J201 Ribbon Cable, Data to J602

J202 Ribbon Cable, Data to J903; J506; J601

J203 Not Used

J204 Not Used

J205-1 Orange-Brown, Dir Sw 1, Left Coin to J1-14
J205-2 Orange-Red, Dir Sw 2, Center Coin to J1-13
J205-3 Orange-Black, Dir Sw 3, Right Coin to J1-12
J205-4 Orange-Yellow, Dir Sw 4, 4th Coin J1-17
J205-5 Key
J205-6 Orange-Green, Dir Sw 5, Escape/Service to J1-11
J205-7 Orange-Blue, Dir Sw 6, Down/Volume Down to J1-10
J205-8 Orange-Violet, Dir Sw 7, Up/Volume Up to J1-9
J205-9 Orange-Gray, Dir Sw 8, Enter/Test to J1-8
J205-10 Black, Ground to J1-15
J205-11 Not Used
J205-12 Orange-White, Enable to J1-18

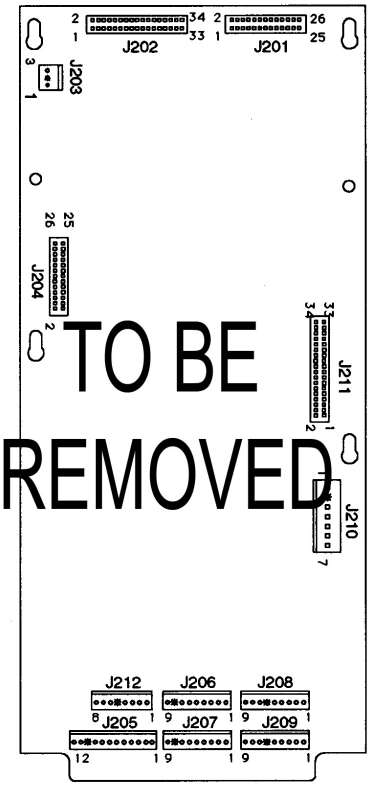
J206-1 Green-Brown, Sw Col 1 to Playfield Switches
J206-2 Green-Red, Sw Col 2 to Playfield Switches
J206-3 Green-Orange, Sw Col 3 to Playfield Switches
J206-4 Green-Yellow, Sw Col 4 to Playfield Switches
J206-5 Green-Black, Sw Col 5 to Playfield Switches
J206-6 Green-Blue, Sw Col 6 to Playfield Switches
J206-7 Green-Violet, Sw Col 7 to Playfield Switches
J206-8 Key
J206-9 Green-Gray, Not Used

J207 Not Used

J208-1 White-Brown, Sw Row 1 to Playfield Switches
J208-2 White-Red, Sw Row 2 to Playfield Switches
J208-3 White-Orange, Sw Row 3 to Playfield Switches
J208-4 White-Yellow, Sw Row 4 to Playfield Switches
J208-5 White-Green, Sw Row 5 to Playfield Switches
J208-6 Key
J208-7 White-Blue, Sw Row 6 to Playfield Switches
J208-8 White-Violet, Sw Row 7 to Playfield Switches
J208-9 White-Gray, Sw Row 8 to Playfield Switches

J209 Not Used

J210-1 Black, Ground from J114-7
J210-2 Key
J210-3 Black, Ground from J114-5
J210-4 Gray, +5VDC from J114-4
J210-5 Gray, +5VDC from J114-3
J210-6 Gray-Green, +12VDC from J114-2
J210-7 Gray-Green, +12VDC from J114-1

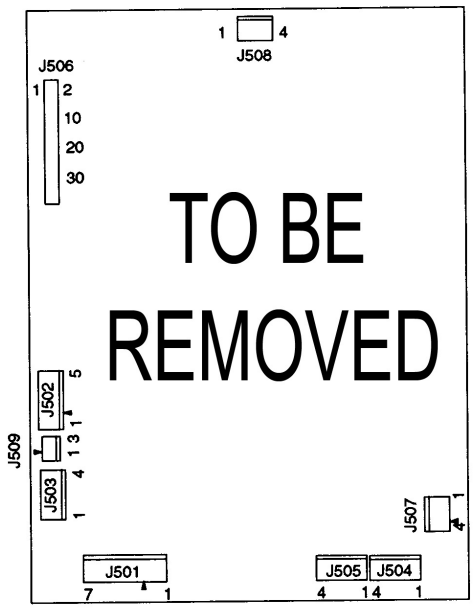


J211 Ribbon Cable, Data from J113

J212-1 Green-Brown, Sw Col 1 to J1-1
J212-2 Green-Red, Sw Col 2 to J1-7
J212-3 Green-Orange, Sw Col 3 to J2-3 on 5-Sw. & Diode P.C.
J212-4 White-Brown, Sw Row 1 to J1-6
J212-5 Key
J212-6 White-Red, Sw Row 2 to J1-5
J212-7 White-Orange, Sw Row 3 to J1-4
J212-8 White-Yellow, Sw Row 4 to J1-3

P.C. Board Legend	
J1-J6	Coin Door Interface Board
J1xx	Power Driver Board
J2xx	CPU Board
J5xx	Audio Board
J6xx	Dot Matrix Controller Board
J9xx	Fliptronic II Board

AUDIO BOARD
A-12738-20013



J501-1 Gray-Green, 20VAC from transformer secondary
J501-2 Gray-Green, loop from J501-1
J501-3 Key
J501-4 Gray, 20VAC from transformer secondary
J501-5 Gray, 20VAC loop from J501-4
J501-6 Gray-White, 20VAC loop from transformer secondary
J501-7 Gray-White, 20VAC loop from J501-6

J502-1 Gray, +5VDC from J114-4
J502-2 Key
J502-3 Gray , +5VDC from J114-3
J502-4 Black, Ground from J114-7
J502-5 Black, Ground from J114-5

J503 Not Used

J504-1 Not Used
J504-2 Not Used
J504-3 Black, Signal to speaker
J504-4 Not Used

J505-1 Not Used
J505-2 Black-Yellow, Signal to speaker
J505-3 Not Used
J505-4 Not Used

J506 Ribbon Cable, Data to/from J601; J903; J202

J507 Not Used

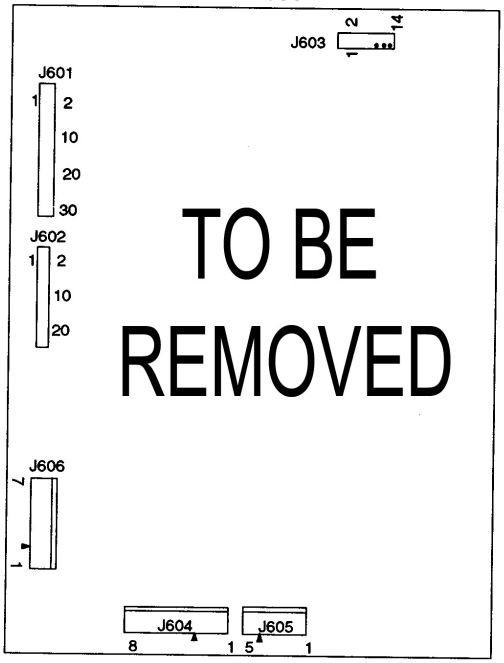
J508 Not Used

J509 Not Used

P.C. Board Legend	
J1-J6	Coin Door Interface Board
J1xx	Power Driver Board
J2xx	CPU Board
J5xx	Audio Board
J6xx	Dot Matrix Controller Board
J9xx	Fliptronic II Board

