



FAST & FURIOUS SUPERCARS

LCD CONVERSION KIT

CONVERSION INSTRUCTIONS





For Parts or Service contact your local Distributor or:

**Betson Enterprises
303 Paterson Plank Road
Carlstadt, New Jersey**



Main Phone: (201) 438-1300

Toll Free Phone: (800) 524-2343

Part Phone: (800) 828-2048

CAUTION:

- The specifications of this product are subject to change without notice for reasons such as performance.
- The contents of this kit, its main devices and design are protected under each federal law concerning patent, copyright and other intellectual properties.
- Unauthorized reproduction of this document or any of its contents is strictly forbidden

CABINET REQUIREMENTS & KIT CONTENTS:

The Super Cars Conversion Kit contains the necessary parts, electrical harnessing, and artwork to convert your working Cruis'n or Off Road Challenge CRT cabinet into a working Super Cars LCD game cabinet. The LCD Monitor is to be supplied by the operator and is **NOT** included in this kit.

IMPORTANT CHECKLIST FOR A SUCCESSFUL CONVERSION:

Check that the following game controls are in working order: these are essential to a successful conversion

- Steering Mech – motor is working
- Steering Wheel Collar – secure and free of damage
- Shifter
- Dash Buttons (and corresponding back lamps)
- Keypad (Exotica only)
- Pedal Mech
- Coin Door Switches
- Test/Service Switch Assembly
- Coin Meter

NOTES:

- Keep all original harnessing and hardware until the conversion is successfully completed.
- Replace damaged original parts that will be reused as needed.

BEFORE YOU BEGIN:

Read this manual as well as the Super Cars manual prior to preparing your video game machine.

Super Cars LCD Conversion Kit is to be installed by qualified service personnel only on a fully functional Cruis'n cabinet.

Unplug AC Line Cord to remove all power from cabinet assembly.

A safe, dry and well lit work space will be required to complete the conversion process.

Do not disable, remove or modify any safety functions or devices in the cabinet or the Super Cars LCD Conversion Kit.

The cabinet and the Super Cars LCD Conversion Kit contain sensitive electronic devices. Proper ESD practices need to be followed.

The computer default power setting is 110 VAC.

CRUIS'N USA, CRUIS'N WORLD, CRUIS'N EXOTICA, AND OFF ROAD CHALLENGE ARE
COPYRIGHT MIDWAY GAMES, LLC.
SUPER CARS IS COPYRIGHT RAW THRILLS, INC.

RECOMMENDED TOOLS & MATERIALS:

Cordless Drill

Jigsaw (with wood-cutting blade)

Router (with arbor and carbide-tipped blade) – available online through Outwater Plastics

Hammer & Wood Chisel

Rubber Mallet (for T-molding installation)

Adjustable Wrench

Scissors

Utility Knife or Precision Knife

Screwdriver Bits (and matching bit holder adaptor for drill)

- T-27 Tamper-Resistant Torx Bit
- T-25 Tamper-Resistant Torx Bit
- T-15 Tamper-Resistant Torx Bit
- Phillips Bit
- Slotted Bit

Drill Bits

- .188" (3/16")
- .313" (5/16")

Hex Sockets (and matching ratchet or socket adaptor for drill) or wrenches

- 1/4"
- 5/16"
- 11/32"
- 3/8"
- 7/16"
- 9/16" (2 required)
- 10 mm

Hole Saws (and matching arbor for drill)

- 2"
- 4-1/2"

Sanding Tools (Sanding Block/Paper or Belt Sander)

Black Permanent Marker

Tape (Duct or Masking)

Wood Filler or Bondo (& Putty Knife)

Black Spray Paint

CABINET-SPECIFIC INSTRUCTIONS:

This Super Cars LCD Conversion manual is written to accommodate the conversion of either Cruis'n USA, Cruis'n World, Cruis'n Exotica, or Off Road Challenge. The step-by-step instructions are to be followed for all platforms, unless otherwise specified. It is **HIGHLY RECOMMENDED** to read through this manual in its entirety prior to beginning your conversion in order to be properly acquainted with the process.

The instructions are written for the (3) Cruis'n platforms. Since it is possible that your game has been kitted (i.e. USA kitted to Exotica), it imperative that you follow the instructions for your cabinet platform, not necessarily the software or artwork on the cabinet. The differences between the platforms can be most easily recognized by dash assemblies shown below.



Figure 1 - USA Dash



Figure 2 - World Dash



Figure 3 - Exotica Dash

For Off Road Challenge, follow conversion instructions for Cruis'n World.

TEAR DOWN ORIGINAL CABINET

Separate pedestal assembly from the main cabinet (disconnect harnessing) and remove pedestal connecting brackets and set aside. Unlock and remove the back door to the main cabinet. These will be integral parts of your converted game cabinet however they will not be needed until the main cabinet conversion process is complete.

Remove the Dash Assembly: First, disconnect all dash-specific harnessing from the main harness (access from the back door) but leave the connections to the controls (i.e. Steering Mech, Shifter, Buttons, etc.) attached to the dash assembly. Also, locate the grounding braid and disconnect before dash removal (this will be reconnected later). For USA, leave the speaker wires connected to the speakers. These connectors will be used to complete the cabinet conversion. The Z-header connectors must remain attached to the dash harness for a successful conversion.

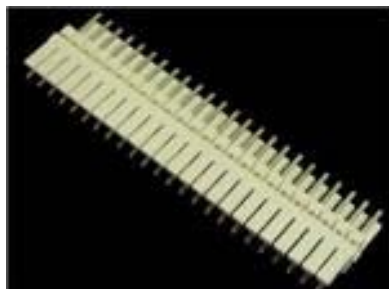


Figure 4 - Z-header connector



Figure 5 - Dash Harness

Detach the dash assembly from the cabinet; the dash assembly will be reused following a few alterations that will be made later in the conversion process. Leave the dash mounting brackets attached to the cabinet.

Remove Original Harnessing and Electronics: Disconnect all remaining cables and harnessing including Woofer (World & Exotica only), Speakers, CRT monitor, Coin Door, and Pedal Mech. This conversion will utilize your original Woofer (World & Exotica), Coin Door and Pedal Mech, so leave the harnessing attached to these assemblies and simply disconnect them from the main harness.

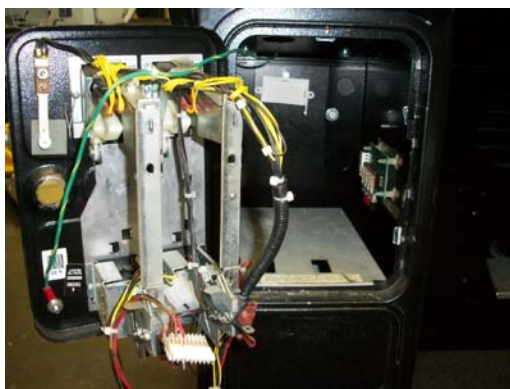


Figure 6 - Coin Door

With the exception of the Woofer Speaker, the Transformer, and the grounding braid, remove all other original game electronics (mounting board too) from the cabinet. Please retain all of these electronics and harnessing until the conversion is complete and the game is functional.

Remove the marquee plastic (Exotica), monitor front glass, monitor bezel, CRT monitor, and monitor mounting brackets from the cabinet. For World & Exotica conversions, the speakers in the marquee will be reused and can be removed once the cabinet top is cut. Cruis'n USA will utilize the in-dash speakers in their current configuration as there are no marquee speakers in this cabinet assembly.

Remove all AC harnessing and AC Power Switch Plate from the cabinet, but leave the safety ground wires (18 AWG green/yellow wires) connected to the Coin Door, Pedal Mech, Woofer (World & Exotica), and Pedestal harness assemblies intact in the cabinet. If your cabinet has a Pedestal harness, leave the seat speaker harness located in the channel at the base of the main cabinet. To isolate these safety ground wires and remove all others, you will need to cut several cable ties and care must be taken to not damage these wires.



Figure 7 - Remaining Ground Wires



Figure 8 – Before



Figure 9 – After

Lastly, if the cabinet's current T-molding is to be reused (as opposed to using new T-molding), carefully pull back the T-molding on both cabinet sides to just above the height of the Coin Door, being mindful to preserve the grooves in the wood.



Figure 10 - Pull T-molding Back

If you wish to install new T-molding for your cabinet conversion, Outwater Plastics is a recommended vendor. Please measure the current cabinet's groove size as well as the original T-molding to ensure that the T-molding you purchase is compatible with your cabinet (T-molding groove differences have been found throughout the manufacturing life of the Cruis'n series and similar driving game cabinets).

Regardless of whether original or new T-molding will be used, a router equipped with an arbor and carbide tipped blade bit will be needed to cut the necessary T-molding groove after the top cut is made. Outwater Plastics is also the recommended vendor for the arbor and blade.

