SEGA®

GRID™ 42 INCH

OWNER'S MANUAL

SEGA®

IMPORTANT

- Before using this product, read this manual carefully to understand the contents herein stated.
- After reading this manual, be sure to keep it near the product or in a convenient place for easy reference when necessary.

BEFORE USING THE PRODUCT, BE SURE TO READ THE FOLLOWING:

To maintain safety:

To ensure the safe operation of this product, be sure to read the following before usage.
The following instructions are intended for the users, operators and the personnel in charge of the operation of the product. After carefully reading and sufficiently understanding the warning displays and cautions, handle the product appropriately. Be sure to keep this manual close to the product or in a convenient place for future reference.

Herein, explanations which require special attention are enclosed with dual lines. Depending on the potentially hazardous degrees, the terms of DANGER, WARNING, CAUTION, etc. are used. Be sure to understand the contents of the displays before reading the text.

⚠ **DANGER**   Indicates that mishandling the product by disregarding this pictograph will cause severe injury or death.

⚠ **WARNING**   Indicates that mishandling the product by disregarding this warning will cause a potentially hazardous situation which can result in death or serious injury.

⚠ **CAUTION**   Indicates that mishandling the product by disregarding this caution will cause a slight hazardous situation which can result in personal injury and/or material damage.

For the safe usage of the product, the following pictographs are used:

⚠   Indicates "HANDLE WITH CARE." In order to protect the human body and equipment, this display is attached to places where the instruction manual should be referred to.

⏚   Indicates a "protective earth terminal." Before operating the equipment, be sure to connect it to the ground.
(The step may be omitted for products in which a power cable with earth is used.)

- **Perform work in accordance with the instructions herein stated.**
  Instructions for work are explained by paying attention to the aspect of accident prevention. Failing to perform work as per the instructions can cause accidents. In the case where only those who have technical expertise should perform the work to avoid hazardous situation, the instructions herein state that the site maintenance personnel should perform such work.

- **Be sure to turn off the power before working on the machine.**
  To prevent an electric shock, be sure to turn off the power and unplug the power cable before carrying out any work that requires direct contact with the interior of the product. If the work is to be performed in the power-on status, the instruction manual herein always states to that effect.

- **Be sure to ground the earth terminal.**
  (This is not required in the case where a power cable with earth is used.)
  This product is equipped with the earth terminal. When installing the product, connect the earth terminal to the "accurately grounded indoor earth terminal" by using an earth wire. Unless the product is grounded appropriately, the user can be subject to an electric shock. After performing repair, etc. for the control equipment, ensure that the earth wire is firmly connected to the control equipment.

- **Ensure that the power supply used is equipped with an earth leakage breaker.**
  Using a power supply which is not equipped with the earth leakage breaker can cause a fire when earth leakage occurs.

- **Be sure to use fuses which meet the specified rating.**
  (Only for the machines which use fuses.)
  Using fuses exceeding the specified rating can cause a fire and an electric shock.

- **Specification changes (removal of equipment, conversion and addition) not designated by SEGA are not allowed.**
  The parts of the product include warning labels for safety, covers for personal protection, etc. It is very hazardous to operate the product by removing parts and/or modifying the circuits. Should doors, lids and protective parts be damaged or lost, refrain from operating the product, and contact where the product was purchased from or the office herein stated.
  SEGA shall not be held responsible for any accidents, compensation for damage to a third party, resulting from the specifications not designated by SEGA.

- **Ensure that the product meets the requirements of appropriate electrical specifications.**
  Before installing the product, check for electrical specifications. SEGA products have a nameplate on which electrical specifications are described. Ensure that the product is compatible with the power supply voltage and frequency requirements of the location. Using any electrical specifications different from the designated specifications can cause a fire and an electric shock.

- **Install and operate the product in places where appropriate lighting is available, allowing warning labels to be clearly read.**
  To ensure safety for the customers, labels and printed instructions describing potentially hazardous situations are applied to places where accidents can be caused. Ensure that where the product is operated has sufficient lighting allowing the warnings to be read. If any label is peeled off, apply it again immediately. Please place an order with where the product was purchased from or the office herein stated.

- **When handling the monitor, be very careful.**
  (Applies only to products with monitors.)
  Some of the monitor parts are subject to high tension voltage. Even after turning off the power, some portions are still subject to high tension voltage sometimes. Monitor repair and replacement should be performed only by those technical personnel who have knowledge of electricity and technical expertise.

- **Be sure to adjust the monitor properly.**
  (Applies only to products with monitors.)
  Do not operate the product leaving on-screen flickering or blurring as it is. Using the product with the monitor not properly adjusted may cause dizziness or a headache to an operator, a player, or the customers.

- **When transporting or reselling this product, be sure to attach this manual to the product.**

* *In the case where commercially available monitors and printers are used in this product, only the contents relating to this product are explained herein. Some commercially available equipment has functions and reactions not stated in this manual. Read this manual together with the specific instruction manual of such equipment.*
* *Descriptions herein contained may be subject to improvement changes without notice.*
* *The contents described herein are fully prepared with due care. However, should any question arise or errors be found, please contact SEGA.*

INSPECTIONS IMMEDIATELY AFTER TRANSPORTING THE PRODUCT TO THE LOCATION

Normally, at the time of shipment, SEGA products are in a status allowing for usage immediately after transporting to the location. Nevertheless, an irregular situation may occur during transportation. Before turning on the power, check the following points to ensure that the product has been transported in a satisfactory status.

☐ Are there any dented portions or defects (cuts, etc.) on the external surfaces of the cabinet?
☐ Are casters and adjusters damaged?
☐ Do the power supply voltage and frequency requirements meet with those of the location?
☐ Are all wiring connectors correctly and securely connected? Unless connected in the correct way, connector connections can not be made accurately. Do not insert connectors forcibly.
☐ Do power cables have cuts and dents?
☐ Are all accessories available?
☐ Can all doors and lids be opened with the accessory keys? Can doors and lids be firmly closed?

TABLE OF CONTENTS

INTRODUCTION

This manual is intended to provide detailed descriptions together with all necessary information covering the general operation of electronic assemblies, electro-mechanicals, servicing control, spare parts, etc. for the product, **"GRID 42"**

This manual is intended for the owners, personnel managers in charge of operation of this product. Operate the product after carefully reading and sufficiently understanding the instructions.

In the unlikely event that the product does not function correctly, DO NOT allow anyone other than a technician to touch the internal system. Turn off the power to the machine, making sure to unplug the electrical cord from the outlet, and contact the office listed below or the point-of-purchase for this product.

Use of this product is unlikely to cause physical injuries or damage to property. However, points that require special attention are indicated by bold text, the word "IMPORTANT" and the symbol below.

(STOP) **IMPORTANT**

> **Indicates important information that, if ignored, may result in the mishandling of the product and cause faulty operation or damage to the product.**

Sega Amusements Limited.

42 Barwell Business Park, Leatherhead Road, Chessington, Surrey, KT9 2NY. United Kingdom.

Telephone:	+44 (0) 208 391 8090	Facsimile:	+44 (0) 208 391 8099
email:	mailbox@sega.co.uk	Web:	http://www.segaarcade.com

Play it! Amusements, Inc.

252 Beinoris Drive, Wood Dale, IL 60191, U.S.A

Telephone:	1-847-364-9787	Toll Free:	1-888-877-2669
Facsimile:	1-847-427-1139		

SPECIFICATIONS

Standard Cabinet (**USA**)
Machine Dimensions:	1,24m (48.8in.) [Width] x 1.72m (67.7in.) [Depth]
Machine Height:	2.1m (82.6in.)
Machine Weight:	220kg (Installed)
Power, maximum current:	1x 4A @ 120Vac

Twined Cabinet (**EU**)
Machine Dimensions:	2.60m (102.3in.) [Width] x 1.72m (67.7in.) [Depth]
Machine Height:	2.1m (82.6in.)
Machine Weight:	430kg (Installed)
Power, maximum current:	2x 2A (465W) @ AC240V (Twinned Cabinet)

Definition of 'Site Maintenence Personnel or Other Qualified Individuals

---

(STOP) IMPORTANT

Procedures not described in this manual or marked as 'to be carried out by site maintenance personnel or other qualified professionals' should not be carried out by personnel without the necessary skill or technology. Work carried out by unqualified persons may cause serious accidents, including electrocution.

Parts replacement, maintenance inspections and troubleshooting should be carried out by site maintenance personnel or other qualified professionals. This manual includes directions for potentially dangerous procedures which should only be carried out by professionals with the appropriate specialised knowledge.

The site maintenance personnel or other qualified professionals mentioned in this manual are defined as follows:

Site maintenance personnel:
Individuals with experience in maintaining amusement equipment, vending machines, etc., working under the supervision of the owner/operator of this product to maintain machines within amusement facilities or similar premises by carrying out everyday procedures such as assembly, maintenance inspections, and replacement of units/ expendable parts.

Activities to be carried out by site maintenance personnel:
Amusement equipment/vending machine assembly, maintenance inspection and replacement of units/expendable parts.

Other qualified professionals:
Persons employed by amusement equipment manufacturers, or involved in design, production, testing or maintenance of amusement equipment. The individual should have either graduated from technical school or hold similar qualifications in electrical/electronics/mechanical engineering.

Activities to be carried out by other qualified professionals:
Amusement equipment/vending machine assembly, repair/adjustment of electrical/electronic/mechanical parts.

Waste of Electrical and Electronic Equipment (WEEE) Statement.

The WEEE (Waste of Electrical and Electronic Equipment) directive places an obligation on all EU based manufacturers and importers of Electrical and Electronic Equipment to take back products at the end of their useful life. Sega Amusements Europe Ltd accepts its responsibility to finance the cost of treatment and recovery of redundant WEEE in the United Kingdom in accordance with the specified WEEE recycling requirements.

The symbol shown below will be on all products manufactured from 13th August 2005, which indicates this product must NOT be disposed of with other normal waste. Instead, it is the user's responsibility to dispose of their waste equipment by arranging to return it to a designated UK collection point for the correct recycling of waste electrical and electronic equipment.

For more information about where you can send your waste equipment for recycling contact your local authority office.

For non-UK users contact your local authority office for information on the recycling of Waste Electrical and Electronic Equipment.