BLACK ROSE 3-17

DOT MATRIX CONTROLLER BOARD
A-14039



J601 Ribbon Cable, Data to/from J202; J903; J506

J602 Ribbon Cable, Data from J201

J603 Ribbon Cable ,Data to Dot Matrix Display Driver

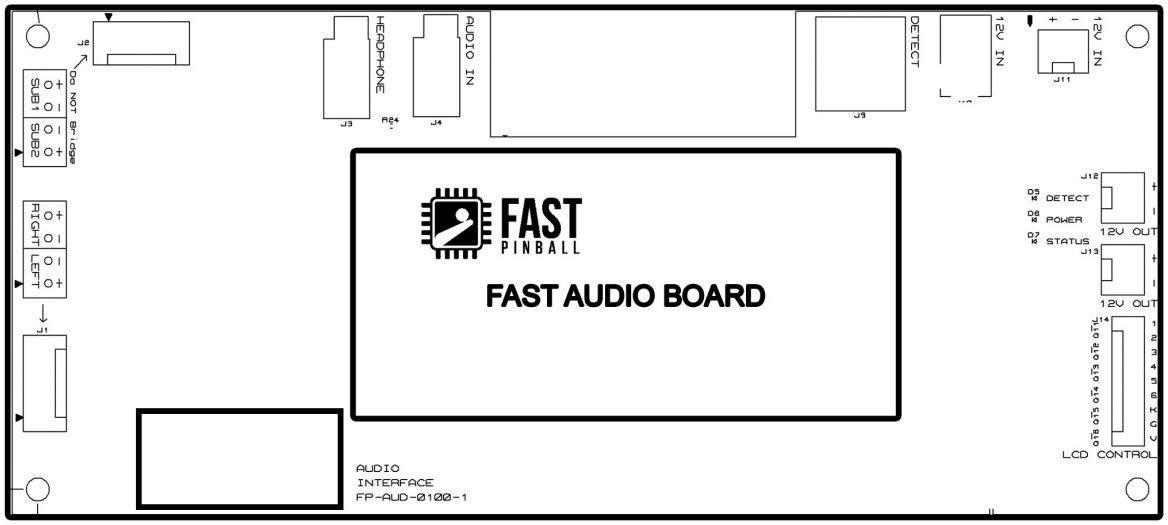
J604-1 Orange, -125V to Dot Matrix Display Driver Pin 1
J604-2 Blue, -113V to Dot Matrix Display Driver Pin 2
J604-3 Key
J604-4 Black, Ground to Dot Matrix Display Driver Pin 4
J604-5 Black, Ground to Dot Matrix Display Driver Pin 5
J604-6 Gray , +5V to Dot Matrix Display Driver Pin 6
J604-7 Gray-Yellow, +12V to Dot Matrix Display Driver Pin 7
J604-8 Brown, +62 to Dot Matrix Display Driver Pin 8

J605-1 White, 80VAC from transformer secondary
J605-2 White, 80VAC from transformer secondary
J605-3 Violet, 100VAC from transformer secondary
J605-4 Key
J605-5 Violet, 100VAC from transformer secondary

J606-1 Black, Ground loop from J606-3
J606-2 Key
J606-3 Black, Ground from J117-3
J606-4 Gray, +5V loop from J606-5
J606-5 Gray, +5V from J117-4
J606-6 Gray-Yellow, +12V loop from J606-7
J606-7 Gray-Yellow, +12V from J117-2

P.C. Board Legend	
J1-J6	Coin Door Interface Board
J1xx	Power Driver Board
J2xx	CPU Board
J5xx	Audio Board
J6xx	Dot Matrix Controller Board
J9xx	Fliptronic II Board

BLACK ROSE 3-18



FAST AUDIO BOARD

FAST PINBALL

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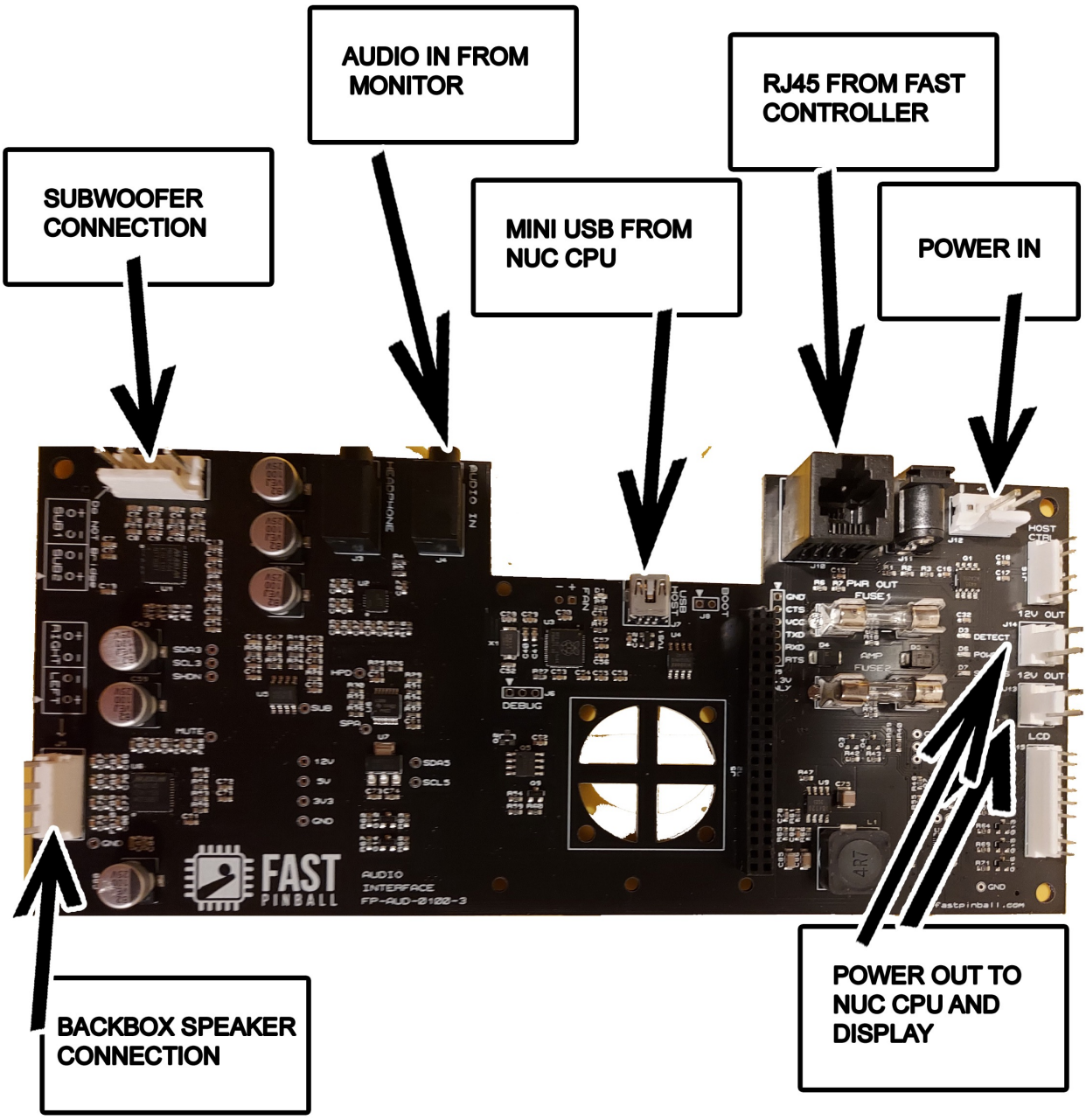