Follow this link (<http://www.outwatercatalogs.com/home/index.cfm>) to purchase new T-molding (Page 12 of online catalogue) and arbor and blade (Page 14).

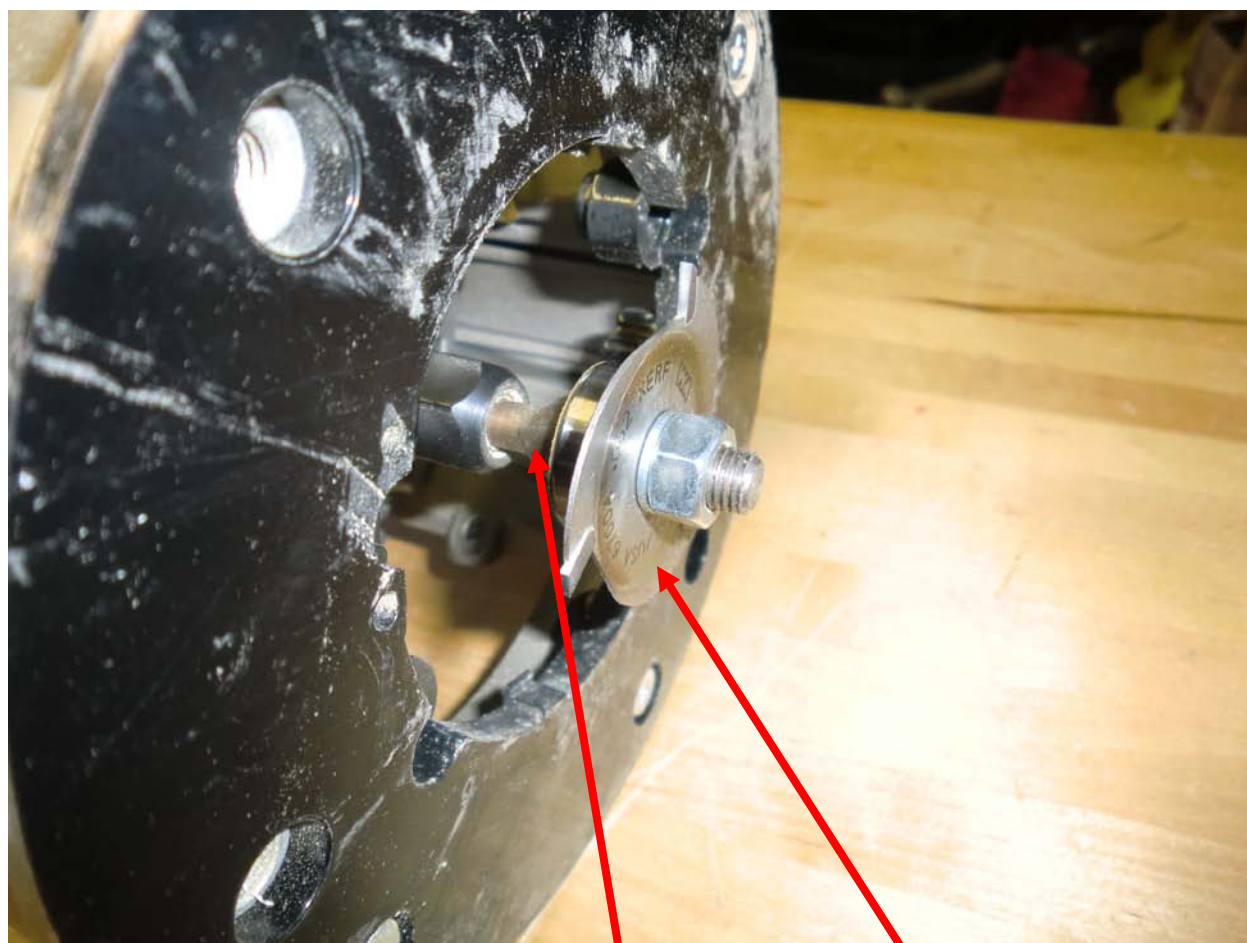


Figure 11 - Router with arbor and carbide-tipped blade

THE NEW BEGINNING - SAWING DOWN YOUR CABINET

Following the instructions and legend code on the supplied templates, use scissors to cut the templates along the specific outlines for your respective cabinet being converted (there are variations between each cabinet).

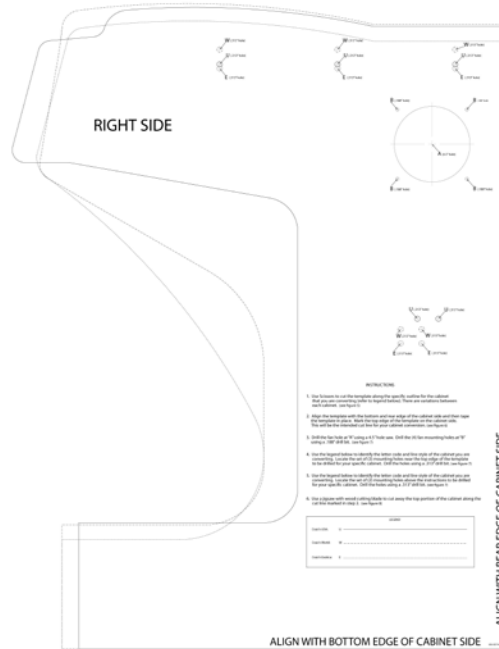


Figure 12 - Right Side Template

Align the templates with the bottom and rear edge of your cabinet and tape the template in place on the three sides not being cut. It is recommended to use a thick permanent marker to mark the top edge of the proposed cut.

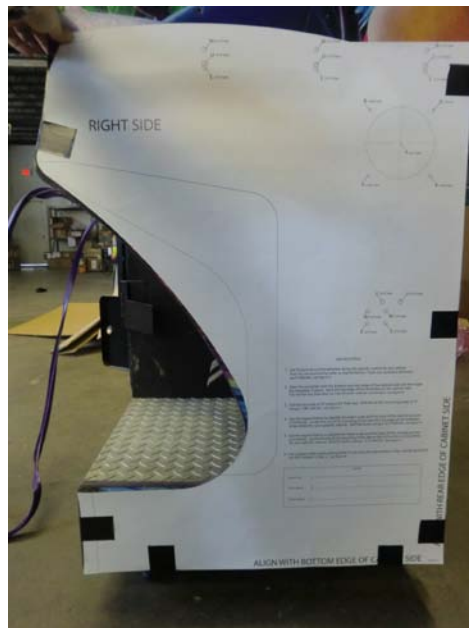


Figure 13 - Template Taped to Side

Use the supplied instructions and legend code on the template to drill the fan hole (4-1/2") and mounting holes (.188"=3/16" and .313"=5/16") for each side (*NOTE: Fan hole cut-out is only on right side of the cabinet*). Using a transfer punch to spot the hole centers is recommended and should yield better results.

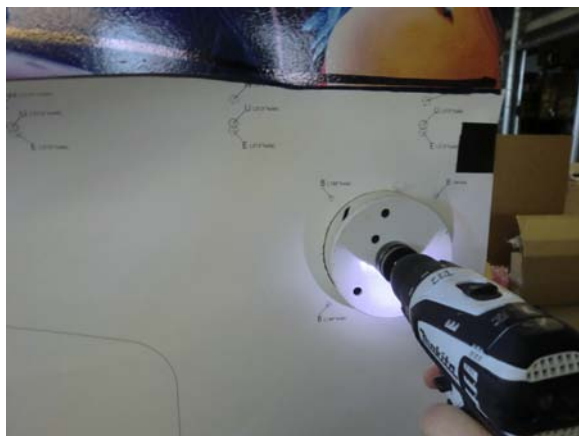


Figure 14 - Fan Cutout (RIGHT SIDE ONLY)

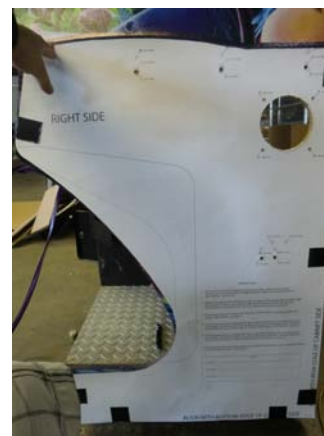


Figure 15 - Use Legend Code

Use a jigsaw with a wood-cutting blade to cut along the top edge of the template for each side. Due to manufacturing differences, the templates may not match the front edges of your cabinet perfectly. Take care to make the cut as clean and as smooth as possible. (*NOTE: You may consider making a preliminary cut above the template to remove most of the top portion of the cabinet. While not necessary, you may find this easier to make a cleaner template cut.*)

Take off the separated cabinet top (can be quite heavy) and dispose of properly after removing the lock plate with accompanying hardware (ALL GAMES) and the speakers from the cabinet top (for World & Exotica conversions).



Figure 16 - After Template Cut

All conversions will require the use of your current lock plate assembly and speakers. For World & Exotica conversions, the speakers will be remounted in a new location whereas USA conversions will leave the speakers in their current configuration on the dash plate.