Battery Recycling Statement.

The EC Directive on Batteries and Accumulators (2006/66/EC) aims to minimise the impact of batteries on the environment and encourage the recovery of the materials they contain. To achieve increased collection and recycling of waste batteries, the Directive places 'producer responsibility' obligations on manufacturers and importers of portable, industrial and automotive batteries.

The symbol shown below will be on all equipment fitted with batteries from 26th September 2008 and indicates they must NOT be disposed of with other normal waste. Instead, it is the user's responsibility to dispose of used batteries by arranging to return them to a designated collection point for the correct recycling.

For more information about where you can send your waste batteries for recycling contact your local authority office.

1 HANDLING PRECAUTIONS
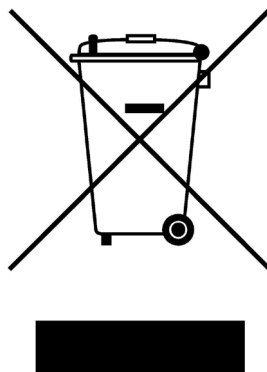
When installing or inspecting the machine, be very careful of the following points and pay attention to ensure that the player can enjoy the game safely.
Non-compliance with the following points or inappropriate handling running counter to the cautionary matters herein stated can cause personal injury or damage to the machine.

⚠ WARNING

Before performing work, be sure to turn the power off. Performing the work without turning the power off can cause an electric shock or short circuit. In cases where work should be performed in the status of power on, this manual always states to that effect.

To avoid an electric shock or short circuit, do not plug in or unplug quickly.

To avoid an electric shock, do not plug in or unplug with a wet hand.

Do not expose power cords or earth wires on the surface, (floor, passage, etc.) If exposed, the power cords and earth wires are susceptible to damage. Damaged cords and wires can cause an electric shock or short circuit.

To avoid causing a fire or an electric shock, do not put things on or damage the power cords.

When or after installing the product, do not unnecessarily pull the power cord. If damaged, the power cord can cause a fire or an electric shock.

In case the power cord is damaged, ask for a replacement through where the product was purchased from or the office herein stated. Using the cord as is damaged can cause fire, an electric shock or leakage.

Be sure to perform grounding appropriately. Inappropriate grounding can cause an electric shock.

Be sure to use fuses meeting the specified rating. Using fuses exceeding the specified rating can cause a fire or an electric shock.

Be sure that connections such as IC BD are made properly. Insufficient insertion can cause an electric shock.

Specification changes, removal of equipment, conversion and/or addition, not designated by SEGA are not permitted.

Failure to observe this may cause a fire or an electric shock. Non-compliance with this instruction can have a bad influence upon physical conditions of the players or the onlookers, or result in injury during play.

SEGA shall not be held responsible for damage, compensation for damage to a third party, caused by specification changes not designated by SEGA.

Do not perform any work or change parts not listed in this manual. Doing so may lead to an accident.

If you need to perform any work not listed in this manual, request work from the office indicated in this manual or the point of purchase, or inquires for details.

Be sure to perform periodic maintenance inspections herein stated.

(STOP) IMPORTANT

For the IC board circuit inspections, only the use of a logic tester is recommended. Using a Multi Tester or General Purpose Tester may result in damage to IC Circuits.

Static electricity from your body may damage some electronics devices on the IC board. Before handling the IC board, touch a grounded metallic surface so that the static electricity can be discharged.

This video gaming cabinet utilises a motorised steering feedback system. Do not attempt to service this part or any other part in close proximity to the steering mechanism whilst power is applied.

Some parts are not designed and manufactured specifically for this game machine. The manufacturers may discontinue, or change the specifications of such general-purpose parts. If this is the case, SEGA cannot repair or replace a failed game machine whether or not a warranty period has expired.

CONCERNING THE STICKER DISPLAY

This SEGA product has stickers attached describing the product manufacture No. (Serial No.) and Electrical Specifications. It also has a Sticker describing where to contact for repair and for purchasing parts.
When inquiring about or asking for repairs, mention the Serial No. and Name of Machine indicated on the Sticker. The Serial Number indicates the product register. Identical machines could have different parts depending on the date of production. Also, improvements and modifications might have been made after the publication of this manual. In order to ensure you order the correct parts, mention the Serial No. when contacting the applicable places.

CONCERNING WARNING DISPLAYS

This SEGA product has warning displays on stickers, labels and/or printed instructions adhered/attached to or incorporated in the places where a potentially hazardous situation could arise. The warning displays are intended for accident prevention for customers and for avoiding hazardous situations relating to maintenance and servicing work. Some portions of the cabinet contain high voltage and may cause accidents if touched. When performing maintenance, be very careful of the warning displays. It is especially important that any complex repair and replacement work not mentioned herein should be performed by those technical personnel who have knowledge of electricity and technical expertise.
In order to prevent accidents, caution any customer ignoring the warnings to cease and desist immediately.

⚠CAUTION

If you or your child have experienced a convulsive attack, loss of consciousness, etc. due to light stimulus in TV games; or fear that you might experience such symptoms, be very careful of using this machine.

If you feel sick while playing the game, immediately discontinue use and take a rest.
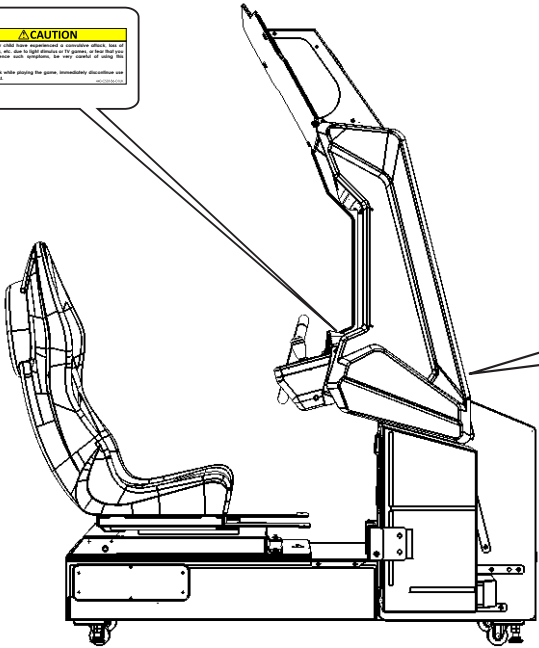
⚠WARNING

Moving parts can trap or cut. Remove power when servicing.

⚠CAUTION

Caution is to be taken when servicing

⚠WARNING

High voltage can cause an electric shock. Turn off power before servicing.
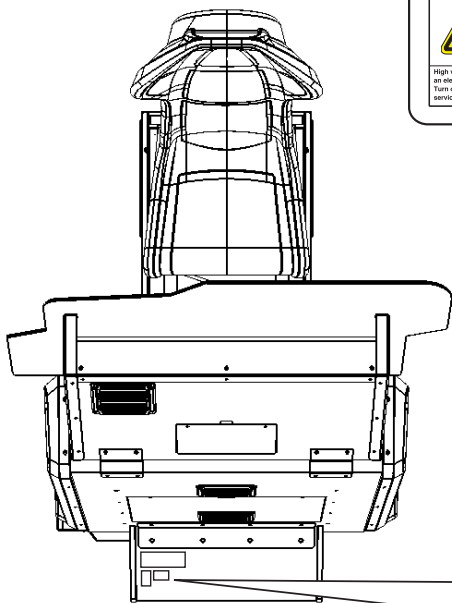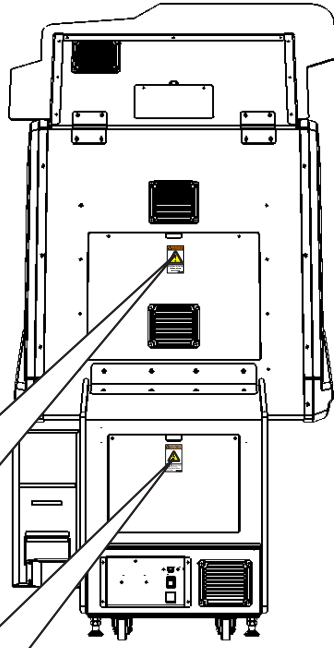
PORTABLE APPLIANCE TEST RECORD						
TEST DATE	TEST BY/INSPT			EARTH BND TO	NEXT TEST DATE	

MODEL:	GRID - RACE DRIVER TWIN
VOLTAGE:	220-240VAC
CURRENT:	2.3A
FREQUENCY:	50HZ
SERIAL No:	SMD117432B
Manufactured by **SEGA**	

2 PRECAUTIONS REGARDING INSTALLATION

⚠ WARNING

This product is an indoor game machine. Do not install it outside. Even indoors, avoid installing in places mentioned below so as not to cause a fire, electric shock, injury and/or malfunction.

Places subject to rain or water leakage, or places subject to high humidity in the proximity of an indoor swimming pool and/or shower, etc.

Places subject to direct sunlight, or places subject to high temperatures in the proximity of heating units, etc.

Places filled with inflammable gas or vicinity of highly inflammable/volatile chemicals or hazardous matter.

Dusty places.

Sloped surfaces.

Places subject to any type of violent impact.

Vicinity of anti-disaster facilities such as fire exits and fire extinguishers.

Areas where the temperature exceeds the applicable temperature (ambient temperature) range of 5 to 30 degrees centigrade.

LIMITATIONS OF USAGE

⚠ WARNING

Be sure to check the Electrical Specifications. Ensure that this product is compatible with the location's power supply, voltage, and frequency requirements. A plate describing Electrical Specifications is attached to the product. Non-compliance with the Electrical Specifications can cause a fire and electric shock.

This product requires a breaker and earth mechanism as part of the location facilities. Using the product without these can cause a fire and electric shock.

Ensure that the indoor wiring for the power supply is rated at 15 A or higher (AC single phase 100 V ~ 120 V area), and 7 A or higher (AC 220 V ~ 240 V area). Non-compliance with the Electrical Specifications can cause a fire and electric shock.

Be sure to use an independent power supply equipped with an earth leakage breaker. Using a power supply without an earth leakage breaker can cause an outbreak of fire if a power surge occurs.

Putting many loads on one electrical outlet can cause generation of heat and a fire resulting from overload.