FAST AUDIO BOARD CONNECTIONS

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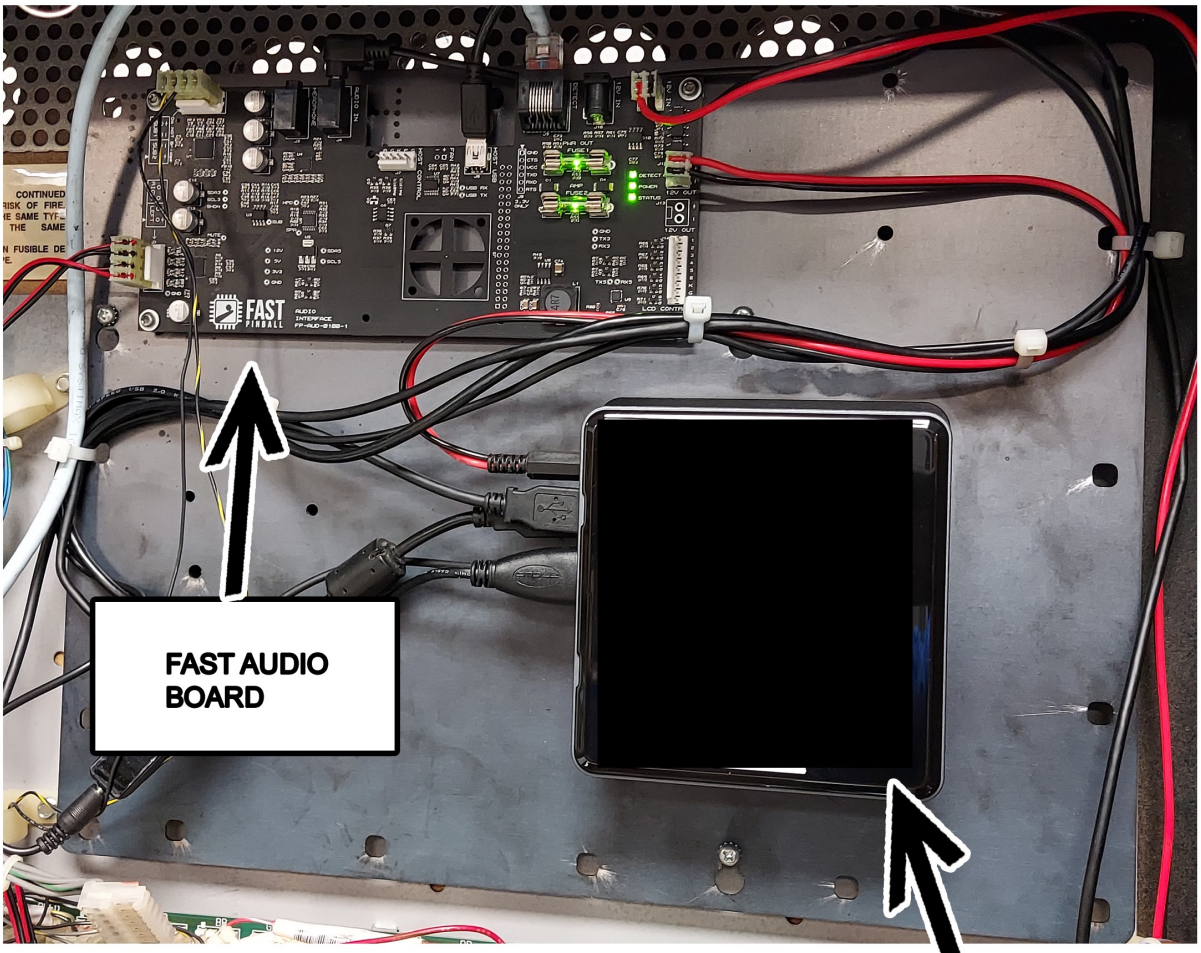
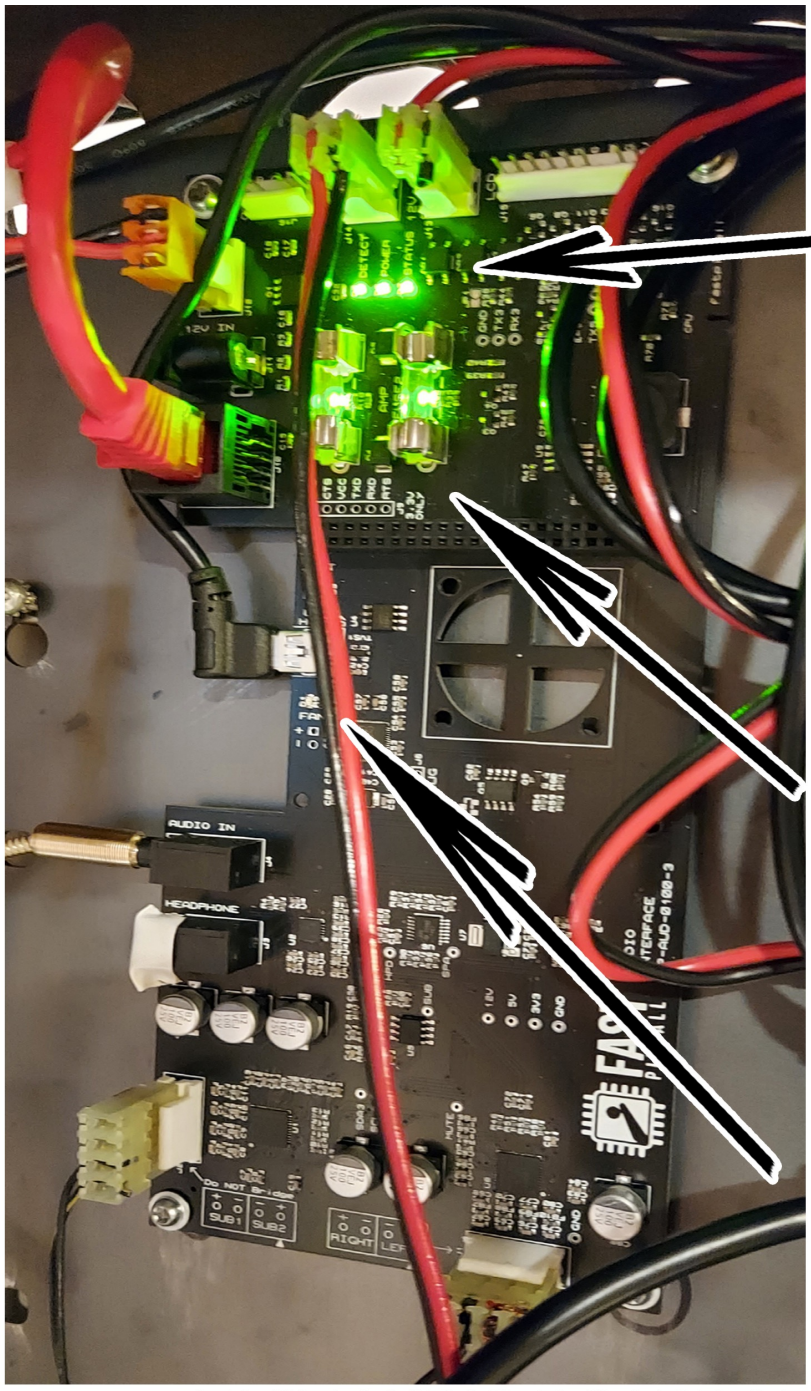


FAST AUDIO BOARD AND NUC CPU (INSTALLED)



FAST AUDIO BOARD LEDs

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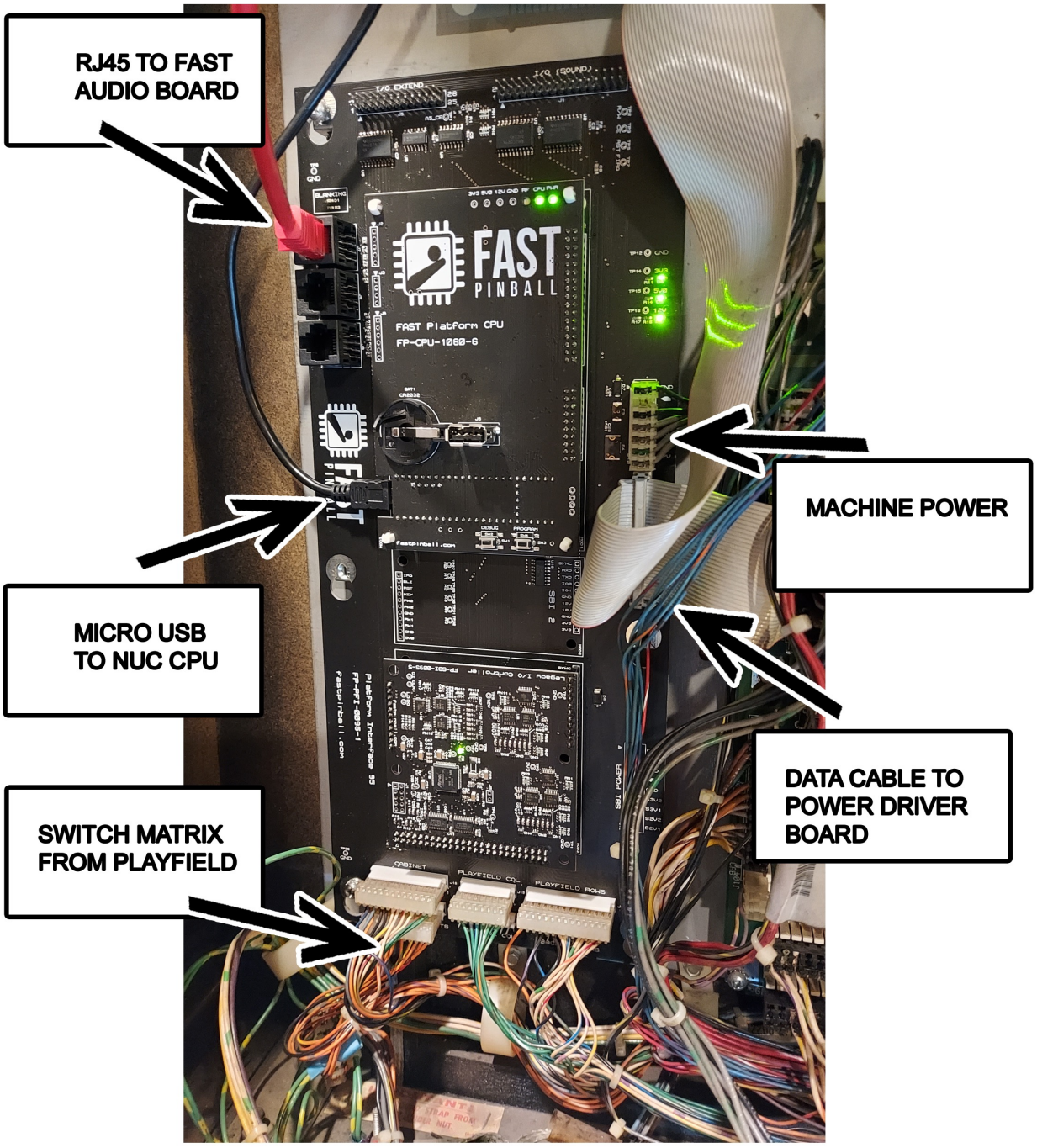