Figure 17 - Speakers and Lock Plate

Clean up uneven cuts with a belt sander or sanding block/paper. A level edge is necessary to successfully route the new t-molding groove.



Figure 18 - Sand Cut Edges

Using a router equipped with required arbor and carbide-tipped blade bit, cut (route) a new T-molding groove along the top edge that was cut for each side. The groove depth and width should match what is already on your cabinet. (*NOTE: With the router off, use the cabinet's original T-molding groove to set the depth of the router bit before cutting the new groove.*)



Figure 19 - After Router Cut

Using a hammer and wood chisel, remove cleats near front of cabinet (towards dash) that were previously used for bracing the monitor glass.



Remove these cleats

Figure 20 - New Groove Should Match Original

THIS PAGE – WORLD/EXOTICA ONLY

Using a hammer and wood chisel or saw, cut rear door cleat to 1" below top edge on both sides.



Figure 21 - Cut Rear Door Cleats

Remove cleats on vertical plywood strips on each side. Cut down plywood strip on fan side to 1" below fan hole cut-out for fan clearance.



Figure 22 - After Cleats are Removed & Plywood is Cut

THIS PAGE – WORLD/EXOTICA ONLY

THIS PAGE - USA ONLY

Remove the rear door cleats. Completely remove the 1" x 2" vertical plywood strips from the interior of both cabinet sides.



Figure 23 - Cleats and Strips Need to be Removed

Remove mid-panel plywood support beam.



Figure 24 - Remove Support Beam

THIS PAGE - USA ONLY

REAR PANEL CUT-OUT FOR AC POWER PLATE:

Exotica – no further cut-out will be required.

World & USA – Remove the AC line cord relief plate on the lower rear cabinet panel to expose the existing hole.



Figure 25 - AC Line Cord Relief Plate

Use the supplied template to spot the existing hole and proceed to drill a 2" hole to the right of the existing hole and (4) new mounting holes (.188"=3/16").



Figure 26 - Follow Instructions on Template

FINAL CABINET PREPARATIONS:

Remove any excess hardware from cabinet sides. (**WARNING: Hardware for Lower Rear Panel Support Brackets and Dash Mounting Brackets must remain on cabinet. DO NOT REMOVE!**) Use Wood Filler or Bondo to fill these extra holes (**NOTE: DO NOT FILL NEW HOLES!**). Sand smooth when completed. You may also want to repair any edges or corners that have been damaged on the cabinet at this time.



Figure 27 - Fill Preexisting Holes with Wood Filler or Bondo

Vacuum all old dirt, dust, and saw dust from cabinet interior and cut edges. Paint all cut edges, holes, and sanded areas with black spray paint, including rear cut-out for AC Power Plate. If the inside of the side panels are not black already, you will need to paint the inside upper portion (above the set of (3) holes that were drilled) as well.



Figure 28 - Paint Edges, Holes, and Sanded Areas

Prepare the surfaces for art installation by cleaning the sides of any dirt, dust, or residue. If original decals are peeling off, it is recommended to remove them entirely before installing supplied decals. Install cabinet side decals (*NOTE: ALL LOGOS SHOULD BE VISIBLE (NOT CUTOFF) WHEN DECALS ARE INSTALLED PROPERLY.*) and use a utility knife or precision knife to cut away the decal around the edges of the cabinet as well as from areas where new holes were drilled. You will also need to cut the decal away from preexisting cabinet bolts.



Figure 29 - Logos should not be Cutoff

Reinstall T-molding with rubber mallet. Cut away extra T-molding with utility knife.



Figure 30 - T-molding Installation

BUILDING YOUR CABINET - MOUNTING MECHANICAL PARTS

MOUNTING ELECTRONICS BOARDS, AC POWER PLATE, & FAN:

Install supplied electronics boards and mounting plate assembly on the mid-panel (harnessing will be attached to RIO Board), just below the protruding screws of the coin vault and against the right side cleat when viewing the cabinet from the rear. Use (4) #6 x 3/4" L Hex Head Wood Screws (P/N: 31-SA006-01-006) to mount the electronics plate. Remove original wire clamps if they interfere with the installation of this plate.



Figure 31 - Mount the RIO Plate Assembly

Install supplied AC Power Plate on the interior of the lower rear cabinet panel with (4) 8-32 x 1" L Black Tamper-Resistant Torx (T-15) Machine Screws (P/N: 31-TP008-03-012) and (4) #8 Black Flat Washers (P/N: 3-160).



Figure 32 - Exotica AC Plate



Figure 33 - USA/World AC Plate

Install the Cabinet Exhaust Fan and (2) Wire Fan Guards: use (4) 8-32 x 3" L Phillips Machine Screws (P/N: 31-MS008-01-013) and (4) 8-32 Elastic Stop Nuts (P/N: 32-801) to mount the fan and 2 wire guards on the interior of the cabinet side. The fan should be sandwiched between the wire guards for safety reasons, and the fan should be exhausting air out of the cabinet.

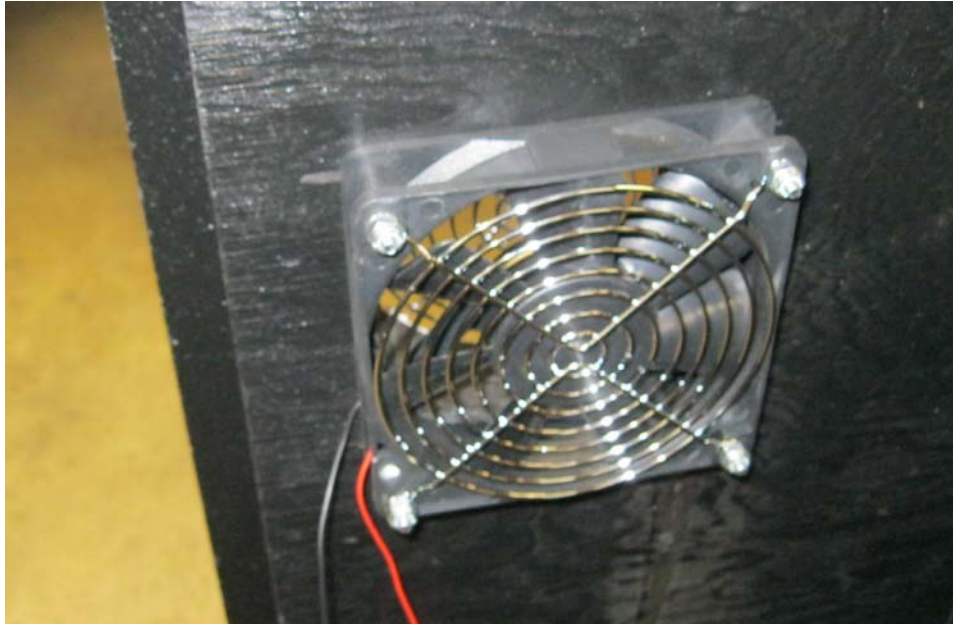


Figure 34 - Exhaust Fan between Wire Guards

NOTE: THE FAN GUARD SHOULD BE ON THE INSIDE OF THE CABINET!!!



Figure 35 - DO NOT INSTALL FAN GUARD ON OUTSIDE AS SHOWN

DASH CONVERSION (INSTALLATION OF REPLACEMENT PARTS):

This conversion kit includes a steering mech timing belt, a steering wheel hoop and a chrome wheel cap, as well as relevant replacement hardware. We recommend installing the timing belt to ensure the longevity of your converted cabinet as it is likely that the original belt has signs of wear. Also, the new steering wheel hoop and chrome wheel cap will give your cabinet a rejuvenated look.

Please follow these instructions to install these new parts:

Remove (6) screws used to fasten the original wheel cap. You will not need to save these screws as replacement hardware has been supplied. Remove the original wheel cap; it will not be reused.



Figure 36 - Remove 6 Screws and Wheel Cap

Remove (3) screws used to fasten the steering wheel hoop to the steering wheel collar on the steering mech shaft and set aside as these will be reused. Remove the original steering wheel hoop; it will not be reused.



Figure 37 - Remove 3 Screws and Steering Wheel Hoop

Remove (4) flange nuts used to fasten the steering mech to the dash plate and set aside as these will be reused. Remove the steering mech for timing belt installation.



Figure 38 - Remove 4 Flange Nuts to Remove Steering Mech

On the steering mech, loosen (4) mounting nuts on the motor bracket to remove original belt and install new belt.



Figure 39 - Loosen 4 Nuts to Replace Timing Belt

With the belt in place, tighten the tension adjusting bolt until there is no longer belt deflection, then loosen the bolt one full turn and tighten the (4) mounting nuts on motor bracket.