When using an extension cord, ensure that the cord is rated at 15 A or higher (AC 100 V ~ 120 V area) and 7 A or higher (AC 220 V ~ 240 V area). Using a cord rated lower than the specified rating can cause a fire and electric shock.

(STOP) IMPORTANT

> Securing a safe area for operation as described in this manual will ensure safe operation for players and observers.
>
> SEGA shall not be held responsible for damage or compensation for damage to a third party, resulting from the failure to observe this instruction.

OPERATION AREA (US CABINET)

⚠ WARNING

For the operation of this machine, secure a minimum area of 2m (W) x 2.5m (D).

Be sure to provide sufficient space specified in this manual. Do not allow objects to block the ventilation ports. It can cause generation of heat and a fire.

Sufficient space either side of the playing area must be allowed for the player to enter or exit the game safely.
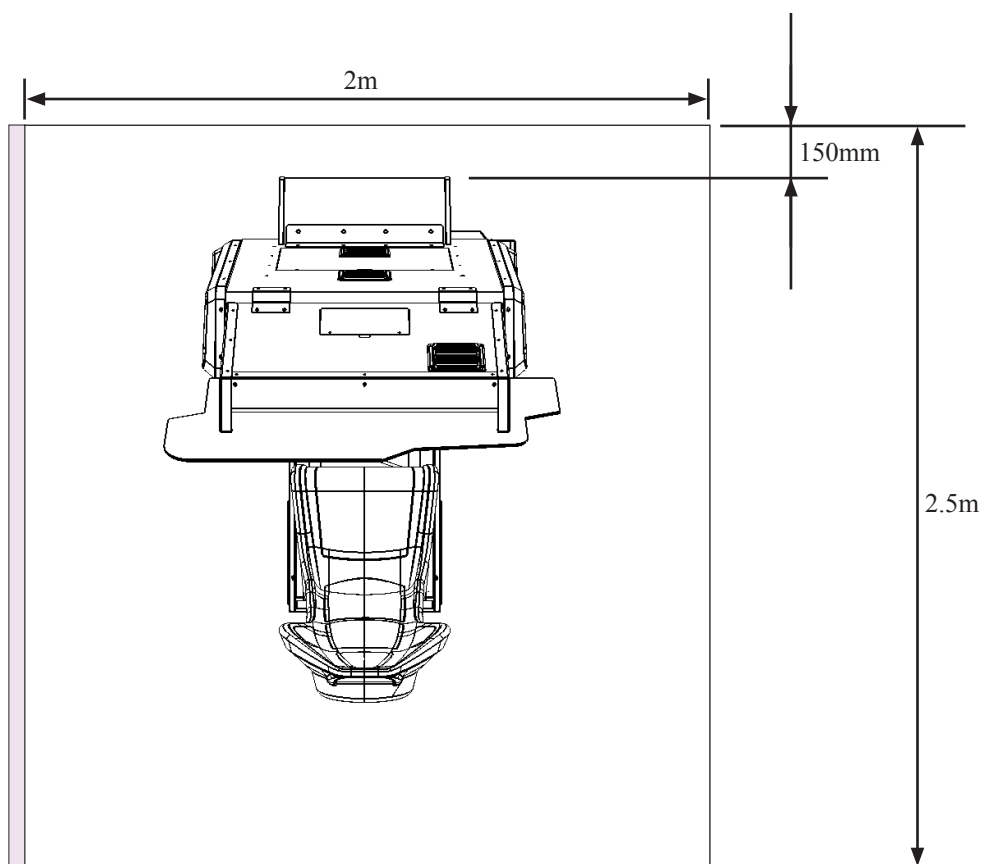
STOP **IMPORTANT**

To install this product, the entrance must be at least 1.40m in width and 2.05m in height without Assy Billboard and 2.15m with Assy Billboard.

Do not attempt to push/pull whilst holding onto the Assy Billboard. This may result in part damage and or personal injury.

2000mm

1225mm

1720mm

1340mm

2085mm

OPERATION AREA (EU CABINET)

> ⚠️ **WARNING**
>
> **For the operation of this machine, secure a minimum area of 2.89m (W) x 2.5m (D).**
>
> **Be sure to provide sufficient space specified in this manual. Do not allow objects to block the ventilation ports. It can cause generation of heat and a fire.**
>
> **Sufficient space either side of the playing area must be allowed for the player to enter or exit the game safely.**
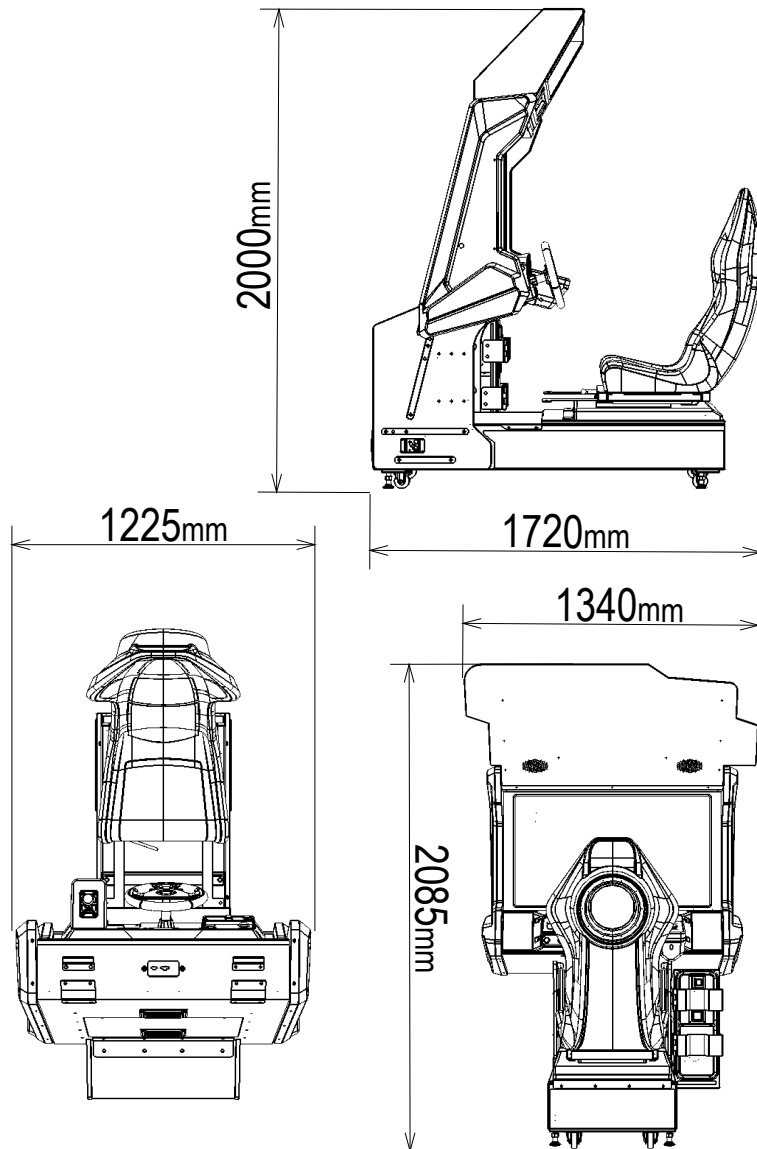

2.89m

150mm

2.5m
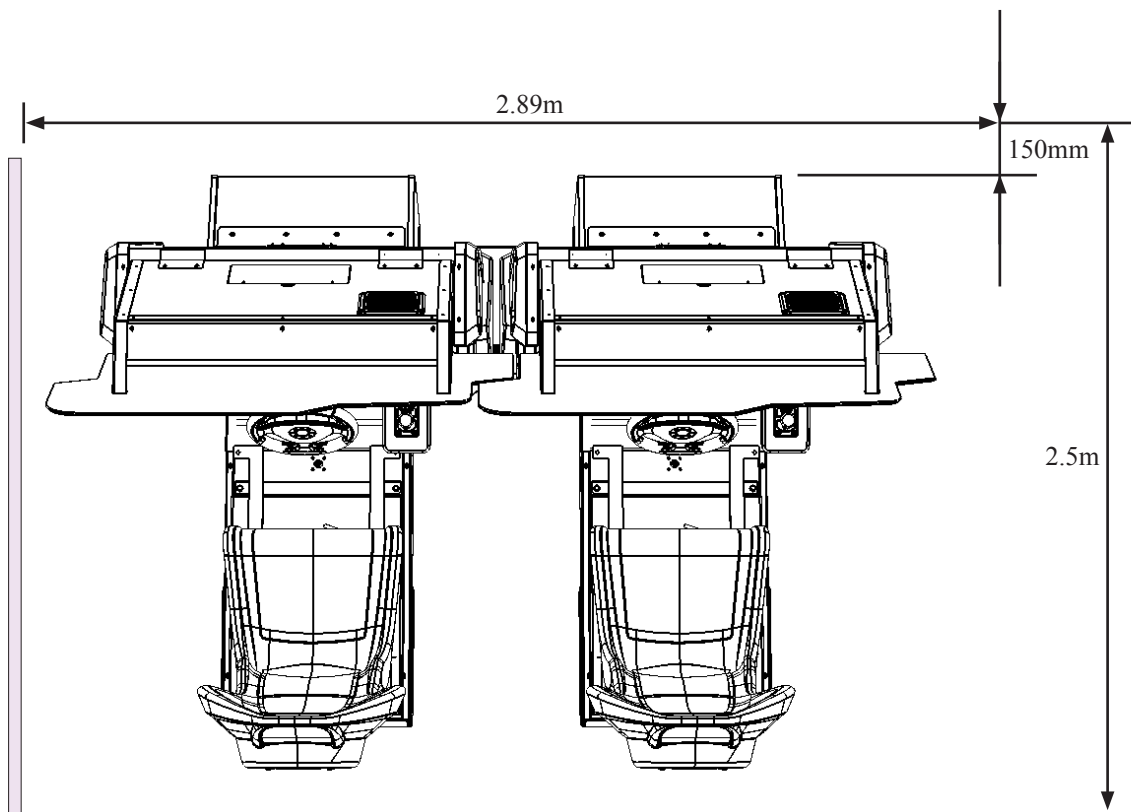
3 PRECAUTIONS REGARDING OPERATION

To avoid injury and trouble, be sure to pay attention to the behavior of visitors and players.