FAST CONTROLLER (INSTALLED)

Bally Black Rose SKULL & BONES™

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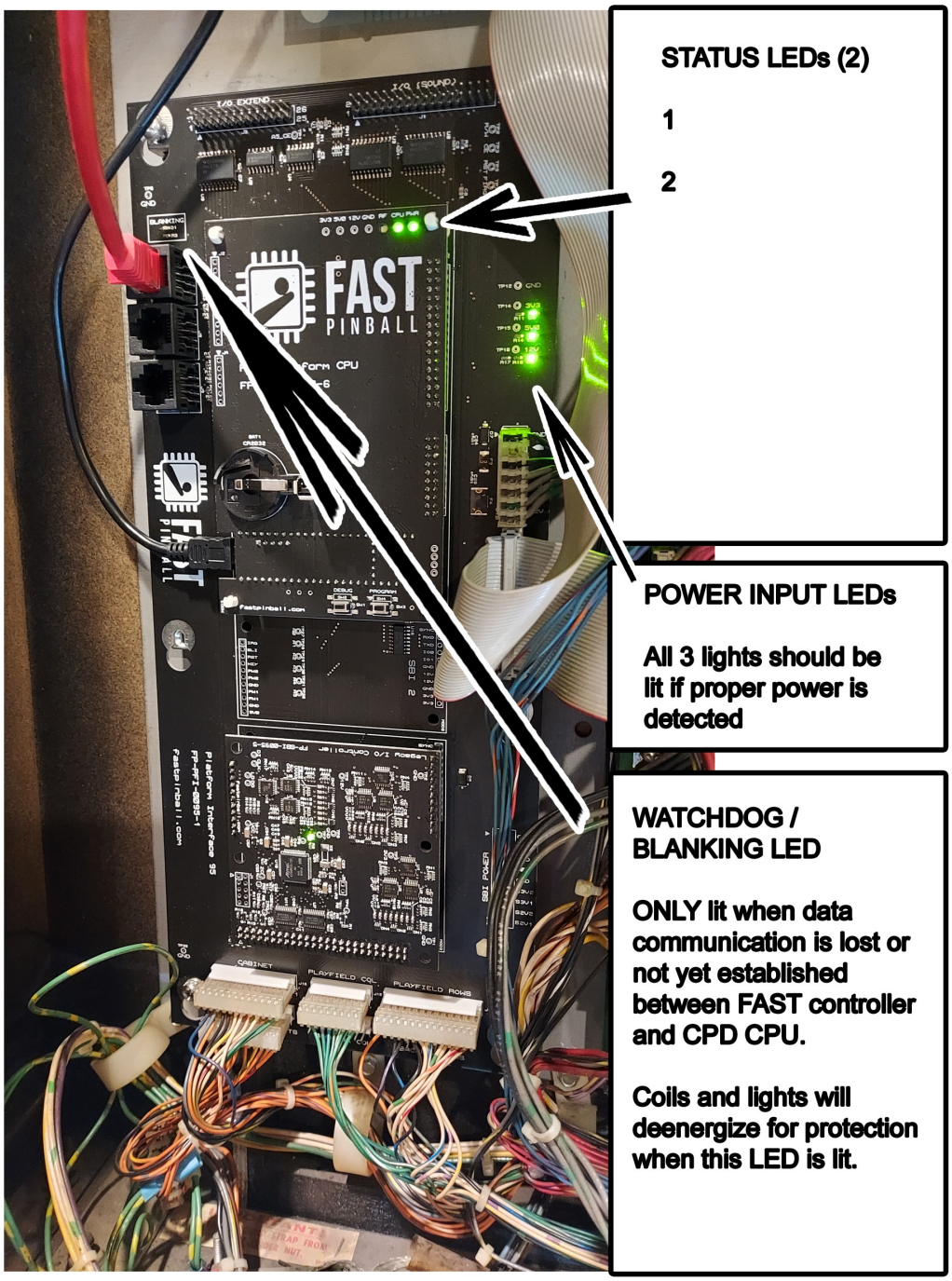
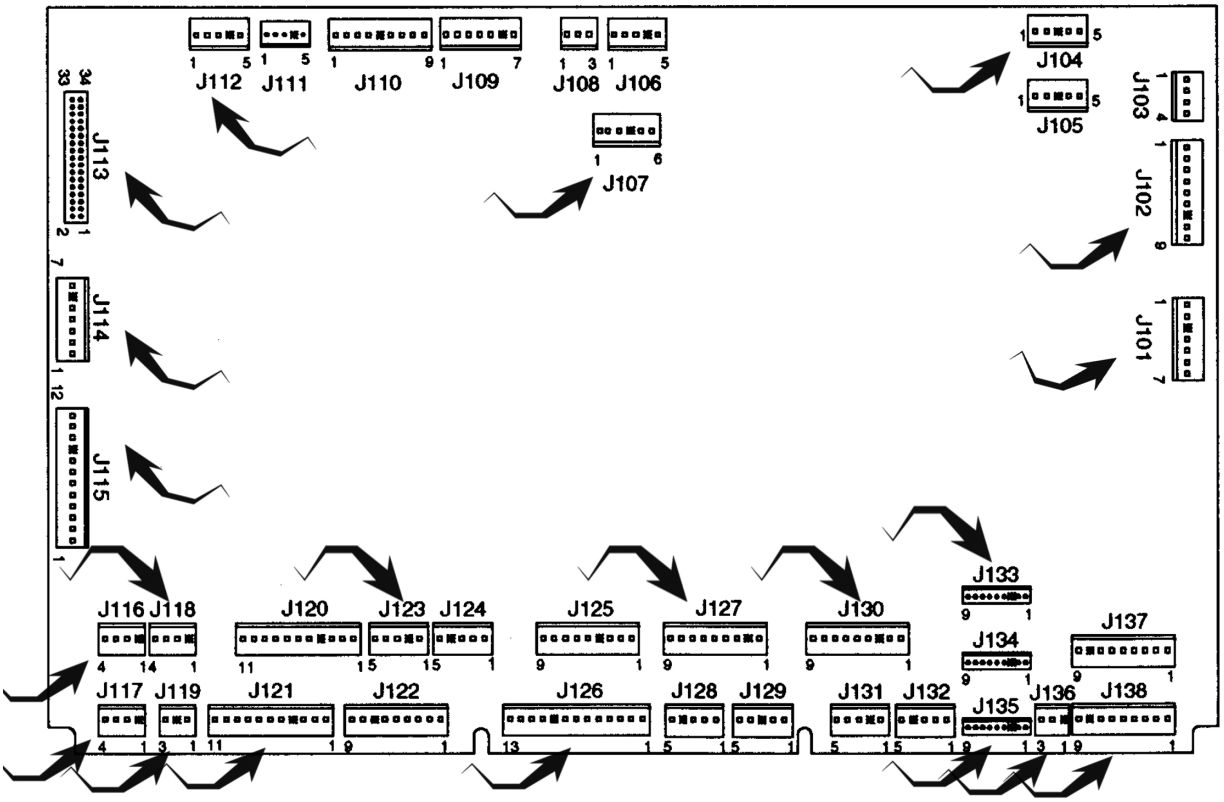


FAST CONTROLLER LEDs

POWER DRIVER BOARD
A-12697-1



BLACK ROSE: SKULL AND BONES

The following connection points should have connectors attached to them when you are done installing the kit.