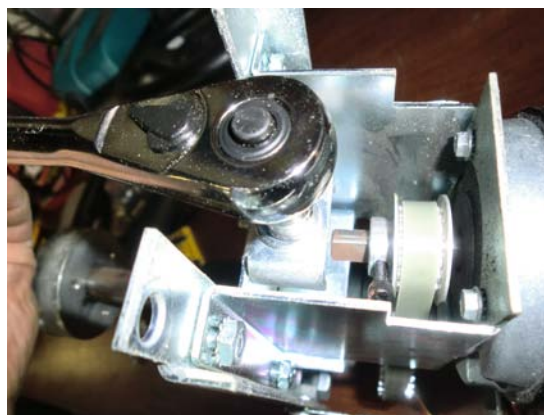


Figure 40 - Tighten Bolt to Eliminate Belt Deflection

Replace the steering mech on its original mounts on the dash plate and install original (4) flange nuts. Check that the hub mounting nut is tightened.



Figure 41 - Tighten Hub Mounting Nut after Steering Mech is Reinstalled

Install the new steering wheel hoop using the original (3) screws that were previously used on the original hoop.



Figure 42 - Install New Steering Wheel Hoop

Install the chrome wheel cap on the steering hoop mounts using the supplied (6) 8-32 x 1/2" L Black Tamper-Resistant Torx (T-15) Machine Screws (P/N: 31-TP008-03-001) and (6) #8 Black Flat Washers (P/N: 3-160). (*NOTE: DO NOT OVERTIGHTEN THESE SCREWS AS CRACKING OF THE WHEEL CAP MAY OCCUR.*)



Figure 43 - DO NOT OVERTIGHTEN SCREWS WHEN INSTALLING WHEEL CAP

Reinstall Dash Assembly using the same mounting hardware that was used originally.



Figure 44 - Reinstall Dash Assembly

WIRING & PC MOUNTING:

Connect the harnessing (all labeled) from the RIO Board to the dash assembly which includes Dash Lamps, Steering Mech Motor and Potentiometer, Button Switches (use adapter harness for Exotica), and Keypad (Exotica only). (**NOTE: KEYPAD HARNESS CONNECTS DIRECTLY TO KEYPAD; ORIGINAL ADAPTER HARNESS (LIKELY BLUE) SHOULD BE REMOVED.**) Reconnect the grounding braid that was disconnected during dash removal. For USA only, connect the in-dash speakers to a matching speaker harness labeled “USA speakers.”

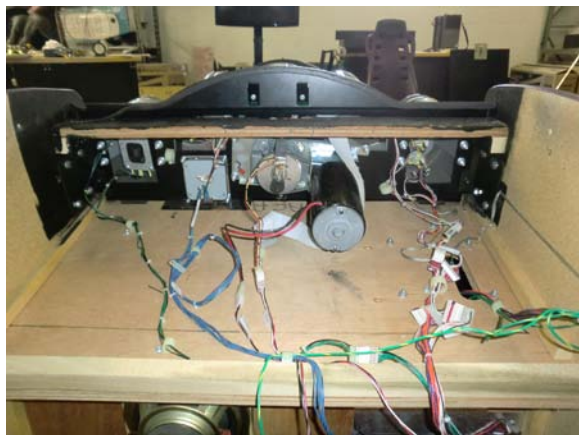


Figure 45 - Exotica Dash Harnessing Connected

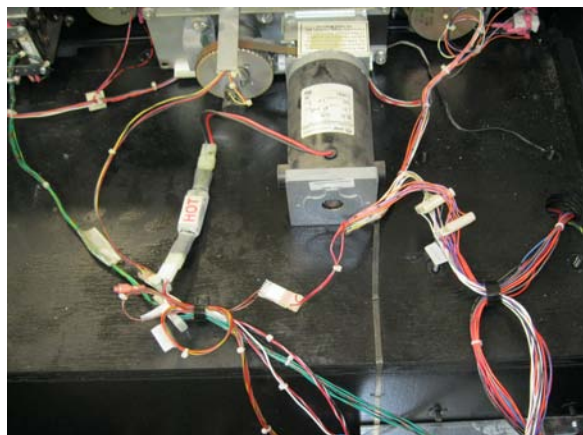


Figure 46 - USA Dash Harnessing Connected

Connect harnessing for Coin Door, Dollar Bill Validator (if applicable), Test/Service Switch Assembly, Pedal Mech, and existing Woofer (World & Exotica only). (**NOTE: ORIGINAL WOOFER HARNESS SHOULD BE REMOVED TO CONNECT HARNESS FROM RIO BOARD.**)

Connect harnessing from AC Power Plate to the input of the Transformer. Connect the output connector of the Transformer to the blue harness from RIO/Wheel Driver Board, labeled either “C USA X-FORMER” OR “WORLD EXOTICA X-FORMER” depending on the cabinet you are converting.



Figure 47 - Exotica Transformer Connections

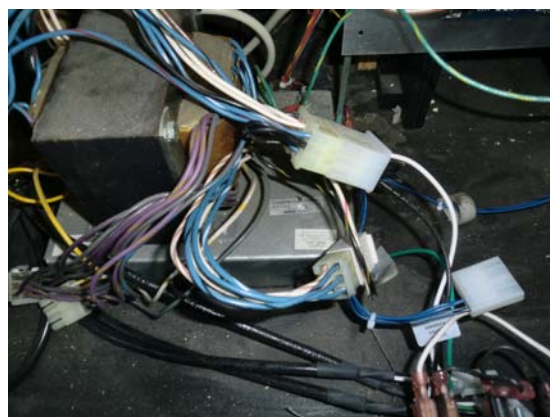


Figure 48 - USA Transformer Connections

Connect the ground wire (18 AWG green wire with fork terminal) from AC Power Plate and the cabinet safety ground wires (18 AWG green/yellow wires with ring terminals – from Coin Door, Pedal Mech, Pedestal Channel harness, and Woofer) to the Transformer mounting plate chassis by sandwiching the fork terminal and ground rings between the mounting wood screw and the chassis plate. Alternatively, the ring terminals (not the fork terminal) can be mounted to the AC Power Plate ground stud.



Figure 49 - Transformer Chassis Plate Grounds



Figure 50 - AC Power Plate Grounds

Connect All Safety Grounds!!!

INSTALL PC SHELF ASSEMBLY FOR WORLD & EXOTICA CONVERSIONS:

The PC will be attached to the PC shelf using (2) brackets, (1) foam pad, and (2) mounting straps with snap buckles. The brackets will be attached to the plywood PC shelf using (3) #8 x 3/4" L Hex Head Wood Screws (P/N: 31-SA008-01-003) for each bracket.



Figure 51 - PC Strapping Parts (plus Foam Pad)

World & Exotica cabinets have a Woofer above the Pedal Mech which will restrict the position of the PC. In order to mount the PC successfully, the bracket shown with screws (toward rear of cabinet) will overhang the shelf slightly. It is best to install screws in slots first to allow for translational adjustment. The last screw can be used on any of the other 3 holes and will lock the bracket from further movement.

After the position of the PC has been determined, mount the second bracket in the orientation shown in Figure 51 using the same hardware that was used to mount the first bracket. Install (2) mounting straps with snap buckles through outer slots in bracket (buckles will need to be removed while running the strap through the brackets). After the straps and buckles have been installed place the foam pad atop the brackets and the PC on the pad with the front of the PC against the cleat. Snap both buckle clips and tighten. *(NOTE: The straps should wrap around the top of the PC and when tightened, should hold it tight to the PC Shelf.)*



Figure 52 - Strap and PC Orientation

Use (4) 1/4-20 x 1-7/8" L Black Flat-Head Carriage Bolts (P/N: 31-CB250-03-006) and (4) 1/4-20 Keps Lock Nuts (P/N: 32-1400) to affix the brackets attached to the PC shelf assembly to the side walls through the holes that were drilled during the sawdown process. The orientation of the PC shelf should be such that the PC front is toward the right side of the cabinet when viewed from the rear.



Figure 53 - Proper Mounting of PC Shelf for World & Exotica Conversions

Tighten the PC straps by pulling on the legs of the straps. (*NOTE: THESE MUST BE TIGHT FOR THE PC TO BE SAFELY SECURED IN ANY TYPE OF TRANSIT. IT IS RECOMMENDED TO ROUTINELY CHECK THAT THESE STRAPS ARE TIGHT DURING NORMAL OPERATION.*)

INSTALL PC SHELF ASSEMBLY FOR USA CONVERSION:

USA cabinets do not have a Woofer like World & Exotica, therefore installing the brackets will be easier. Follow the same process as was described for World/Exotica, except the bracket and snap buckles must **NOT** extend beyond the rear edge of the PC shelf. If this happens, the back door will not close properly and damage to the buckles and/or PC is likely.