⚠ WARNING

In order to avoid accidents, check the following before starting the operation:

- **To ensure maximum safety for the players and the customers, ensure that where the product is operated has sufficient lighting to allow any warnings to be read. Operation under insufficient lighting can cause bodily contact with each other, hitting accident, and/or trouble between customers.**

- **Be sure to perform appropriate adjustment of the display (LCD, Plasma, CRT or Projector). For operation of this machine, do not leave monitor's flickering or deviation as is. Failure to observe this can have a bad influence upon the players' or the customers' physical conditions.**

- **It is suggested to ensure a space allowing the players who feel sick while playing the game to take a rest.**

- **Check if all of the adjusters are in contact with the surface. If they are not, the Cabinet can move and cause an accident.**

Each leg adjuster MUST be lowered so that the casters are raised approximately 5mm off the floor.
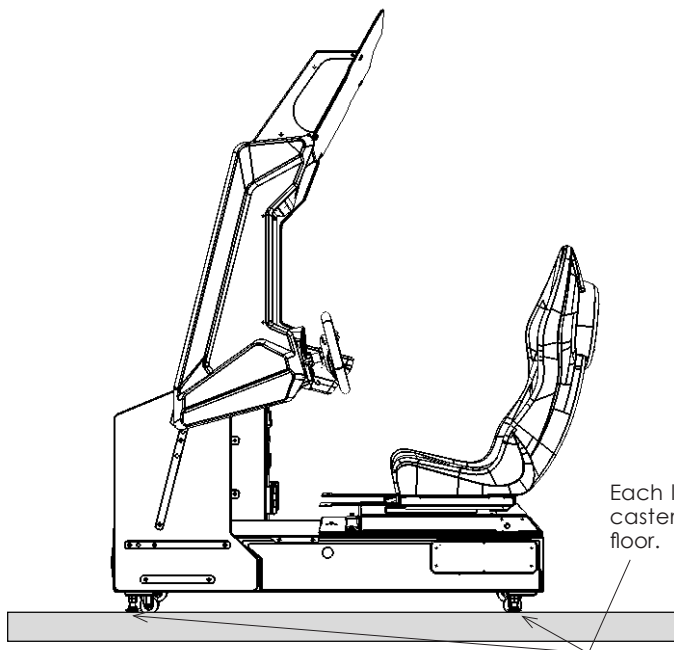
- **Do not put any heavy item on this product. Items, if placed on this product may fall and cause injury to the player / observer.**

- **Do not climb on the product. Climbing on the product can cause falling down accidents. To check the top portion of the product, use a step ladder.**

⚠ WARNING

- To avoid electric shock, ensure that all covers and panels are undamaged and fitted. Do not operate with covers removed.

- To avoid electric shock, short circuit and/or parts damage, do not put the following items on or in the periphery of the product.

Flower vases, flowerpots, cups, water tanks, cosmetics, and receptacles/containers/vessels containing chemicals and water.

⚠ CAUTION

- To avoid injury, be sure to provide sufficient space by considering the potentially crowded situation at the installation location. Insufficient installation space can cause making bodily contact with each other, hitting accidents, and/or trouble between customers.

- Everyday when cleaning the Controller, inspect the controller and make sure that there are no cracks in the surface, and that the fastening screws are not loose. If the game is played with cracks or loose screws, it can cause injuries to the player.

- Do not allow more than one person in any seat at any time. Do not allow adults to play the game with a child sitting in their lap.

⚠ WARNING

It is recommended that wet towels (paper towels) be provided.

DURING OPERATION (PAYING ATTENTION TO CUSTOMERS)

To avoid injury and trouble, be sure to constantly give careful attention to the behavior and manner of the visitors and players.

⚠ WARNING

- **For safety reasons, do not allow any of the following people to play the game.**

- **Those who have high blood pressure or a heart problem.**

- **Those who have experienced muscle convulsion or loss of consciousness when playing video games, etc.**

- **Those who have neck or spinal cord problems.**

- **Those who are intoxicated or under the influence of drugs.**

- **Pregnant women.**

- **Those who are not in good health.**

- **Those who do not follow the attendant's instructions.**

- **Those who cannot grasp the Control Unit securely because of immobility in fingers, hands or arms.**

- **Persons who disregard the product's warning displays.**

This product is intended for a single player only. Having two or more persons simultaneously playing this product can result to injury to the player and possible damage to the product.

- **Even players who have never been adversely affected by light stimulus might experience dizziness or headache depending on their physical condition when playing the game.**

Small children are especially likely to experience these symptoms. Caution guardians of small children to keep watch on their children during play.

- **Instruct those who feel sick during play to have a medical examination.**

- **To avoid injury from falls and electric shocks due to spilled drinks, instruct the player not to place heavy items or drinks on the product.**

- **To avoid electric shocks and short circuits, do not allow customers to put hands and fingers or extraneous matter in the openings of the product or small openings in or around the doors.**

- **To avoid falls and resulting injury, immediately stop the customer from leaning against or climbing on the product, etc.**

- **To avoid electric shock and short circuit, do not allow customers to unplug the power plug without a justifiable reason.**

- **Instruct the guardians of small children to keep an eye on their children.**

Children cannot sense danger. Allowing small children to get near a player who is playing the game could result in the children being bumped, struck or knocked down.

---

4 PART DESCRIPTIONS

Mon Cover R

Gear Shift

Assy Seat

Assy Base Box

Billboard Plaque

Speakers

Assy Coin Tower

Assy LCD Display

Seat Woofer

Assembly Billboard

Monitor Cover Left

Assy Control Panel
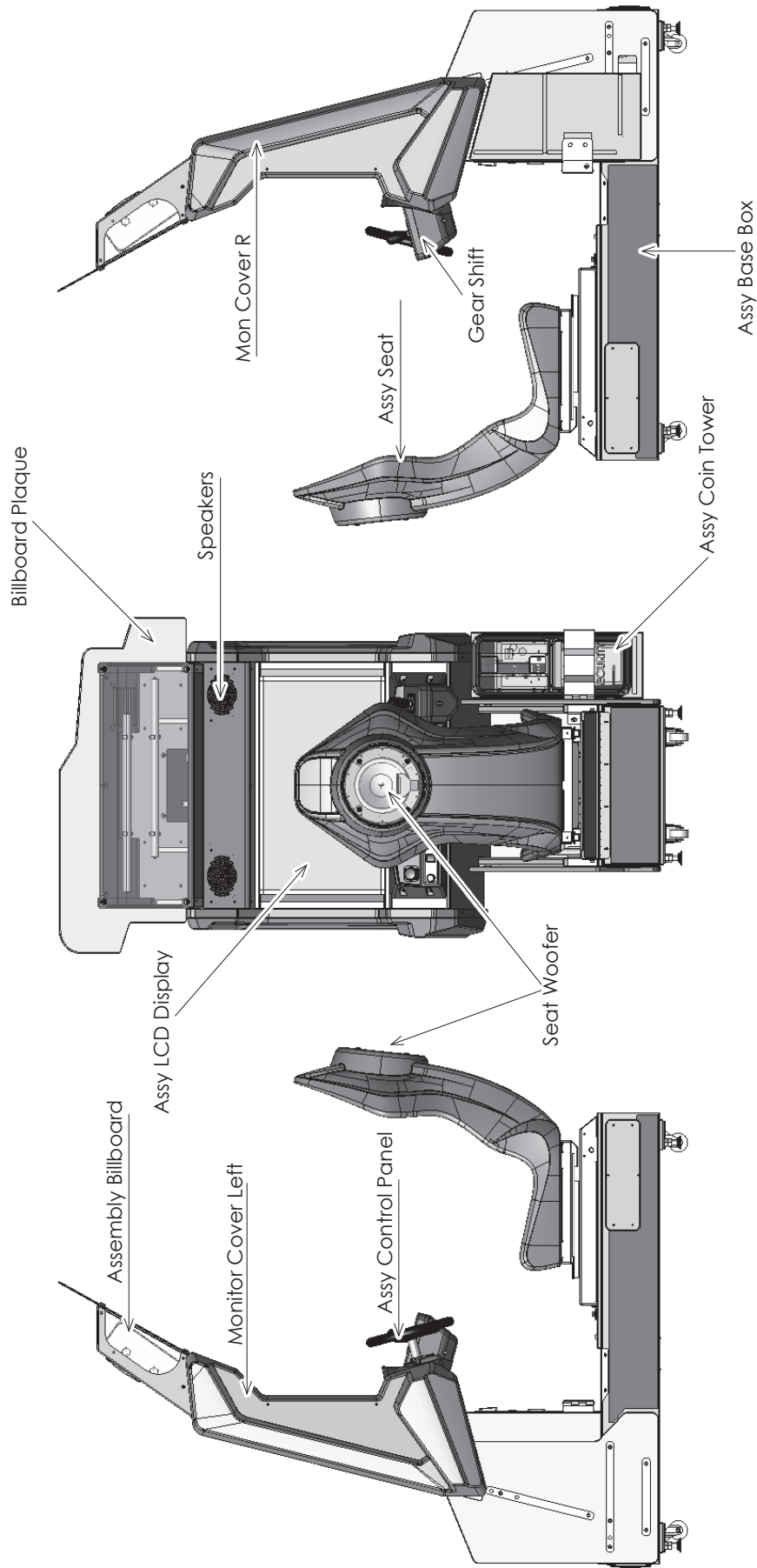
5 ACCESSORIES

Confirm that the accessories listed in the table below are present when setting up the product.
Accessories marked "Spare" in the note column are consumable items but included as spares.

DESCRIPTION: OWNER'S MANUAL
Part No. (Qty.):   420-0011-03UK(1)

Parts not labeled with part numbers are as yet
unregistered or cannot be registered. Be sure to handle
all parts with care, as some parts are not available for
purchase separately.