RIGHT SIDE: J101, J102, J104

TOP: J107, J112

LEFT SIDE: J113, J114, J115

BOTTOM: J116, J117, J118, J119, J121, J123, J126, 127, J130, J133, J135, J136, J138

ALTERNATE GAME LOADER DESCRIPTION

After the system boots up, the game will automatically load into the attract mode for Black Rose: Skull And Bones. If the player wants to play the original versions of Black Rose or one of the alternate versions of the game and they are enabled in the settings menu, then simply press the start button for 5 seconds to open the game loader menu. The loader screen allows the player to choose which game to play.

Black Rose: Skull And Bones is a completely new and different version of the game using modern video, sound, and animation. The description of Black Rose: Skull And Bones is in the next section of the manual.

The 3v1 selection is a version of Black Rose: Skull And Bones where player 1, player 2, and player 3's scores add together so if you have 1 really good player in player 4 spot, the other 3 players can try their hands at beating him or her. When you select this option it will automatically start a 4-player game, so if the game is set to credit play there must be enough credits to start a 4-player game.

The 2v2 selection is a version of Black Rose: Skull And Bones where player 1 and player 3 scores add together and player 2 and player 4 scores add together. When you select this option it will automatically start a 4-player game, so if the game is set to credit play there must be enough credits to start a 4-player game.

ThePlunder! selection is a version of Black Rose: Skull And Bones where each player chooses one of the other player's scores to plunder. The player that you choose can change from ball to ball. When you select this option it will automatically start a 4-player game, so if the game is set to credit play there must be enough credits to start a 4-player game.

The original game of Black Rose was released by the Williams Electronic Games company (WEG) and licensed through Planetary Pinball Supply (PPS).

In the loader, press the flipper buttons to navigate the menu and press the start button to choose which game you want to play. If the game is turned off and then back on, the game will return to Black Rose: Skull And Bones.

Code Rules and Design	James Cardona (CPD)
Sound Effects and Animation	James Cardona
Backglass Art	Scott Gullicks (Riot Pinball)
FAST Hardware	Aaron Davis (FAST)
FAST Hardware	Dave Beecher (FAST)
Emulation	Eli Curtz (FAST)

Voice Actors

Two Tooth	Bernie Sennstrom
Britt	Bernie Sennstrom
Scott	Bernie Sennstrom
Ole Dan The Drunk	Frank Gigliotti (Riot Pinball)
Chen	Frank Gigliotti
Red Beard	James Cardona
Giganticus	James Cardona
Captain Maria	Lydia Cardona
Jack's Son	Sean Sennstrom
Garcia	Stephen Thaxton
Tattoo	Stephen Thaxton

DESCRIPTION

Black Rose: Skull and Bones Theme

Maria Cortez De La Mancha is the captain of the most famous of all pirating ships to raid the seven seas, the Black Rose, and her first mate, Red Beard, is plotting to snatch it from her. If he can convince enough of the crew to his side there'll be mutiny in the offing. Who's side are yer on, matey?

Skill-shot

At the start of each ball, several successive skillshots are available at the plunge.

The first skill shot is a soft plunge to the three yellow targets. The center target awards a higher score than the two outside targets.

If the first skillshot is made, a second skill shot is the broadside. If the second skillshot is made, a third skill shot is the doubloon target.

Additionally, the first skillshot, the three yellow targets, allows you to add features or new scoring opportunities. On the screen, Chen points at which scoring bonus is available at that moment and if you hit one of the skillshots during that time, you will receive the award for the remainder of the ball or remainder of the game depending on which award is granted. If you miss or hit the skillshot when nothing is lit, you get’s nothing, matey.

Available bonuses for ball 1 are:

- Start on 2X scoring multiplier instead of 1X
- Add 3 cannons (used during sink ship mode)
- Add 25 treasure (Pirate’s Booty)

Base game

Whenever the player is not in a mode, the base game rules are in effect. Rules as follows:

The right orbit to pops shot and the pop bumpers are increased in value by the number of pop bumper hits. This value increase remains in effect for the duration of the game.

The whirlpool shot increases in value for each successive shot up to a one million point shot, and after a time of the shot not being made the point value resets to the start value or back down one step, depending on difficulty setting. Also, once the million point shot is made, the shot always reverts to the beginning, regardless of difficulty setting.

Since this shot is easy to chain, the time out is fairly quick so the player must shoot these in direct succession to reach the higher point values.

Depending on difficulty level, after the shot is made a certain number of times it will no longer increase in value.

The red, yellow, and green targets correspond to a cannon part and you will see the red, yellow, and green items on the right hand side of the display screen. Collect each of these items to build a full cannon so you can fire a cannon during sink ship mode. The yellow targets correspond to cannon fire, red targets to cannon balls, and green targets to gun powder. On the playfield there are little pictures of these items, although they are not so easy to see in my opinion.

Additionally, shoot all nine of these targets to enable the start of a mini-mode at the broadside saucer.

Combos

Making two or more-in-a-row combo shots increases the shot bonus multiplier. The shot bonus multiplier applies to all shots on the playfield during base game mode AND all other modes, so this is huge. The shot bonus multiplier is in effect for the remainder of the ball, but resets on a new ball.

Additionally, the shot bonus multiplier will start on 2X as described in the skillshot section if the skillshot is hit when that award is displayed.

Ramp combo shot scoring multiplier example (different depending on difficulty):

2 combos → 2X

6 combos -> 3X

11 combos -> 4X

18 combos -> 5X (max)

Obviously, if a player hit 2X on skillshot, then the above would be advanced by 1 and to reach 3x would only require 2 combos and 5x would be achieved at 11 combos.

To start a combo, hit any ramp shot. To gain the combo, the second shot must be one of the shots indicated by the combo lights and there are two such shots:

- the upper left ramp that leads back to the pirate's cove
- the right loop that leads to the pop bumpers

Any non-combo shot will kill the current combo. The combo counter also resets on a new ball.

Example of chaining combos:

Shoot jackpot ramp -> combo light flashes and the ball goes around the back board and drops out at the upper right flipper.

Shoot the upper left ramp, which is a combo shot, for one combo. Combos remain lit. The ball comes out the pirate's cove and drops to the left flipper. Shoot the

right loop for a 2nd combo, and so on.

Therefore, 2 combos were gained for a three shot combo.

If a non-combo shot is hit, the combo lights will go out and you will need to hit one of the ramp shots first to light the combo lights.

Pirates' booty mode

The pirates are a looting. Can you cash in?

Pirates' booty mode provides one of the ways to gain sink ship letters and thus one of the paths to the sink ship wizard mode.

Complete LOCK letters at the inlanes and outlanes to light the lock at pirates' cove. Then lock a ball in pirates' cove. The Pirate's Booty begins immediately.

Pirate's Booty Multi-ball Mode is divided into phase and depending on the phase you are in, the scoring is different.

The player starts in the collection phase. In the collection phase, shoot lit coins or lit jewels to collect the items. Once enough coins or jewels are collected, the pirate trunks will open on the display and the cove and doubloon lights will flash. During the collection phase the scoring for jewels and coins is small since the coins and jewels have been collected but not placed in the pirate's treasure chest yet. You can see how many coins and jewels you have collected on the left hand side of the screen. Additionally, collecting coins and jewels increases the pirates booty multiplier.

With one of the trunks open, shoot the pirates' cove or doubloon to score a huge bonus and score all the collected coins and jewels. When you score all of your booty, the pirates booty multiplier resets to its base value so choose when to cash in carefully.

For each certain amount of items scored and collected, one sink ship letter is given (depends on difficulty level).

Invariably, this mode will end with some amount of coins or jewels collected but not yet placed in the treasure chest. Not to worry, on the left hand side of the screen there is a tally of coins and jewels collected but not scored during pirate's booty. If pirate's booty is restarted or any other mode is restarted, the player will be given a chance to score their collection.

The way this works in the case of a non-pirate's booty mode being started is that if the player shoots the pirates cove or doubloon during any mode, all the collected coins and jewels will score immediately, however, the multiplier used will be the multiplier of the mode being played so keep that in mind as scoring booty during different modes can sometimes be more lucrative than scoring them during pirate's booty mode.

Davy Jones Locker

First off let me say for the record that this should be written as “Davy Jones’s Locker” because his last name is Jones and since he is in possession of the locker, if we are speaking the Queen's English, we must add an “apostrophe s” at the end of his last name. Unfortunately, pirates don't speak the Queen's English, so there you are.