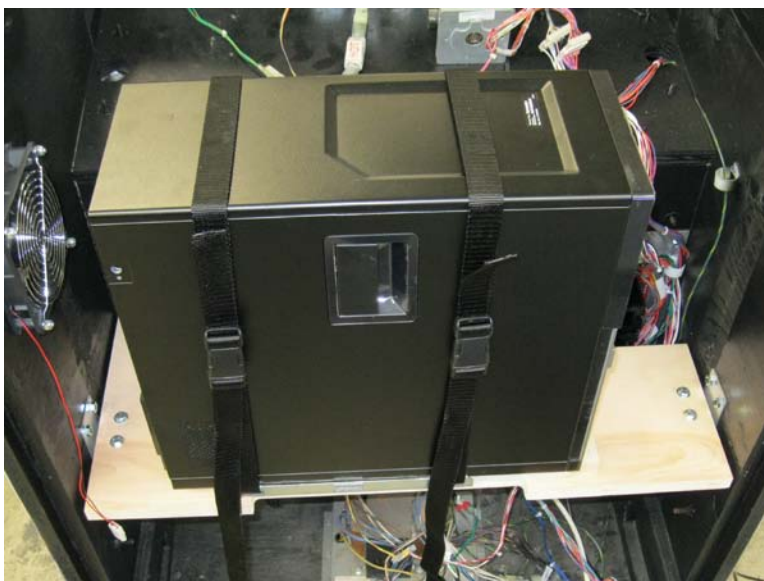


Figure 54 - Proper Mounting of PC Shelf for USA Conversions

As was mentioned in the World & Exotica section, THESE STRAPS MUST BE TIGHT FOR THE PC TO BE SAFELY SECURED IN ANY TYPE OF TRANSIT.

NOTE: You may consider removing the PC from the cabinet until the remainder of the cabinet has been built. If this is the case, be sure to reference this section when you plan to complete the PC connections.

Complete PC Harnessing by connecting the following connections from the RIO Board to the PC: 8-pin watchdog connector (labeled “PC”), Parallel Port Connector, 1/8” stereo plug (to green stereo output jack on rear of PC), and USB Cable. Connect the DVI side of the supplied DVI-HDMI cable into the PC Video Card (not onboard video). Plug AC Line cord into PC, and then plug into mating 3-prong AC receptacle at the base of the cabinet. Also, plug Security Dongle into USB port.



Figure 55 - PC Connections

Connect the 2-pin connector labeled “12V FAN” from the main harness to the fan on the side wall.

INSTALLING CABINET BRACKETS, WOOD PANELS, & PLASTIC HOOD:

Install (2) Long L-Brackets (1 each side): use (6) 1/4-20 x 1-1/4" L Black Flat-Head Carriage Bolts (P/N: 31-CB250-03-005) and (6) 1/4-20 Keps Lock Nuts (P/N: 32-1400) to affix the brackets to the side wall near the top edge of the cabinet through the holes that were drilled during the sawdown process. For World & Exotica conversions, the short leg of the bracket should be on the cabinet sides; for USA conversions, the long leg of the bracket should be on the cabinet sides and 1-7/8" L bolts should be used (P/N: 31-CB250-03-006).



Figure 56 - Install Long L-Brackets (World & Exotica shown)

NOTE: Area on interior cabinet sides above L-bracket needs to be painted black, as this area will be visible when the cabinet is fully assembled.

Install (2) Speakers on Bottom Side of Top Panel (World & Exotica only): use (8) 6-32 x 1-1/4" L Carriage Bolts (P/N: 31-CB006-01-001) and (8) #6 Flat Washers (P/N: 3-180) and (8) 6-32 Keps Lock Nuts (P/N: 32-600) to mount the Speakers from your original cabinet to the bottom side of the Top Panel. The bottom side of the panel can be determined by the visible t-nut inserts. The connection tabs on the speakers should be pointed toward the back (toward oval cut-outs) of the Top Panel for easier harnessing connection.

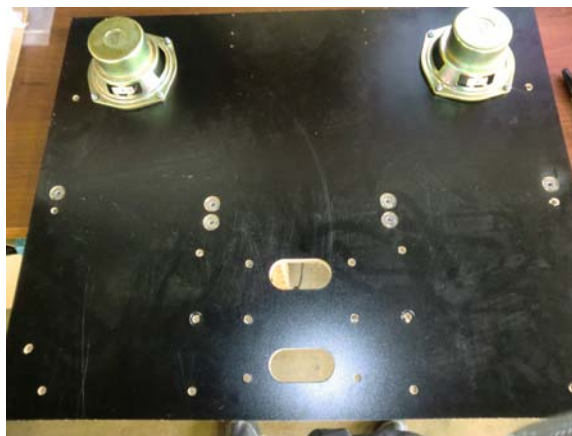


Figure 57 - Install Speakers on Top Panel (World & Exotica only)

Install Top Panel (and Connect Speaker Harnessing): place Top Panel atop the L-Brackets and connect the fast-on connectors from harness to the speakers (brown/red on positive (+) terminals and brown/black on the negative (-) terminals). Then use (6) 1/4-20 x 1-1/4" L Black Flat-Head Carriage Bolts (P/N: 31-CB250-03-005) and (6) 1/4-20 Keps Lock Nuts (P/N: 32-1400) to mount Top Panel to the L-Brackets. The orientation of this panel is shown in Figure 58. For USA conversions, don't mount the panel on the middle hole of the L-Brackets (the free hole will be used for mounting the dash plastic). Also, drive (4) #8 x 1-1/4" L Phillips Wood Screws (P/N: 31-BH008-03-003) through the pilot holes near the front of the Top Panel into the existing wood support beam found on all cabinets.



Figure 58 – Install Top Panel

Install (2) Short L-Brackets to Rear of Top Panel: use (2) 1/4-20 x 1-1/4" L Black Flat-Head Carriage Bolts (P/N: 31-CB250-03-005) and (2) 1/4-20 Keps Lock Nuts (P/N: 32-1400) to mount short L-Brackets to bottom side of Top Panel at the rear of the cabinet. The orientation of the bracket can be seen in Figure 59, showing the short leg of the bracket mounting flush to the Top Panel. Use only (1) set of fasteners per bracket on their outermost mounts (towards cabinet sides) as the other mounts (towards cabinet center) will be utilized when the LCD Tower is mounted.



Figure 59 - Install Short L-Brackets

Install Back Door Jamb Panel (with Lock Hardware): use the hardware from your current cabinet to remount the original lock plate assembly (see Figure 17) to the plywood Back Door Jamb Panel in the same fashion that it was installed previously. The exterior face of the panel can be recognized by the counter-bored holes that the lock plate assembly hardware will utilize (see Figure 60). Use (4) 1/4-20 x 1-1/4" L Black Flat-Head Carriage Bolts (P/N: 31-CB250-03-005) and (4) 1/4-20 Keps Lock Nuts (P/N: 32-1400) to mount the plywood Jamb Panel to the short L-Brackets. Also, drive (4) #8 x 1-1/4" L Phillips Wood Screws (P/N: 31-BH008-03-003) through the pilot holes near the edges of the panel. *(NOTE: You may consider using wood glue on wood-to-wood joints to increase strength, although not required.)*



Figure 60 - Exterior Face of Back Door Jamb Panel



Figure 61 - Install Back Door Jamb Panel

Install Hood Mounting Block: use (2) #10 x 2-1/2" L Phillips Wood Screws (P/N: 31-BH010-02-001) to mount the Hood Mounting Block to the Top Panel such that the T-nut inserts are facing upward. Use the pilot holes on the Top Panel to spot the mounting locations, which vary depending on the cabinet you are converting. For World & Exotica conversions, use the set of pilot holes closer to the front of the cabinet and use the second set (offset 1" further back) for USA conversions.



Figure 62 - Install Hood Mounting Block

Install Plastic Hood: use (6) 1/4-20 x 3/4" L Black Tamper-Resistant Torx (T-27) Machine Screws (P/N: 31-TP250-03-008) and (6) 1/4" Black Flat Washers (P/N: 3-177) to mount the Plastic Hood to the Top Panel and Hood Mounting Block. Slots have been cut in the Hood to allow for some translational adjustments to close any gaps between the Plastic Hood and the existing dash assembly. Single-sided foam tape has been supplied as a supplementary solution to close gaps of this nature. Foam tape should be applied to the dash plate (not the plastic hood).



Figure 63 - Install Plastic Hood

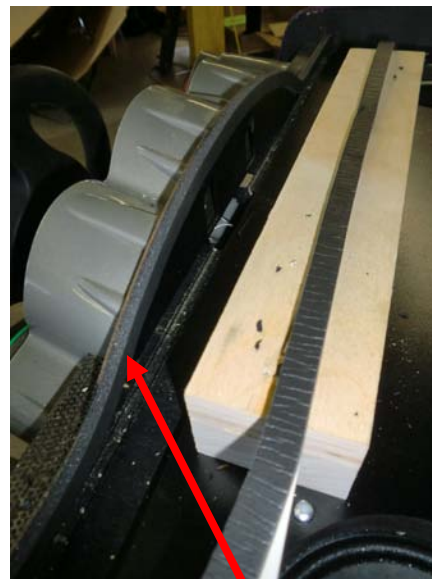


Figure 64 - Foam Tape on Dash Plate

For USA conversions, the outer rear mounts on each side of the Plastic Hood will need to pass through the middle hole of the long L-Brackets and will require (2) 1/4-20 x 1-1/4" L Black Flat-Head Carriage Bolts (P/N: 31-CB250-03-005) and (2) 1/4-20 Keps Lock Nuts (P/N: 32-1400) for successful installation.