KEY MASTER
220-5575-01UK (2)
For operating/closing the doors
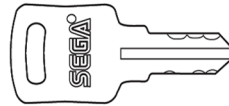
KEY
(2)

For the cashbox door
(Located inside the coin chute door at time of
shipment)

Epilepsy Labels (Multilingual)
440-CS0186-01UK
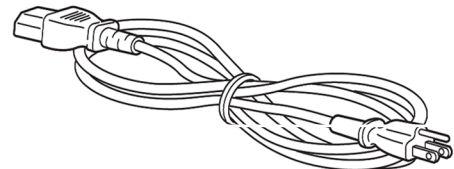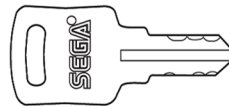
POWER CORD
LM1227 (1) <UK>
LM1226 (1) <EU>
LM1500 (1) <US>
For installation. See chapter 6.
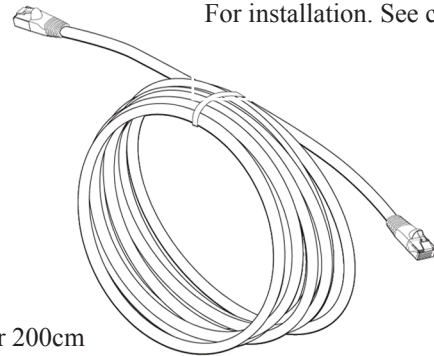
LAN Cable X-Over 200cm
600-7270-0200UK (1)
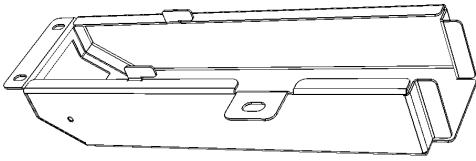
WIRE COVER R
PD-0054UK

For installation. See chapter 6.
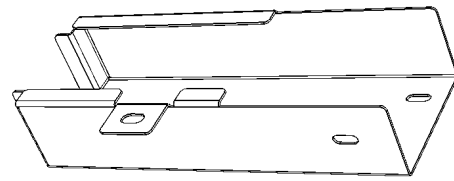
WIRE COVER L
PD-0053UK

For installation. See chapter 6.
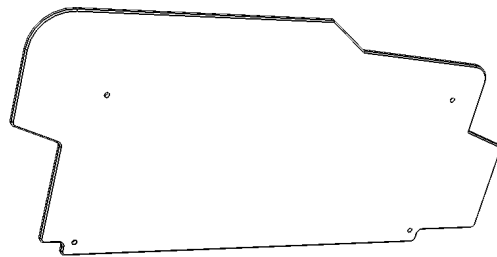
BILLBOARD PLATE
PD-0507XUK (STD x1) (TWN x2)

For installation. See chapter 6.
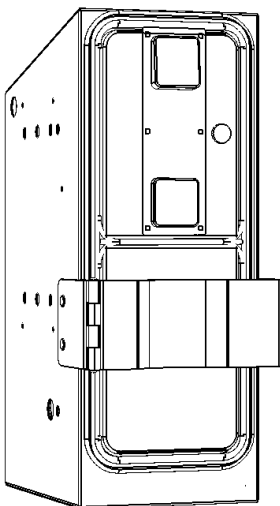
ASSY COIN CHUTE TOWER (EU)
RD-0300XUK

For installation. See chapter 6.
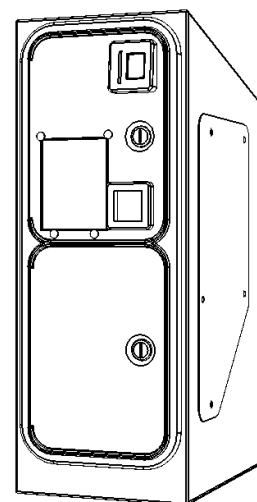
ASSY COIN CHUTE TOWER (US)
RD-0301X-01UK

For installation. See chapter 6.

6 ASSEMBLY AND INSTALLATION

⚠ WARNING

• Perform assembly work by following the procedure herein stated. Failure to comply with the instructions can cause electric shock.

• Perform assembly as per this manual. Since this is a complex machine, incorrect assembling can cause an electric shock, machine damage and/or improper functioning as per specified performance.

• When assembling, more than one person is required. Depending on the assembly work, there are some cases in which working by one person alone can cause personal injury or parts damage.

• Ensure that connectors are properly connected. Improper connections can cause electric shock.

• Be careful not to damage the wires. Damaged wires may cause electric shock or short circuit or present a risk of fire.

• Do not unnecessarily push the display screen.

• This work should be carried out by site maintenance personnel or other qualified professionals. Work performed by non-technical personnel can cause a severe accident such as electric shock. Failing to comply with this instruction can cause a severe accident such as electric shock to the player during operation. If no one with proper technological expertise is available, request service from the office indicated in this document or the point of purchase so as to ensure safety.

• Provide sufficient space so that assembling can be performed. Performing work in places with narrow space or low ceiling may cause an accident and assembly work to be difficult.

• To perform work safely and avoid serious accident such as the cabinet falling down, do not perform work in places where step-like grade differences, a ditch, or slope exist.

• This product does not use any connectors other than those connected to and used by the game board when it leaves the factory. Do not needlessly connect wires to unused connectors. This could lead to overheating, generation of smoke and burn related injuries.

⚠ CAUTION

• Handle molded parts with care. Excessive weight or pressure may cause them to break and the broken pieces may cause injury.

• To perform the operation safely and accurately you must use a safe, steady footstool or stepladder. Working without this may lead to a fall and possible injury.

6-1 INSTALLING THE CABINET

⚠ CAUTION

• **Billboard weighs approximately 19 kg. Have at least 2 people during this operation. Working alone could result in personal injuries, etc.**

• **To perform work safely and securely, be sure to prepare a step which is in a safe and stable condition. Performing work without using a step may lead to injury of damage to components.**

Tools required for installation
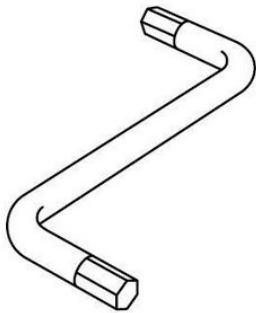
Allen Key (M5)
- Attaching Billboard Panel to Assy Billboard.
(Not Supplied)
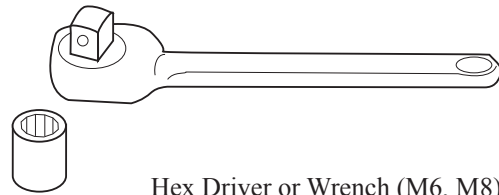
Hex Driver or Wrench (M6, M8)
- Attaching Assy Billboard / Coin Tower to cabinet.
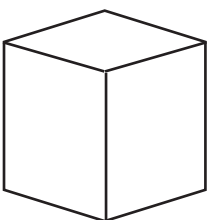
Step or Ladders
- Aid in fixing Billboard and Billboard Panel.
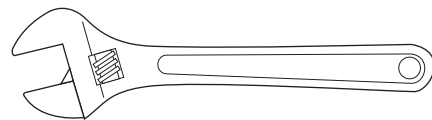
Adjustable Wrench
- Secure cabinet into position.
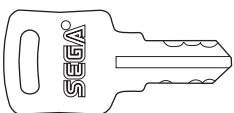
KEY
- Gain access to Coin Tower

6-1-1 INSTALLING THE BILLBOARD PLATE

1 Locate and remove the 6 sets of fixings from the Billboard Plate fixing points within the Billboard Housing.
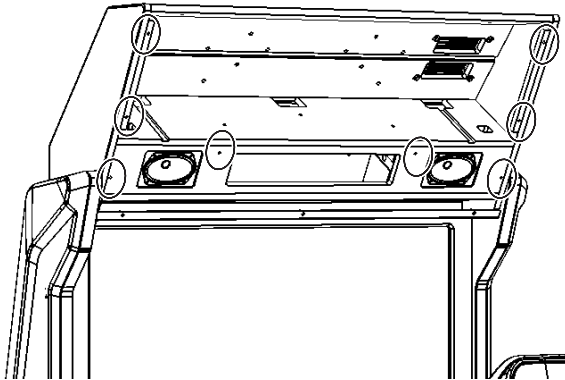
Remove fixings before fitting
the Billboard Plate.

2 Using two people and a stepladder. Offer the Billboard Plate up to the Assy Billboard.
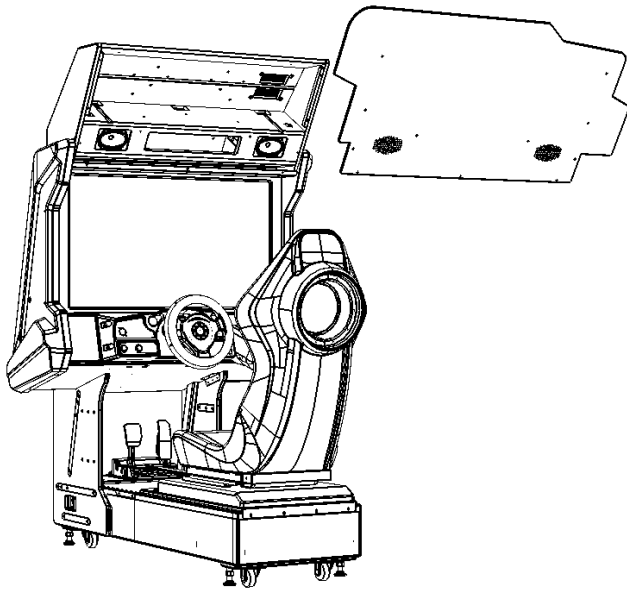
3 Fix the Billboard Plate into position using the fixings removed in step 1.
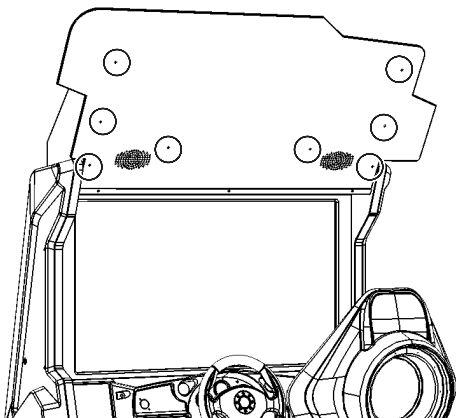
6-1-2 INSTALLING A TWINNED CABINET (EU ONLY)

1 Locate the Cabinets into location as once assembled it is not recommended to move the Cabinets as damage may occur to the connection points between each Cabinet.

Follow the instructions to install the Assy Billboard and Billboard Plate on the previous pages of this manual. Chapter 6-1-1 and 6-1-2.