Davy Jones Locker provides one of the ways to gain sink ship letters and thus one of the paths to the sink ship wizard mode.

Make two shots in a row to the Davy Jones ramp to open the locker. The Davy Jones ramp will pop up revealing a hole underneath it. Shoot the hole (locker) to load the cannon. A random shot will flash for big points (may or may not be broadside). Complete the shot using the cannon to gain a sink ship letter. There are five possible shots and a different one (or two) will light each time.

If your fire button does not work, one of the settings menu items will allow you to use the flipper buttons to fire the cannon.

Additionally, if the cannon is disabled in the settings menu, do as above but the locker ramp will not open and cannon will not load, instead shoot broadside then the ball will be returned to the flippers and the player will have some few seconds to complete the flashing shot using the flippers.

Sink Ship Wizard mode

Obtain the eight “sink ship” letters using any of the methods described above (Pirate's Booty mode, Davy Jones locker). Also the player begins with some letters given on easier difficulties.

Sink Ship is a single ball timed mode where you face an enemy armada of ships and you want to sink as many ships as you can in the allotted time. The rules are very similar to the original game and are as follows:

During base game or any mode, shoot the red, green, and yellow targets to acquire components to build a cannon. The yellow targets correspond to cannon fire, red targets to cannon balls, and green targets to gun powder. On the playfield there are little pictures of these items, although they are not so easy to see in my opinion.

You need one each of these items to form a cannon and your current count of cannon parts and cannons is clearly displayed on the right side of the display.

Once you start the mode, you can fire as many cannons as you have by hitting one of the flashing shots: broadside, jackpot ramp, etc. And as long as you have a fully constructed cannon, you will sink a ship. Once you run out of cannons, you can still construct them using the same method as in base game, hitting the colored targets, but since this mode is timed, it is recommended to do that before you start the mode.

One other thing to point out is that the more constructed cannons you have, the more shots will be lit. For example if you only have one constructed cannon, after you

load the cannon only one shot will be lit. So constructing many cannons before starting the mode will make hitting a target easier.

Since this is a wizard mode, more time is given than in a standard timed mode. Additionally, if a certain number of ships are sunk (depending on difficulty) by the time expires, the player will receive a bonus.

Please note that the team of ships that you face can be one of several different naval fleets, each with different animations, characters, and speech. Each time you restart this mode, you will battle a different navy or band of pirates until you have defeated them all.

Here are a few of the enemies you might face during the sink ship wizard mode:

- Sven the Viking and his marauding longboats
- Gustav, the most famous of all french pirates. Watch out for his deadly rapier.
- A band of captain-less, mercenary pirates who simply go by the faceless name of "The Reapers"
- A group of Scottish laddies who have grown quite tired of your pirating ways
- A British Aristocrat who has no time for bothersome pirates
- The Great Abdul of Arabia

Broadside modes

A second wizard mode can be achieved by completing the randomized modes described below. If you have played NGG2.0, this is similar in concept. Complete a given task and the game will start a random mode. Once the mode is completed, it cannot be restarted until all of the other random modes are completed and the mutiny wizard mode is played. The idea here is to prevent players from playing only one mode because that particular mode grants more points or is easier.

To start a mode, the player must collect all the red, green, and yellow targets during base game only, not during a mode. These colored lights correspond to different supplies that a pirate would need such as cannonballs, fire, or gun powder. Of course, on the easier difficulty settings the player starts with some of these lights already lit.

Additionally, one of the skill shot awards is to instantly light the broadside for mode start.

Note that the colored item targets are also the same targets that you hit to acquire cannon parts to build cannons to use in the Sink Ship wizard mode. The difference is that the targets are lit and follow a progression in order to complete them all. So then, to enable one of the randomized modes, you must light all nine of these targets solid.

On the other hand, to collect a sink ship cannon part, you can hit any target, whether lit or unlit.

Note that if you hit an unlit target you will obtain both the specific cannon part and light the light solid.

After completing the flashing lights, the broadside will flash. Shoot it. Once the ball is held in the broadside saucer, the player can choose which of the broadside modes to play. If a mode has already been completed it cannot be chosen again until all of them have been completed and the Mutiny wizard mode played. If a mode has NOT been completed, it can be chosen again and the previous progress is retained. Note that bonuses and ball save timers are reduced on subsequent replays of a mode.

Rigging Swing mode

Red Beard steered the ship into a typhoon. Can Captain Maria save the ship and get her crew to safety?

Shoot the whirlpool ramp and whirlpool pop bumpers. Additionally other shots will be lit when lightning strikes. Shoot those too, but whatever you do, don't fall overboard!

Every lit shot adds to the Typhoon charge meter on the display. If the charge meter is full, the mode is completed for some serious booty. The mode can be “completed” multiple times and each completion bonus is larger.

A second way to score during this mode happens when the Typhoon Ghoul appears. Every once in a while the Typhoon Ghoul will appear after a lit shot is hit. Depending on difficulty, the player will have a few seconds to mash the lockdown bar button. Each hit to the button scores.

Knife Throw mode

Things are getting heated amongst the crew. Who do you support? Captain Maria or the mutiny-plotting Red Beard?

Either one of the swords that point toward the left ramp and the right ramp will be lit. The lit swords alternate when the inlanes are hit. Shoot the ramps to attack the pirate on the opposite side. If the shot was lit then score triple.

The mode is an homage to the Street Fighter series so if you are familiar with that game you will be in business. Each pirate has a health meter at the top of the screen. Take one of the pirate's health to zero to defeat the pirate.

Additionally, each pirate has a charge meter. To add charge to the character, hit any shot or switch on the corresponding side of the playfield. Once the charge meter is full, the next hit to the opposing pirate will do major damage. So get ta charging, matey. Both characters can be charged at the same time and having a character charged adds 5x to the scoring. So then, having both the pirates charged for 10x scoring before making any major shots is an idea a fine pirate might consider. Once the charge is spent, the multipliers reduce accordingly.

Walk The Plank mode

Captain Maria smells distrust in her crew. Time to walk the plank!

Single ball timed mode. Shoot the upper side ramp. A specific number of these shots is required to complete. Each shot is worth more points than the previous and advances the ruffian toward the end of the plank and his meeting with the deep and the blue. Send the traitorous pirate off the plank for a huge crate of booty.

Multipliers for this mode do not reduce.

Instant MB mode

This is a multiball mode. Yeah!

Well, the wording was already on the playfield. What's a pirate to do about that? Rename everything?

Captain Maria is testing the mettle of the pirates. Who can balance a cannonball upon their head the longest?

Every shot adds to the cannon counter and depending on difficulty, for every certain amount of switch hits another cannonball is added to another head. For every 3 cannonballs, increase the scoring multiplier. Instant multiball scoring is in addition to any shot multiplier you may have acquired in the base game.

But remember, the mode ends as soon as you lose one of the balls so be sure to keep 2 balls in play and lots of cannonballs balanced on heads.

Polly mode

Polly is the most obnoxious of birds and as it happens he pooped on Captain Maria's shoulder. Was that on purpose?

Polly flutters all over the playfield and lands near various ship items: cannonballs, fire, gun powder, and cannons. Shoot the lit shots to scare him away.

There are 3 scoring levels to the Polly mode. Depending on difficulty level, a certain number of Polly shots are required to advance to the next level. Get to level 3 to score big points!

Millions mode

Young Jack's Son has spotted a sea dragon and there it is off the starboard bow! Fire away before it makes off with one of the crew!

Each lit shot hit increases the shot multiplier and adds time to the clock but if you don't hit a lit shot within a certain amount of time, depending on difficulty, the shot multiplier resets to 1. There is no limit as to how high the multiplier can go. Or is there?

Depending on difficulty level, a certain number of shots are required to gain the completion bonus and a huge amount of points. However, after the mode is 'completed', as long as 2 balls remain on the playfield, you can continue to blast those sea dragons.

Mutiny Wizard Mode

Red Beard is trying to take Captain Maria's ship! Looks like it will be a fight to the death for these two.

To start mutiny, complete all of the above randomized modes.

Mutiny plays similar to Knife Throw except that the two pirates will always be Captain Maria and Red Beard. Additionally, the point values are much, much larger.

If you, the player, defeat your enemy, expect a cache of doubloons beyond your wildest imaginings. And I am quite sure that a fine upstanding pirate such as yerself can imagine quite a lot of doubloons.

If, on the other hand, you fail to defeat your enemy before the timer ends or you drain then you will be fed to the sharks, that is to say, you must re-complete all the permissives to re-enter Mutiny.