Figure 65 - Plastic Hood Hardware for USA conversions

INSTALLING LCD TOWER ASSEMBLY & MONITOR:

This Super Cars LCD Conversion Kit is designed to accommodate any retail flat screen LCD monitor up 42" in size (we recommend using a monitor 32-42" in size). There are two different configurations of the LCD Tower Assembly. The configuration of the tower as delivered in the kit is intended for a 37-42" monitor. If you wish to use a smaller monitor (32-36"), the LCD mounting plate and the marquee will need to be rotated 180°, which orients the monitor closer to the player. Also, the installed wire-way grommet would need to be moved to the other side of the tower. (*NOTE: All photos will show installation process for larger (37-42") monitors.*)

SUPPORTED MONITORS: The mounting holes on the Monitor Mounting Bracket are based on the VESA mounting standard, the most widely accepted monitor mounting standard. The following mounting hole patterns can be accommodated (Height x Width): 200 mm x 200 mm & 200 mm x 400 mm. As most manufacturers follow this standard, most monitors (including cost-effective units) should mount and function without any issues. If you plan on doing multiple conversions, sample your first monitor for fit and function prior to purchasing multiple units.

Install the LCD Tower: use (12) 1/4-20 x 1-1/2" L Black Carriage Bolts (P/N: 31-CB250-03-001) and (12) 1/4-20 Keys Lock Nuts (P/N: 32-1400) and (10) 1/4" Zinc Flat Washers (P/N: 3-177-1) to secure the Tower to the Top Panel. The washers should be used between the wood Top Panel and the Keys Lock Nuts, but are not necessary for the rearmost outside mounts which pass through the short L-Brackets at the rear of the cabinet. (*NOTE: the connector inside the tower is the power connection to the Marquee Assembly. Be sure that the harnessing feeds through the oval cut-out on the Top Panel before mounting the LCD Tower.*)



Figure 66 - Mount LCD Tower (Shown for 37-42" Monitor Setup)

NOTE: For 32-35" Monitors, rotate LCD Tower 180° compared to the orientation shown in Figure 66. Likewise, the Marquee Assembly and the LCD Mounting Plate will need to be rotated as well.

Connecting the Marquee Harnessing: retrieve the connector from the Marquee/LCD tower and plug into "P1" connector on RIO PCB.

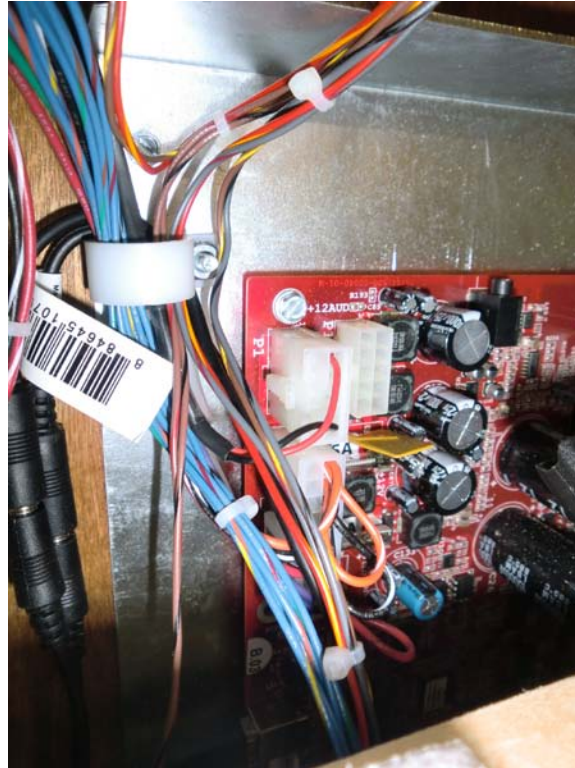


Figure 67 - Marquee Connector at "P1" on RIO PCB

Install Monitor: First, remove the Monitor Security Box to access the Monitor Mounting Bracket by removing (6) 10-32 x 1/2" L Black Tamper-Resistant Torx (T-25) Machine Screws and (6) #10 Black Flat Washers on the sides and top of the Box. After you have access to the Monitor Mounting Bracket, you may need to adjust the position of the Bracket to accommodate your Monitor; do this by loosening and moving the 2 Black Hex Bolts up or down on the Tower tube. You may also need to slide the Marquee assembly up or down as well to accommodate the size of your Monitor. To mount the Monitor, use (4) M6 x 16mm L Hex Bolts (P/N: 31-MSM06-01-004) with (4) 1/4" Split Lock Washers (P/N: 3-200-25) to mount your Monitor to the Mounting Bracket. (*NOTE: DO NOT OVERTIGHTEN THE BOLTS AS DAMAGE TO YOUR MONITOR'S MOUNTING INSERTS MAY OCCUR.*) After the Monitor is mounted, determine the proper mounting holes on the Tower tube for the Monitor Mounting Bracket such that there is clearance (the Monitor shouldn't be resting on the T-molding) between the cabinet sides and the bottom of your Monitor. Tighten the (2) 3/8-16 x 5" L Black Hex Bolts and (2) 3/8" Black Flat Washers and (2) 3/8-16 Black Elastic Stop Nuts once the Monitor position is set.



Figure 68 - Monitor Mounted on Narrow Hole Pattern

NOTE: If you previously removed the PC during the “construction” of the cabinet, re-install the PC and make all necessary connections at this time (see Figure 55).

Attach the Monitor Harnessing: feed HDMI cable (from PC) up through the oval cut-out in the Top Panel and up the Tower assembly and pull the cable through the front wire-way hole (the one with the grommet) of the tower assembly. Connect the HDMI cable to your Monitor at the most convenient HDMI connection. Feed the Monitor’s power cord into the tower through the wire-way hole and back into the cabinet and plug into its mating 3-prong AC receptacle at the base of the cabinet. (**WARNING: DO NOT PLUG MONITOR DIRECTLY INTO THE WALL!**)

Moving the Marquee Assembly: use (2) 3/8-16 x 5” L Black Hex Bolts and (2) 3/8” Black Flat Washers and (2) 3/8-16 Black Elastic Stop Nuts to securely affix the Marquee Assembly in place such that there is some, albeit minimal, clearance between the top of your Monitor and the base of the Marquee box.



Figure 69 - Side View Marquee Clearance



Figure 70 - Front View Marquee Clearance

Reinstall Monitor Security Box and Install Tower Plug: the Monitor Security Box is designed to utilize (2) standard door locks (not supplied) to maximize the security of your Monitor from theft. Install (2) standard locks with its latch horizontal toward the center of the Box when in its locked position. Remount the Security Box on the rear of the Monitor Mounting Bracket using (6) 10-32 x 1/2" L Black Tamper-Resistant Torx (T-25) Machine Screws and (6) #10 Black Flat Washers on the sides and top to secure the Box in the same fashion that you received it. Then, install the supplied plastic Tower Plug in 2" hole on the rear of the Tower assembly, once all Monitor and Marquee harnessing have been connected.



Figure 71 - Install Standard Locks on Security Box



Figure 72 - Install Security Box and Tower Plug

REMAINING ARTWORK INSTALLATION

Your pedestal assembly will remain in its current form for this conversion process, with the exception of new artwork. Prepare the surfaces for art installation by cleaning the sides of any dirt, dust, or residue. If original decals are peeling off, it is recommended to remove them entirely before installing supplied decals. (*NOTE: ALL LOGOS SHOULD BE VISIBLE (NOT CUTOFF) WHEN DECALS ARE INSTALLED PROPERLY.*) It may be necessary to cut away holes in decals for preexisting bolt heads. We recommend removing the bolts and replacing after art installation is complete.

For USA and World Conversions, you will need to install the supplied artwork on each side and the back of the pedestal (use a utility knife or precision knife to cut away excess material).

For Exotica conversion, in addition to the two sides and back, two extra pieces of side art are supplied to be installed on the secondary wood sides of the pedestal.



Figure 73 - Exotica Pedestal Art

Lastly, there are supplemental decals as replacements for the seat backs of World and Exotica seats as well as decals for the dash assemblies of World and Exotica cabinets.

CONNECT PEDESTAL ASSEMBLY TO MAIN CABINET

Connect the Seat Speaker Harnessing: find connector labeled “seat speaker” on the main harness and plug into the original seat speaker harness located in the channel at the base of the cabinet. Connect the original seat speaker harness to the pedestal harness.