2 Fit 2x Coin Chute Tower Holders (RD-1214UK) to the inside footwell if the Left Hand Cabinet as illustrated.

Coin Tower Holder x2 (RD1214UK)

Coin Chute Tower Spacer Left. (RD-0051UK)
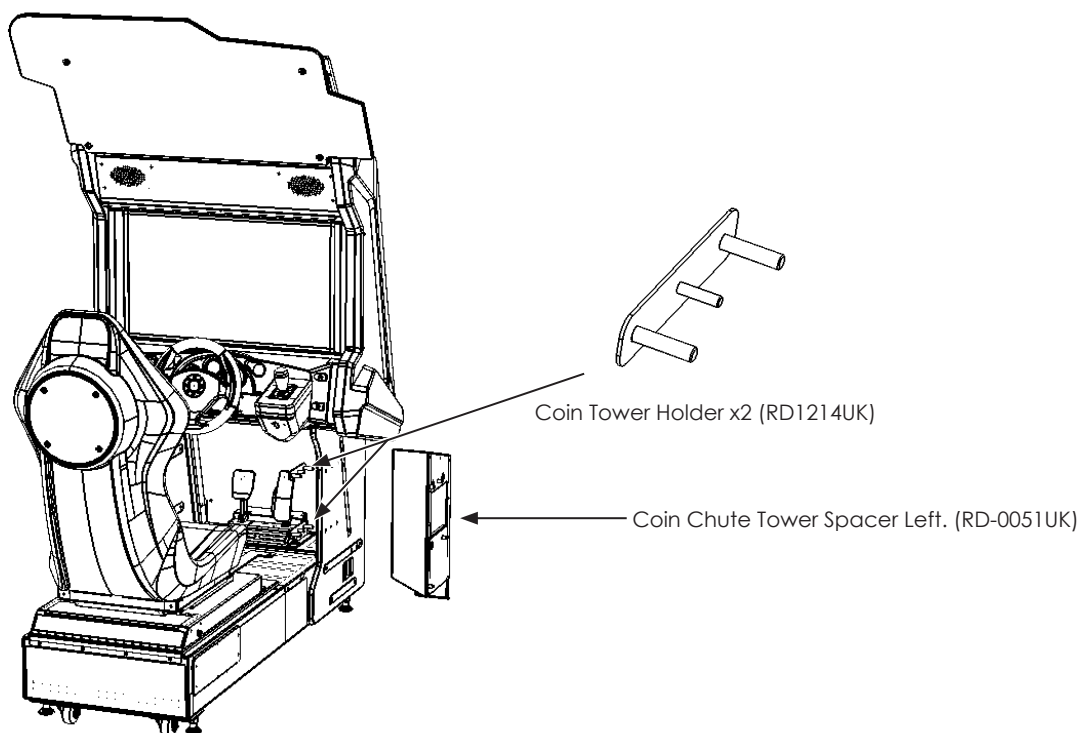
3 Offer the Coin Chute Tower Spacer Left (PD-0051UK) up to the fixing positions of the Coin Chute Tower Holders. Once aligned, fix securely into position using 4x M8 Hex Nuts (supplied)

Coin Chute Tower Spacer Left. (PD-0051UK)

M8 Hex Nuts (4) Supplied
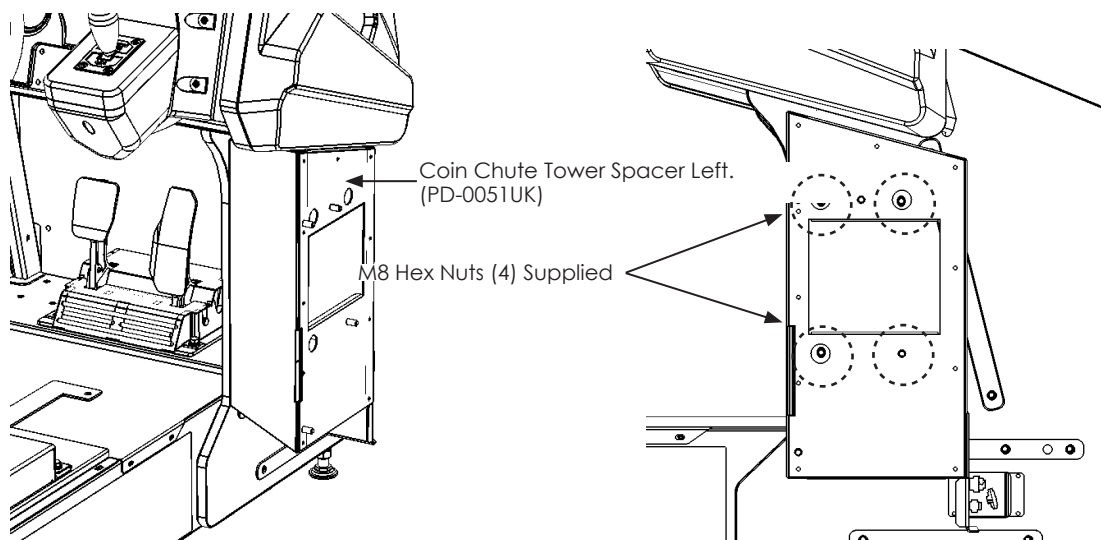
4 Fit and secure the Coin Chute Tower to the Left Hand Coin Chute Tower Spacer and secure using 4x M8 Hex Nuts (supplied).

M8 Hex Nut (4)

Coin Chute Tower (RD-0300UK)
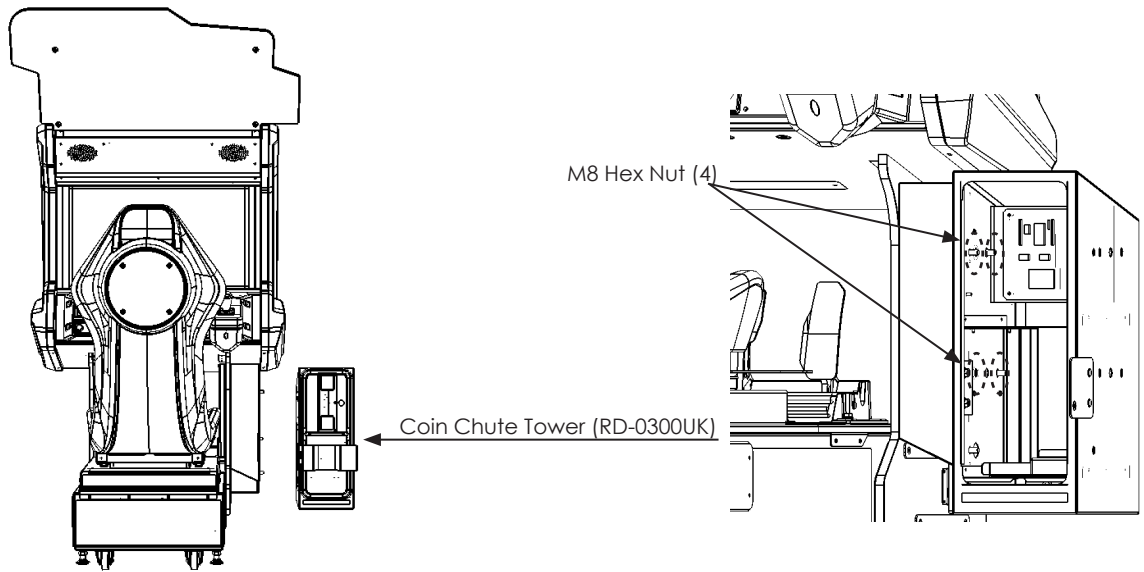
5 Repeat steps 2 and 3 to apply the Coin Tower Holders (PD-1214UK) and Coin Tower Spacer Right (RD-0052UK) to the Right Hand Cabinet.

Coin Tower Spacer Right.
(PD-0052UK)
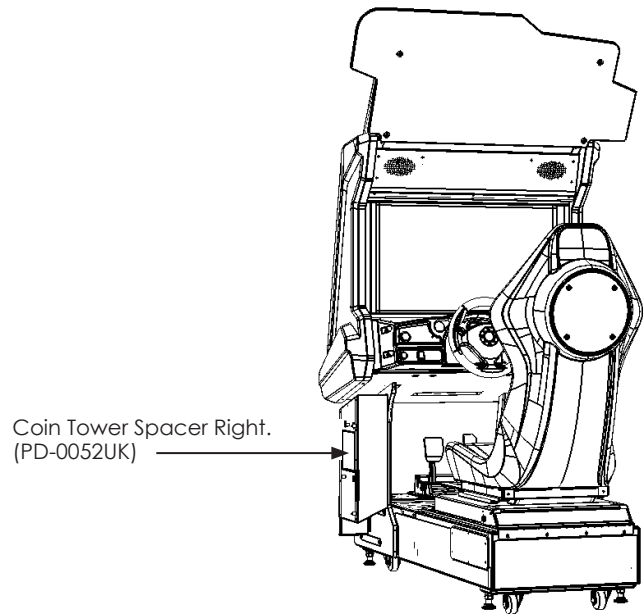
6 Carefully push both Left and Right cabinets together, taking care not to damage the Billboard Plate. Once in position, secure the fixing points on the Right Hand cabinet through the Coin Chute Tower
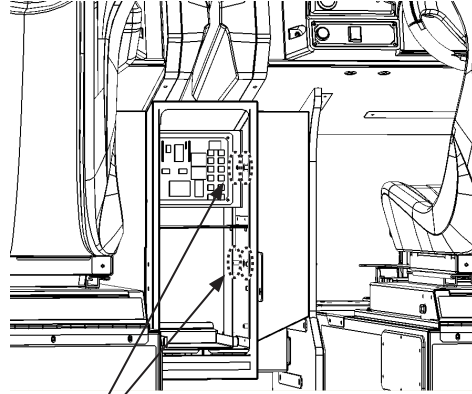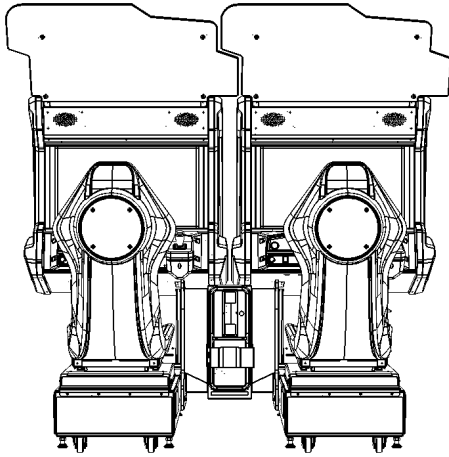
M8 Hex Nut (4) Supplied

7 Locate the harness from both Left and Right hand cabinets. Locate the Harness from the Coin Chute Tower. Connect the Coin Chute Tower harness into both Left and Right hand cabinets. Make sure that the correct connections are made.
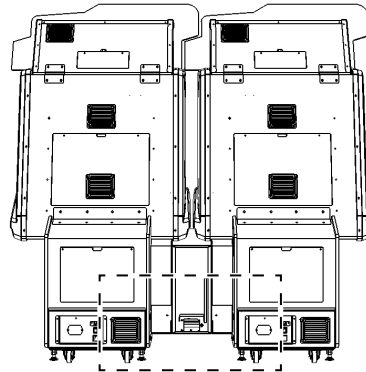
Player 2 Harness from Coin Chute Tower
Connect to Right Hand Cabinet.