MENUS

OPTIONS MENU

Hit the enter button on the coin door to start the options menu where you can access the following:

- Tests Menu
- Settings Menu
- Audits Menu
- Utility Menu
- Installs Menu
- USB Menu

The selected item will be highlighted in yellow. Push the enter button to select the item or execute the function.

TEST MENU

- switch edge test – test an individual switch
- switch level (matrix) test – read all switches and display the last switch made
- lights test – choose which lamp you want to flash
- all lights test – flash all lamps
- GI test – flash all the general illumination lamps
- coil test
- flasher test
- flipper test
- Cannon test – open and close ramp and check all associated switches

SETTINGS MENU

Settings Menu: Coil Strength Adjustments:

Adjust the coil strength of coils. The default values should work well, but this adjustment is available if your outlet power is too low or too high. The default settings should work for the majority of installations, however.

This should not be considered a substitute for replacing old and weak coils.

Please be very careful on the adjustments here as coils which are set with a pulse time

that is too long might propel the ball too hard and break things or possibly burn up the coil.

Settings Menu: Feature Adjustments:

Here you can adjust setting that are specific to this game. Here are some specifics to note.

Settings Menu: Pricing Adjustments:

Here the game can be set on free play as well as coin play. If set on coin play the game can be set on two different pricing tiers.

The idea with the pricing tiers is that if the player inserts multiple coins then bonus credits will be awarded. For example, 1 coin is one credit; 2 coins might be 3 credits.

Settings Menu: Standard Adjustments:

These are settings that are generally considered generic to most all pinball machines, such as balls-per-game or tilt sensitivity.

AUDITS MENU

The AUDITS menu contains data for the games played since the machine was last reset.

If you are having problems with the audits, you may want to restore the statistics to the factory default using the utilities menu.

Note that the audits menu simply displays the current audits on screen. If you want to download the audits to a USB stick, you can do so in the USB menu.

UTILITY MENU

Here the user can clear audits, high scores, or reset settings to factory values.

INSTALLS MENU

Here the user can change many settings all at once. For example changing all settings to easy or hard.

USB MENU

Here the user can download audits or logs to a USB stick as well as install software upgrades as well as clear log files.

On the software update menu, you will see the current software revision installed on your machine.

USB MENU: SOFTWARE UPDATE

In the event that new code becomes available, it is simple to upgrade your machine to the latest software. Here are the steps necessary to perform the upgrade:

- Obtain the new, upgraded software and copy the file to a blank USB memory stick. Most

memory sticks sold in the USA are pre-formatted in FAT (FAT32). This is the way the stick should be formatted in order for the CPU to read it. If your stick has different formatting then your stick will most likely not work. The file should be a single file and have the extension ‘CPD’.

- Ensure the stick is blank and nothing else is present on the stick. It is our recommendation to not use a stick that had been previously used on anything else as the CPU does not perform a virus check.

- Copy the update file to your USB stick. Do NOT change the file name.

- Insert the memory stick in an open USB slot on the CPU.

- Navigate to the menu and then the USB menu->then the UPDATE submenu

- Execute the command by pressing enter. Do NOT turn off the game while files are being copied.

- Once the file copying is complete, you will need to shutdown the game and reboot it for the new software to take effect.

Please note that the upgrade file will only include data that were changed and not the entire system, so the file copying should be fairly quick.

If your system has become corrupted such that you think you will need an update of the entire system, please contact us for a replacement hard drive/CPU.

TROUBLESHOOTING
Listing of Specific Components Operation

In order to aid in trouble shooting, please peruse the following specific operation and purpose of select components:

Power supply
Converts 120-240v AC power to adjustable 12v DC power on two separate channels, with fuses, and sends it to the FAST audio board. The power supply unit has an LED indication that shows green when outputting voltage. The power supply unit also has an adjustable potentiometer. If used, please check the voltage at the destination with the boards energized when setting voltage. Do NOT adjust the voltage potentiometer without a meter.

FAST audio board
This board has 2 purposes:

1) Audio amplifier -- Splits the audio signal such that there is two normal channels and two subwoofer channels and amplifies all four of them independently.
2) Startup Shutdown controller -- Senses power at the RJ45 jack and turns on or off the 12vDC output as appropriate so that the NUC CPU and display will turn on or off.

NUC CPU
Contains all of the programming and logic for the 2.0 system as well as the graphics and sound system for the 1.0 system. Communicates with the FAST controller to control the pinball machine and sends sound and graphics to the monitor.

FAST controller
Contains all of the programming and logic for the 1.0 system as well as the machine interface for the 2.0 system. Receives commands from the NUC CPU and interfaces with all of the original hardware such as reading the status of playfield switches and sending flasher, lights, and coil signals to the appropriate hardware.

RJ45/Ethernet cable
This cable connects the FAST controller with the FAST audio board. Its only purpose is to tell the FAST audio board when power is on so that the FAST audio board can turn on power to the NUC CPU and the display. Please note that since the FAST audio board is powered by the 12v power supply fed from the service outlet, the power to the FAST audio board will always be on as long as the machine is plugged into an energized wall outlet. However, the FAST controller is powered by the power driver board and then will only turn on when the power switch to the machine is turned on. When that happens, the FAST audio board senses it through the RJ45/Ethernet cable and tells the NUC CPU to turn on.
Some users elect to leave the power switch always closed on their machines and instead switch banks of machines on or off using either a circuit breaker or some other sort of power switch that kills power to the wall outlets. In this scenario the system will also work as designed.

Mini USB cable
This cable connects the NUC CPU to the FAST audio board. Its only purpose is to allow the CPU to communicate with the audio board when changing volume in the service menu. This cable is not needed to run the system and if missing will only prevent the user from changing discreet volume settings. The overall volume of the system is set on the CPU however, so this can still be altered.

Micro USB cable
This cable connects the NUC CPU to the FAST controller. Its purpose is to allow two way communication between these two components. When in 2.0 mode, the FAST controller will shut down all lights and coils if this communication is lost. Once communication is restored, lights and coil controls will restart. If this happens, the watchdog light on the upper left hand portion of the FAST controller will light. If you have a problem with everything on the playfield randomly dying for a second or more then it is surely the watchdog killing everything in order to protect the playfield circuitry. Please verify that the Micro USB cable is good and not too close to other wiring.
In 1.0 mode, the communication between the FAST controller and the NUC CPU is only to send sound and graphics data to the NUC CPU.

HDMI cable
This cable connects the NUC CPU with the monitor. Its purpose is to relay both sound and video to the monitor. The video is displayed and the sound is converted from digital to analog at the monitor and then sent onto the audio board for amplification.

Audio cable
This cable connects the monitor and the FAST audio board. Its purpose is to relay analog sound to the audio board for amplification.

TROUBLESHOOTING

System Operation

The Black Rose: Skull and Bones kit electrical operations are as follows:

The power supply is plugged into the service outlet and converts the nominal input voltage into 12VDC and is fused there. The 12VDC output voltage powers the FAST audio board. So the FAST audio board will always have power as long as the machine is plugged in because the service outlet does not power down when the cabinet power switch is turned off.

The FAST controller is powered by the WPC power driver board and then it only powers up when the machine is switched on. The FAST audio board detects the power being on through the ethernet cable connected to the FAST controller and when it sees power it energizes both of its two outputs through two fuses. These two outputs are connected to the display monitor and the CPD CPU. The two fuses have green LEDs behind them and if the two green LEDs are illuminated then the fuses are good. If either light is out then that means a fuse is blown or missing.

When the CPU boots, it communicates with the FAST controller through a micro USB cable. This communication tells lights to light and coils to fire as well as letting the CPU know when switch hits are made. A watchdog circuit will de-energize all coils and lights if communication is lost between the CPU and the FAST controller. If the watchdog circuit triggers then an LED on the top left hand corner of the FAST controller will illuminate to indicate this loss of communication with the CPU.

Audio and video output from the CPU go to the monitor on the HDMI cord and the audio is then forwarded on from the monitor to the FAST audio controller through an analog audio cable.

So then the FAST audio board serves two purposes. It turns on and off the CPU and display when power is detected and it also controls and amplifies sound that is outputted to the speakers.

Volume can be controlled in 2 places in the software. The master volume of the CPU is controlled on the first screen of the service menu when the coin door is opened. The volume of the individual components on the FAST audio board can be set in the audio section of the settings menu of the service menu. The controlling of the volume on the FAST audio board by the CPU happens through the mini USB connector between the FAST audio board and the CPU.