Use original hardware to reattach the pedestal to the main cabinet.

BACK DOOR SAWDOWN

Remove all existing lock and tongue plate hardware from your existing cabinet back door. All of these parts and hardware will be reused after the door is cut to size.

Measure the vertical distance of the new cabinet door opening, and proceed to cut the back door to this height less 1/8", **CUTTING OFF THE EXCESS HEIGHT FROM THE BOTTOM OF THE DOOR** with a table or circular saw. (*NOTE: If the vents for your current back door interferes with cutting from the bottom, you will need to cut the excess height from the top of the door; however, you will need to use the sawed off portion to drill the new hole for the lock assembly, including counter-boring the hole to the proper depth to match the lock that you are using.*)

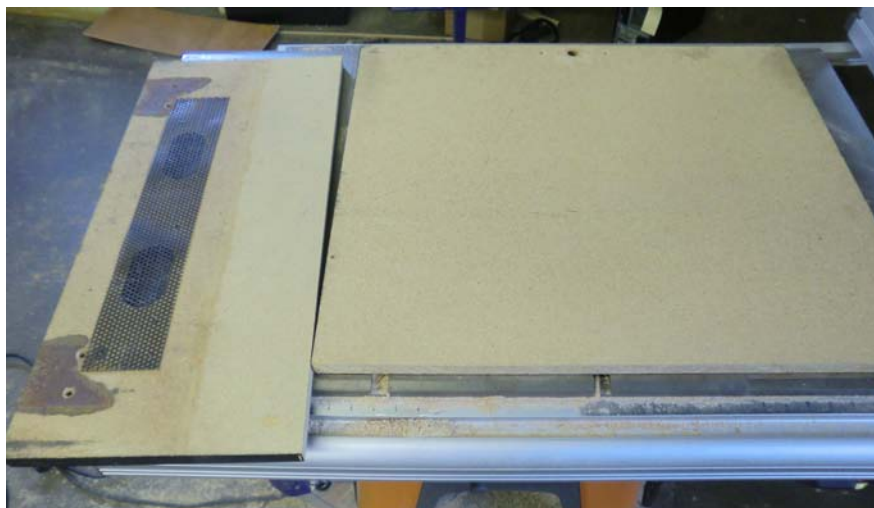


Figure 74 - Cut Excess Height from the Bottom of the Door (See Above if Not Possible)

Using the sawed off portion of the back door as a template, drill holes to remount the tongue plates.



Figure 75 - Drill Holes for Tongue Plates

Align the bottom edge of the sawed off portion of the back door with the right side of the sawdown back door (when viewed from the finished side) and mark the ventilation hole slots. Cut these slots using a jig saw and/or hole saw. Paint any cut edges black, as was done with the main cabinet. Reinstall the lock assembly and tongue plates. Staple the vent material to the inside surface of the back door where the vent holes were cut-out (cutting of the vent material may be necessary for proper fit).



Figure 76 - Completed Back Door

For further security, we suggest using a rear door padlock assembly.

Check that all connectors and wires are safely secured away from sharp objects and moving parts. Using cable clamps from your original electronics assembly, dress harnessing as needed. Make sure the cabinet power switch is in the off position. Plug in AC Line Cord to AC Power Plate at rear of cabinet and plug into wall outlet.

Turn on game and begin initial calibration process per the Super Cars manual included in the kit.

AFTER YOU HAVE VERIFIED THAT THE GAME AND MONITOR ARE WORKING:

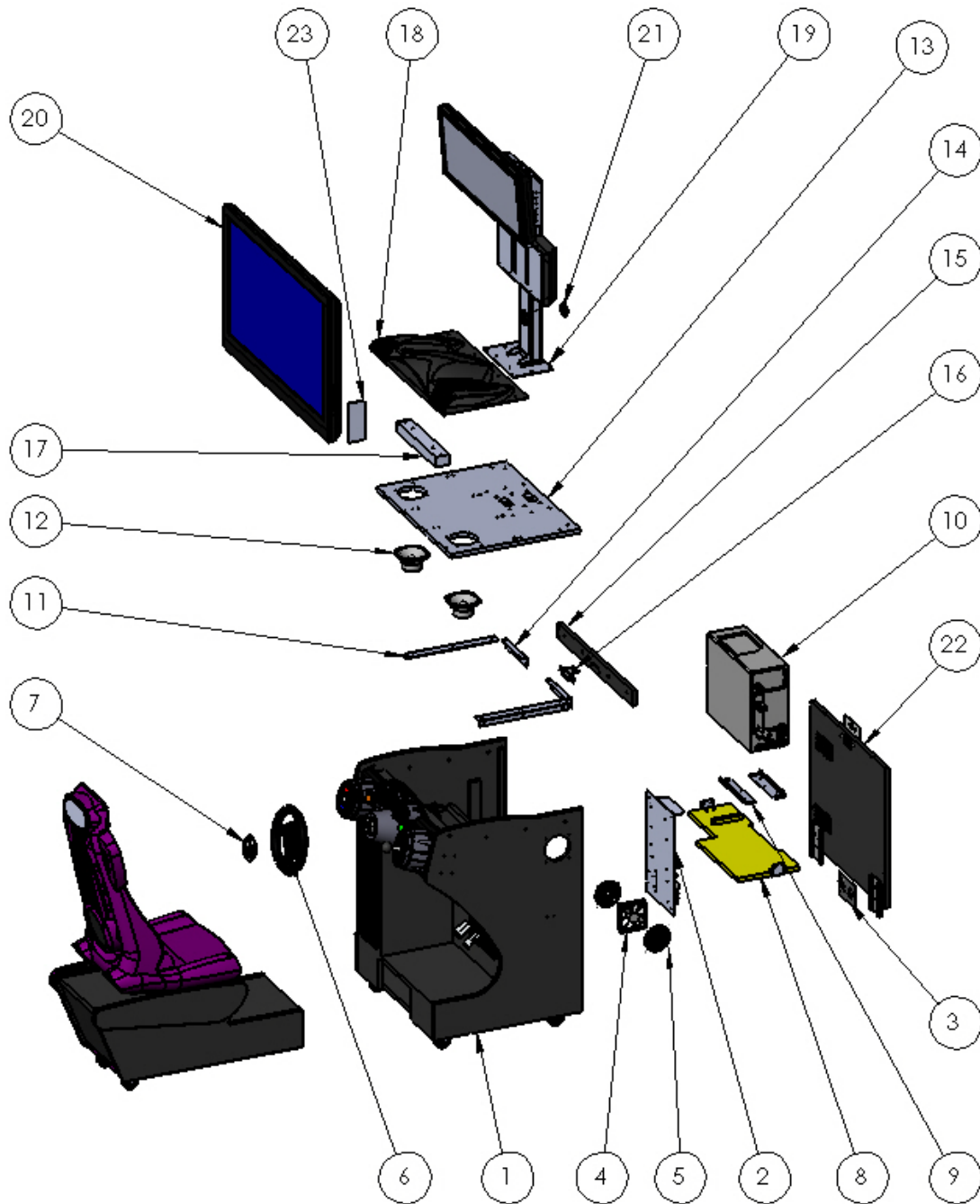
Install Monitor Button Guard: a black piece of plastic has been supplied to prevent monitor button tampering, such as input, menu, channel and volume adjustments. The plastic can be cut to size and/or pre-bent by hand to accommodate a curved surface if needed to fit your specific monitor. Use the supplied double-sided foam tape to mount the plastic guard in such a way that it blocks button access but leaves the monitor's IR sensor free of obstruction (check monitor manual for IR sensor location), in case the use of the monitor's remote control is needed.

(WARNING: FOAM TAPE IS SEMI-PERMANENT AND WILL REQUIRE SPECIALTY PRODUCTS TO REMOVE ADHESIVE RESIDUE SHOULD IT NEED TO BE REMOVED FOR ANY REASON.)