Player 1 Harness from Coin Chute Tower
Connect to Left Hand Cabinet.
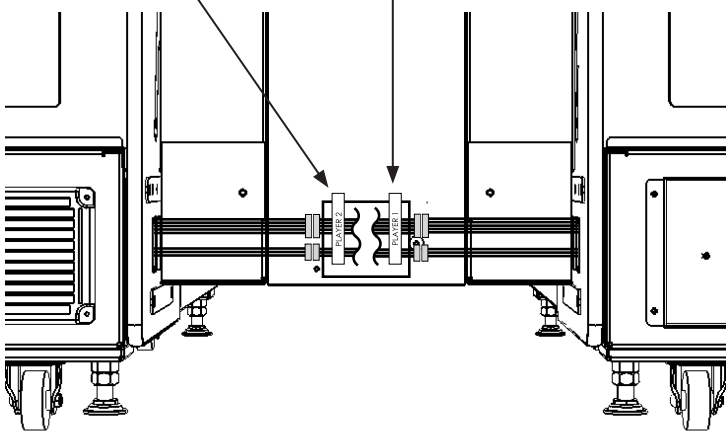
8 Once all connections have been made, feed any excess harness back inside the Coin Chute Tower. Fit both Left and Right Wire Covers to the Cabinets and Coin Chute Tower as illustrated.

Wire Cover Right (PD-0054UK)   Wire Cover Left (PD-0053UK)

Fixing Points - M4x10 MSCR PAN W/FS BLK (3)
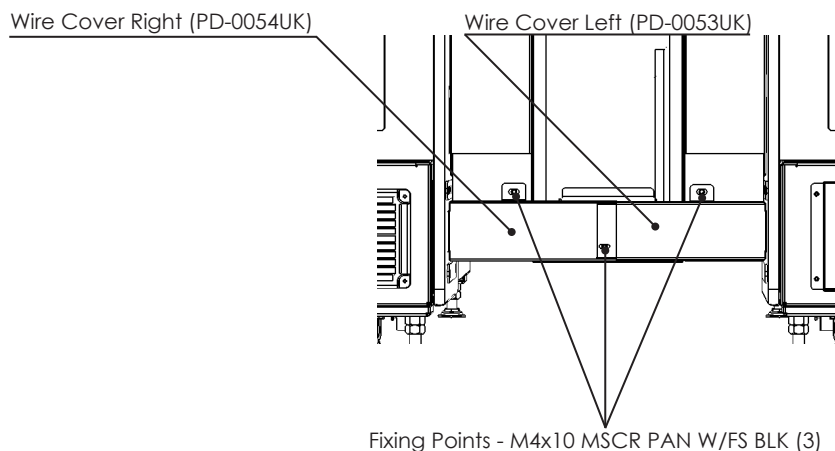
9 Fit the RED Crossover Network Cable between both cabinets.

Crossover Network Cable (Supplied)
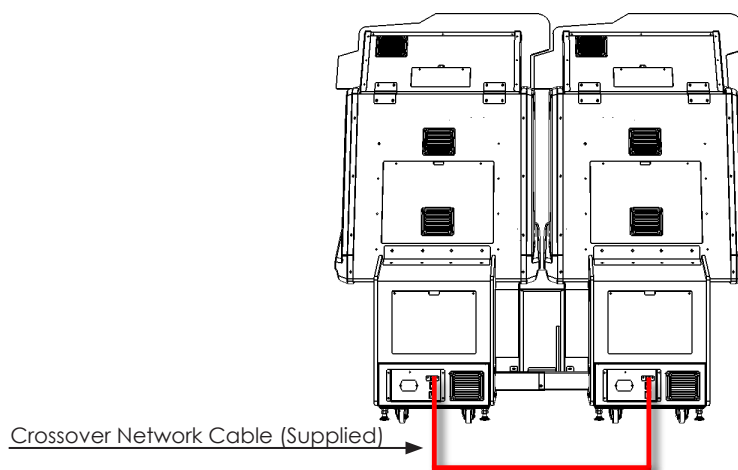
⚠ WARNING

• **Do not fit a Standard Lan or Network Cable across the cabinets without the use of a HUB. The RED Crossover Lan Cable which is supplied with the product is to be used when ONLY connecting 2 cabinets or single Twinned Cabinet.**

⚠ WARNING

• **Do not move them cabinets once assembled. Moving the cabinets whilst assembled will cause damage to the product. Unfasten both machines from the Coin Chute Tower Assembly before moving.**

6-2 FIXATION TO INSTALLATION SITE

> ### ⚠ WARNING
>
> - **Make sure that all the adjusters contact the floor. Otherwise the cabinet could move, causing an accident.**
>
> - **Provide a ventilation space at least 20cm wide behind the cabinet. There are ventilation holes on the back of the cabinet. Do not block the ventilation holes. Doing so could trap heat inside resulting in fire. It could also result in equipment damage or cause parts to become exhausted prematurely.**

The product is equipped with 4 casters and 4 adjusters.

When installation position / site has been determined, have the adjusters come in direct contact with the floor. Establish a gap of about 5 mm between the floor and the casters and adjust the unit so that it will remain level.

1 Move the product to the installation site.

2 Bring the adjusters into direct contact with the floor. Use a wrench to align the height of the adjusters until the cabinet is perfectly level.

3 After setting, turn adjuster nuts upwards to tighten them and secure adjuster heights.
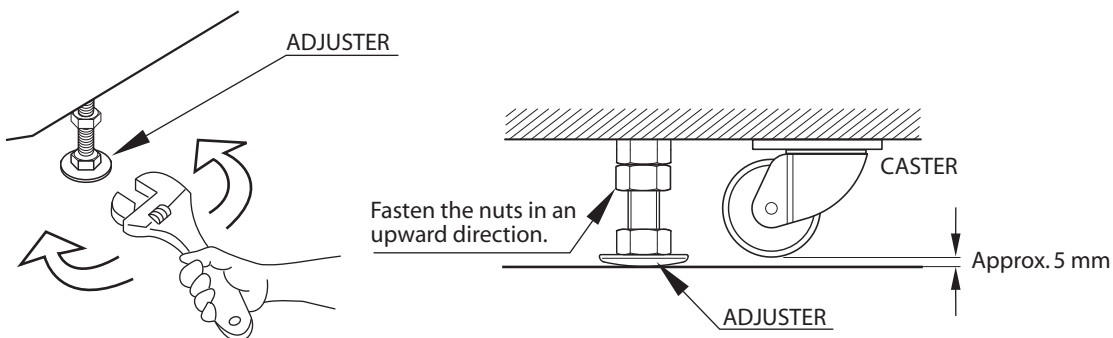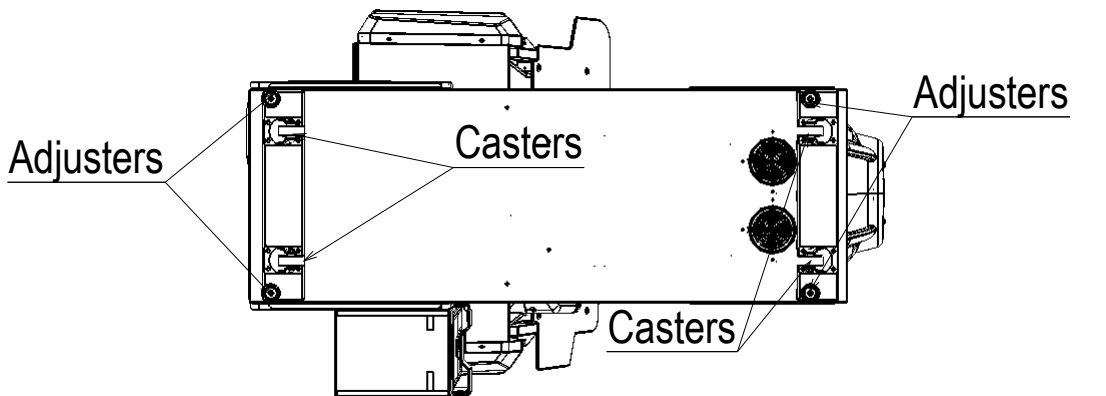
⚠ WARNING

- Provide a ventilation space at least 15cm wide behind the cabinet. There are ventilation holes on the back of the cabinet. Do not block the ventilation holes. Doing so could trap heat inside resulting in fire. It could also result in equipment damage or cause parts to become exhausted prematurely.