Finally, the FAST controller has available ethernet connection ports for future use to connect accessory controller boards.

TROUBLESHOOTING
Steps to Fix Specific Problems

Problem:
The game boots up then shuts down shortly after it boots, or locks up while playing.

What to check:
This is typically because the CPU power input voltage is too low. Verify the power supply voltage is at 12.5vdc minimum and that the power connections to the CPU and leaving the FAST audio board are good and not loose.

Problem1:
The machine boots up then stops at a screen that says “loading xxx of xxx” or “initializing..” And then crashes to a screen full of text about 30 seconds after power on.

Problem2:
The machine boots up but no play field switches, lights, or coils work.

What to check:
Open the backbone and check if the “blanking” light is lit on the FAST controller. This is due to no connection found between the CPU and the FAST controller. The CPU is waiting to connect to the FAST controller for about 30 seconds at this point but if no connection is found will exit. Verify the micro USB cord is plugged firmly into both the CPU and the FAST controller. Verify the FAST controller is being powered up and its green LEDs are on. Also note that the FAST controller may take a few seconds to initialize at this point so make sure wait at least 30 seconds after booting before you assume there is a problem.

Problem:
A coil doesn’t fire strong enough or when it fires it makes a chattering-humming noise.

What to check:
Either the coil is too weak and needs to be replaced or the coil strength in the options menu is set too low for your machine due to a low input voltage.

You can test the coil in the tests menu and change the coil strength in the settings menu. Bounce back and forth between these two menus until you are happy with all of your settings.

Please note that this should not be considered a substitute for NOT replacing faulty coils.

Also note, that this doesn’t help too much with flippers since flippers are a two coil device and then due to the operation of a flipper coil, if it is too weak due to age, boosting its energized time will not work to make it stronger.

Problem:
The game volume is way too loud or way too low.

What to check:
Note that there are two different places to adjust volume settings in the settings menu in addition to a hidden place on the display. The first is a master volume control that appears when the coin door is first opened and affects the entire system. The second set of volume controls as in the settings menu and allow you to set individual volumes for the cabinet speakers and the backbone speakers.

Additionally, there is a third place to adjust volume on the back of the monitor but this must be done manually by pressing the up or down buttons on the back of the monitor. We set this volume control to 50 as a default when the kit is shipped.

Problem:
Sound doesn't sound quite right. It seems hollow.

What to check:
The speakers in the back-box and subwoofer in the base cabinet should be wired in the same polarity. Positive-to-positive, and negative-to-negative. If they are in opposite polarity, some of the sound waveforms may cancel each other out which results in loss of part of the sound spectrum.

Problem:
Switch(es) are not working.

What to check:
If your machine was working prior to the installation, then you may have disturbed a wire or connector and now it is not making a good connection. Also it is possible that you wired your FAST controller up incorrectly.

All of the switch reading wires come directly into the FAST controller on the connectors at the bottom. You can start checking there. There are two different switch test menu items as well that should be helpful in diagnosing the problem.

Problem:
The wrong switch is activated when another switch is hit.

What to check:
This is typically caused by a shorted diode in the switch matrix and is documented on the FAST website. This is not a problem with your kit but a problem with the pinball machine itself.

Problem:
Coil(s) are not working.

What to check:
If your machine was working prior to the installation, then you may have disturbed a wire or connector and now it is not making a good connection.

All of the coil outputs come off the power driver board and the FAST controller directly communicates with the power driver board. You can start checking there. There is a coil test menu items as well that should be helpful in diagnosing the problem.

Problem:
The flashers in the back of the playfield and the red, white, and blue dome flashers do not work.

What to check:
If your machine was working prior to the installation, then you may have disturbed a wire or connector and now it is not making a good connection. Also it is possible that you wired your FAST controller up incorrectly.

The flashers described above are NOT powered by the power driver board, but the aux-8 board. The aux-8 board is also called the 8-unit flasher board. The aux-8 board is a small board that sits above the old WPC-95 CPU board (now the FAST controller) and has a ribbon connector to it that allows the FAST controller to communicate with it. You can start checking there.

Problem:
There is no power coming out of the power supply even though it is plugged in and neither of the fuses are blown.

What to check:
These power supplies have a protective circuit in them that shuts off all output if it detects a downstream short. This protective circuit can only be reset by powering down the supply. So then first step would be to unplug both of the 12v cords from their loads then unplug the power supply from the service outlet and then plug it back into the service outlet. If the little green light illuminates on the power supply (even better if you have a means of verifying that it has a 12v output) then the short is downstream of the output. If the power supply still will not put out voltage then either the cables or connectors on the ends of the cables have a short or the power supply itself is bad. I would check the end connector first. You can determine which side is bad, if any, by checking with one of the fuses removed to check one side at a time.

Problem:

The CPU will not boot. I removed the backglass panel and the NUC CPU light is blinking in a pattern.

What to check:

The power LED on the Intel NUC blinks in a pattern if an error occurs during power on self test. Below are the manufacturer's patterns and what to do to check it out.

Pattern: 3 blue blinks (1.0 second each) three times, then 2.5-second pause (off). The pattern repeats until the computer is powered off.
This is a memory error. We have found that this error will come up if the game is rapidly power cycled because when the game is turned off and immediately back on, the memory does not have enough time to reset to its default state. So the first thing to do is to turn off the machine for about 30 seconds then turn it back on. If the problem still exists and there really is a true memory problem then follow the below.

- Remove and reseat memory.
- Make sure the contacts on the memory and the socket are clean.
- Check for a faulty memory module by trying the memory in a known good system.
- Try using just one memory module at a time, swapping it between the upper and lower memory slots.

Pattern: 1 orange blink every 5 seconds
This is caused by the on/off button being stuck down or shorted internally. The on/off button is above the power LEDs on the CPU and actually should never be touched as the system is set up to be turned on and off by the FAST audio board.

Pattern: 1 blue blink every 5 seconds
Power-on circuit may have failed.

- Deenergize the CPU for at least 30 seconds and try powering back on.
- Check power supply input voltage at the power supply.

Pattern: 16 blue on/off blinks 0.25 seconds on, 0.25 seconds off, for a total of 16 blinks. Then the NUC shuts down.
CPU thermal trip warning. Check that chassis ventilation holes are not blocked and unit has sufficient airflow. Check CPU fan.

Problem:
The game volume is way too loud or way too low.

What to check:
There are two different volume settings. The first is a master volume control that appears when the door is first opened and affects the entire system. The second set of volume controls as in the settings menu and allow you to set individual volumes for the cabinet speakers and the backbone speakers.

Problem:
Sound doesn't sound quite right.

What to check:
The speakers in the back-box and subwoofer in the base cabinet should be wired in the same polarity. Positive-to-positive, and negative-to-negative. If they are in opposite polarity, some of the sound waveforms may cancel each other out which results in loss of part of the sound spectrum.

Problem:
Sound is super staticky. If I turn up the volume loud, the game tends to reboot or lose connection.

What to check:
The back box and base cabinet speaker wires are not separated. Please see the speaker wiring detail page in the installation instructions. You cannot plug the two 4-pin connectors from the original game into the two 4-pin connection points on the FAST audio controller as they are designed to be split apart.

Problem:

There is no power coming out of the power supply even though it is plugged in and neither of the fuses are blown.

What to check:

These power supplies have a protective circuit in them that shuts off all output if it detects a downstream short. This protective circuit can only be reset by powering down the supply. So then first step would be to turn off the machine and then unplug both of the 12v cords from their loads then turn the machine back on. If the little green light illuminates on the power supply (even better if you have a means of verifying that it has a minimum of 12v output) then the short is downstream of the output. If the power supply still will not put out voltage then either the cables or connectors on the ends of the cables have a short or the power supply itself is bad. I would check the end connector first. You can determine which side is bad, if any, by checking with one of the fuses removed to check one side at a time.

Problem:

Everything works except the flippers.

What to check:

Verify the ribbon cable between the FAST controller and the fliptronics board is connected. Verify J116 plug on the power driver board is connected. Verify no fuses are blown on the fliptronics board.

Problem:

Everything works except… one specific set of lights or coils.

What to check:

When the back board panel is removed and the wires bundle unplugged and snaked off the power driver board, it is common to miss reconnecting a single plug. Please use the power driver connection drawing in the installation section to verify all connections are made that need to be made. Please verify that no fuses are blown on the power driver board.