Figure 77 - Monitor Button Guard (as Delivered)

EXPLODED VIEW & KIT CONTENTS:



**SUPER CARS LCD CONVERSION KIT
MECHANICAL EXPLODED VIEW DRAWING**

PARTS LIST:

1. ORIGINAL CRUIS'N CABINET (supplied by operator)
2. RIO PLATE ASSEMBLY
 - RIO HARDWARE PLATE (RT P/N: 600-00511-01)
 - RIO PCB (RT P/N: 500-00040-00)
 - H (WHEEL) DRIVER PCB (RT P/N: 500-00037-00)
 - HARNESSING
3. AC POWER PLATE (RT P/N: 600-00897-01)
4. DC FAN (RT P/N: 820-00012-00)
5. WIRE FAN GUARD – 2 PIECES (RT P/N: 800-00001-00)
6. STEERING HOOP (RT P/N: 2-1-03-00-00-001)
7. WHEEL CAP (RT P/N: 2-1-03-00-00-003)
8. PC SHELF ASSEMBLY
 - PLYWOOD SHELF (RT P/N: 601-00559-01)
 - PC SHELF BRACKET – 2 PIECES (RT P/N: 600-00814-01)
9. PC STRAP BRACKET – 2 PIECES (RT P/N: 600-00901-01)
10. PC (models may vary)
11. CABINET SIDE (LONG) L-BRACKET – 2 PIECES (RT P/N: 600-00815-01)
12. SPEAKERS – 2 PIECES (from original cabinet)
13. PLYWOOD TOP PANEL (RT P/N: 601-00561-01)
14. CABINET MINI (SHORT) L-BRACKET – 2 PIECES (RT P/N: 600-00813-01)
15. PLYWOOD REAR DOOR JAMB PANEL (RT P/N: 601-00558-01)
16. LOCK PLATE & HARDWARE (from original cabinet)
17. HOOD MOUNTING BLOCK (RT P/N: 601-00578-01)
18. PLASTIC HOOD ASSEMBLY
 - PLASTIC HOOD (RT P/N: 603-00577-01)
 - HOOD SPEAKER GRILL – 2 PIECES (RT P/N: 600-00895-01)
19. LCD TOWER ASSEMBLY
 - TOWER POST (RT P/N: 600-00799-01)
 - LCD MOUNTING BRACKET (RT P/N: 600-00842-01)
 - LCD SECURITY BRACKET (RT P/N: 600-00843-01)
 - MONITOR SECURITY BOX (RT P/N: 600-00802-01)
 - MARQUEE MOUNTING BRACKET (RT P/N: 600-00801-01)
 - PVC GROMMET (RT P/N: 603-00580-01)
 - MARQUEE ASSEMBLY
 - ◆ MARQUEE BOX (RT P/N: 600-00802-01)
 - ◆ MARQUEE TRANSLITE (RT P/N: 606-00665-01)
 - ◆ MARQUEE PETG (RT P/N: 603-00573-01)
 - ◆ LONG EDGE BRACKET – 2 PIECES (RT P/N: 600-00870-01)
 - ◆ SHORT EDGE BRACKET – 2 PIECES (RT P/N: 600-00871-01)
20. LCD MONITOR: 32"-42" (supplied by operator)
21. TOWER PLUG (RT P/N: 603-00579-01)
22. BACK DOOR (will be altered during conversion)
23. LCD BUTTON COVER GUARD (RT P/N: 603-00585-01)

NOT SHOWN:

- STEERING MECH TIMING BELT (RT P/N: 604-00025-01)
- PC MOUNTING STRAP – 2 PIECES (RT P/N: 600-00925-01)
- PC BUCKLE CLASP: MALE & FEMALE – 2 PIECES (RT P/N: 600-00906-01)
- PC FOAM PAD (RT P/N: 600-00924-01)
- SECURITY DONGLE
- COMPLETE HARDWARE KIT (INDIVIDUALLY LABELED BAGS)

LOOSE TEMPLATES:

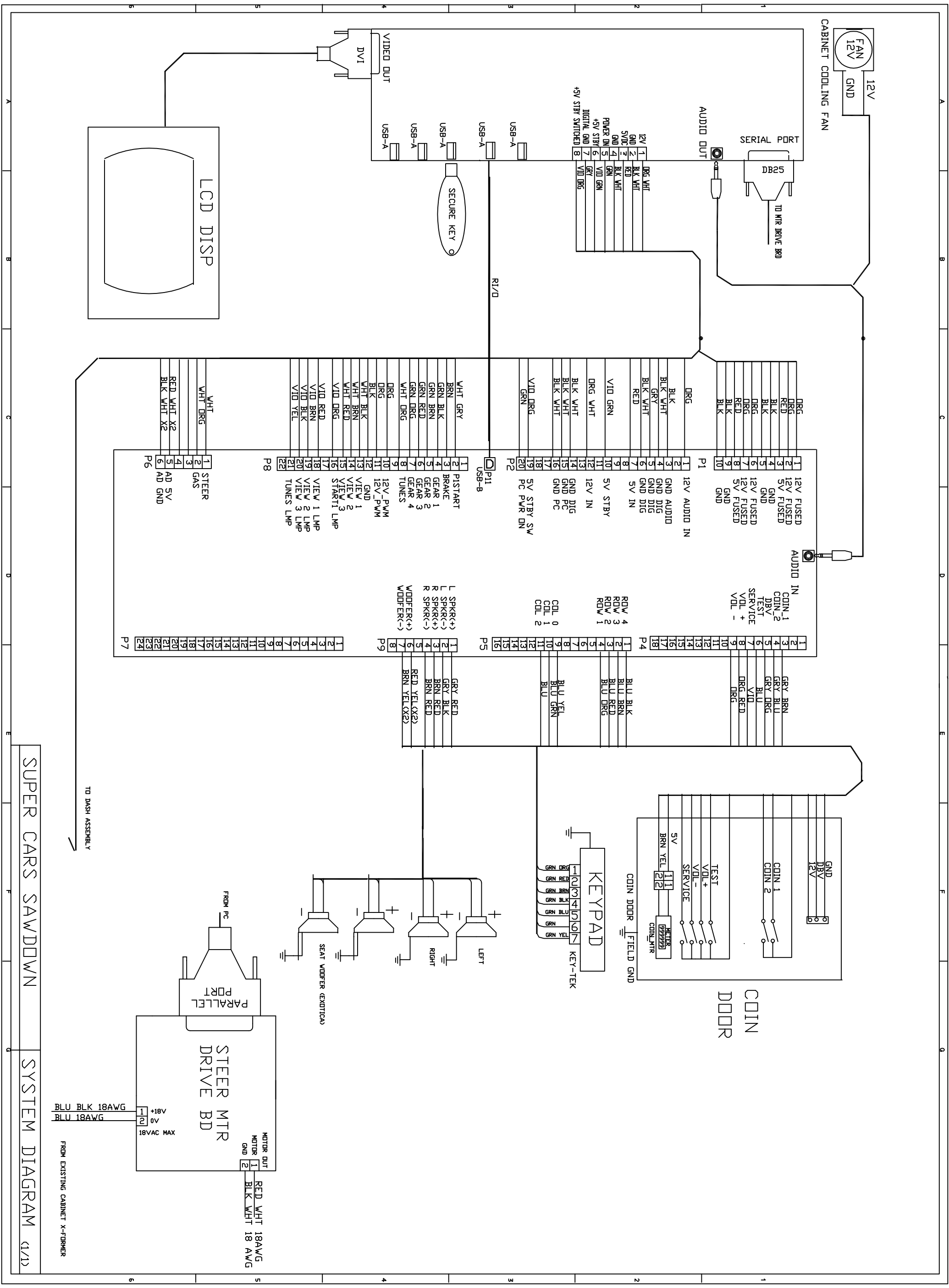
- RIGHT SIDE TEMPLATE (RT P/N: 606-00714-01)
- LEFT SIDE TEMPLATE (RT P/N: 606-00715-01)
- REAR PANEL TEMPLATE (RT P/N: 606-00716-01)

LOOSE ARTWORK PIECES:

- CABINET RIGHT SIDE DECAL (RT P/N: 606-00669-01)
- CABINET LEFT SIDE DECAL (RT P/N: 606-00670-01)
- PEDESTAL RIGHT SIDE DECAL (RT P/N: 606-00671-01)
- PEDESTAL LEFT SIDE DECAL (RT P/N: 606-00672-01)
- EXOTICA PEDESTAL RIGHT SIDE DECAL (RT P/N: 606-00712-01)
- EXOTICA PEDESTAL LEFT SIDE DECAL (RT P/N: 606-00713-01)
- PEDESTAL BACK DECAL (RT P/N: 606-00673-01)
- WORLD SEAT BACK DECAL (RT P/N: 606-00674-01)
- WORLD DASH DECAL (RT P/N: 606-00711-01)
- EXOTICA SEAT BACK DECAL (RT P/N: 606-00675-01)
- EXOTICA CENTER DASH DECAL (RT P/N: 606-00708-01)
- EXOTICA LEFT DASH DECAL (RT P/N: 606-00709-01)
- EXOTICA RIGHT DASH DECAL (RT P/N: 606-00710-01)

MANUALS:

- CONVERSION KIT INSTRUCTIONS MANUAL (RT P/N: 040-00029-01)
- SUPER CARS OPERATOR'S MANUAL (RT P/N: 040-00019-01 SCARS)



Copyright and License Notice:

The Fast and the Furious is a trademark and copyright of Universal Studios licensed by Universal Studios Licensing L.L.L.P. All rights reserved.

Parental Advisory

A note to parents: The Fast and the Furious is rated PG-13. Consult www.filmratings.com for further information.

Steering wheel force feedback technology is licensed from Atari Games Corporation, United States Patent #5,044,956.



Super Cars LCD Conversion Kit • Copyright 2012 • Raw Thrills, Inc. • All rights reserved