150mm

Leave a 150mm gap for ventilation
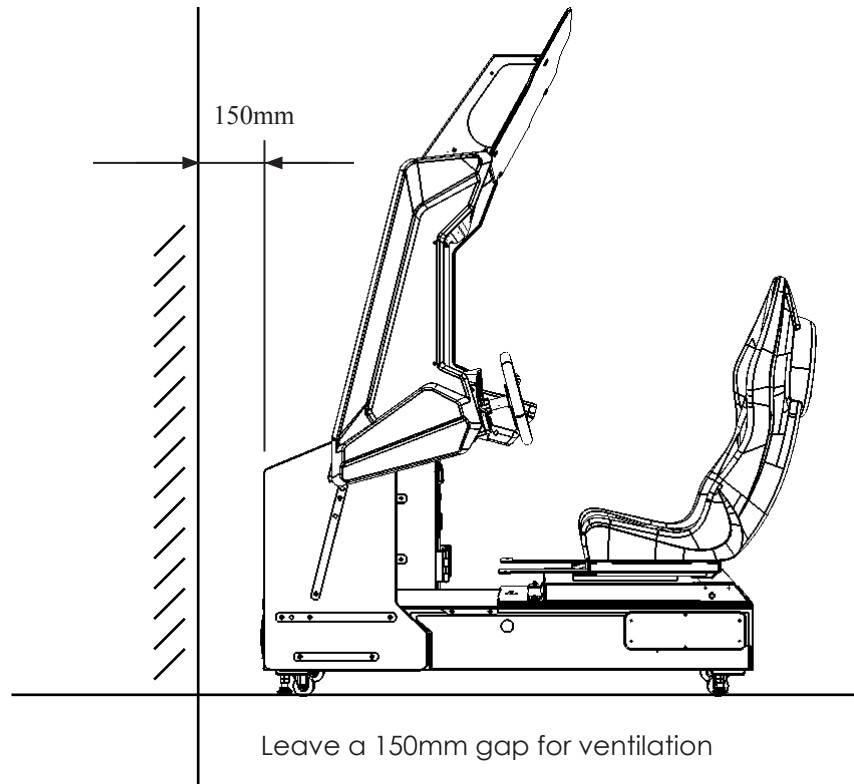
6-3 POWER SUPPLY, AND GROUND CONNECTION

> **⚠ WARNING**
>
> •   Use the power supply equipped with an earth leakage breaker. Use of power supply without such a breaker could result in fire if there is a current leakage.
>
> •   Have available a securely grounded indoor ground terminal. Without proper grounding, customers could be electrocuted and product operations might not always be stable.
>
> •   Do not expose the power cord or ground wire. If these are exposed, customers could stumble over them, for instance, and easily damage them. Additionally, if these lines are damaged, there could be a risk of electrical shock or short circuit. Set these lines at locations where they will not interfere with customer traffic, or attach covers to them.
>
> •   After laying out the power cord on the floor, be sure to always protect it. If the power cord is left exposed, it can easily be damaged, resulting in electrical shock.

1   Confirm that the main switch is at OFF.

Lan Network Connector

Mains ON/OFF Switch
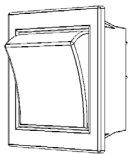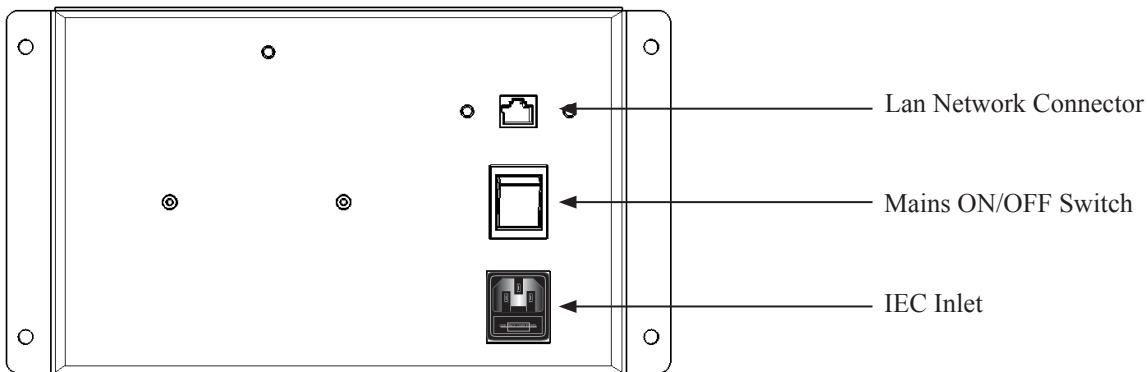
IEC Inlet

Mains Switch shown in
OFF position

2 Fully insert the power cord connector on the side opposite the power plug into the AC unit IEC inlet. Insert the power cord plug into the outlet.

3 When the power cord is laid out indoors. Protect the power cord by attaching a wire cover to it.
If the power cord is left uncovered it may cause a trip hazard and could result in injury. Please cover the power cord as illustrated below.

WIRE COVER
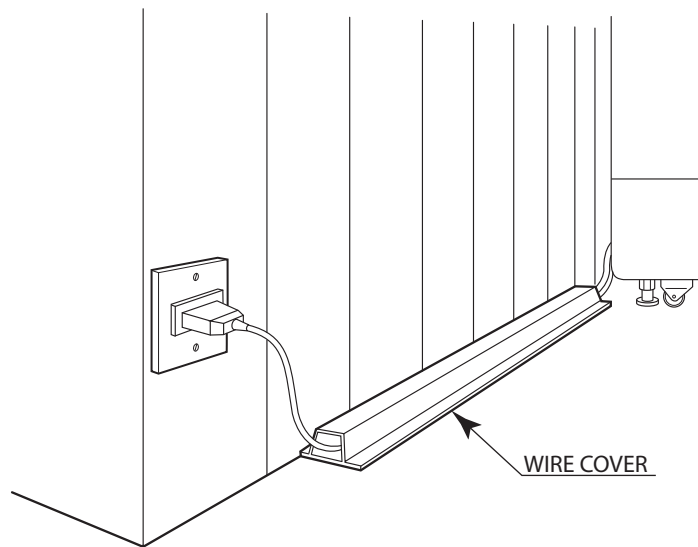
6-4 TURN ON POWER

Set the main switch of the AC unit to ON and engage the power.

When you turn on the power, the billboard LED lights will come on.

After the SEGA LOGO start up screen is displayed on the LCD screen, the Advertise (Attract) Mode will start.

The decorative LEDs on the Woofer will flash on/off.

Start up sounds are output from the speakers on the left and right of the cabinet together with display of the SEGA startup screen.

Even when the power source has been cut off, credit count, ranking data, game settings and bookkeeping data are kept stored in the product. However, fractional coin counts (inserted coins that do not amount to one credit) and bonus adder counts are not kept.

Billboard illumination

Audio output

SEGA logo

LED / Audio output
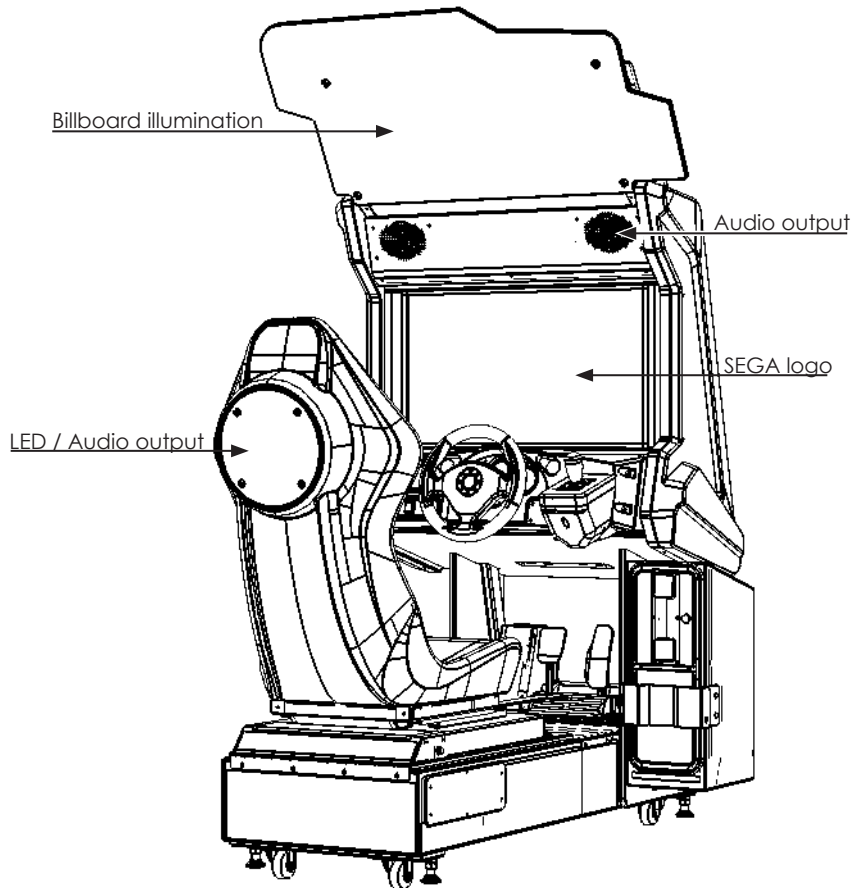
6-5 COMFIRMATION OF ASSEMBLY

In the test mode, ascertain that the assembly has been made correctly and IC Board is satisfactory.
In the test mode, perform the following test: (refer to chapter 9).

9-2-3 INPUT TEST

This menu is used to test the system inputs such as steering, pedals and buttons. To implement the test, press each device that is listed and check the results on screen.

9-2-4 OUTPUT TEST

This menu is used to test the system oututs such as Lamps and LED.

9-2-5 COIN SETTINGS

As this system utilises a Credit Board PCB, it is important that the setting remain 1 COIN 1 PLAY. Deveation from this setting when using the Credit Board PCB can result in unusual credit outputs.

9-2-8 NETWORK TEST

Apply and configure the network of each cabinet (only appiles if 2 or more cabinets are linked).

9-2-9 CALIBRATION TEST

This test is required to calibrated both steering mechanism and control pedals. This procedure is always carried out at the factory before dispatch. However, certain conditions can have an effect on calibration and it is recommended that re-calibration be carried out at point of installtion.

6-6 APPLYING WARNING LABELS (EPILEPTIFORM SEIZURES)

> ### ⚠ CAUTION
>
> • **The operator MUST apply the Epileptiform Seizure Label to this product. Failing to apply this label may result in the player/observer suffering from a photosensitive seizure. Warning the potential player/ observer of this before the start of a game may prevent such accidents.**
>
> • **It is also important to apply the correct language label for each location. There are nine (9) different language labels - please apply the label which matches your location.**

(STOP) **IMPORTANT**

Application of any warning labels must be placed in a location which is easy for the player/observer to read. Please follow the instructions below and apply the label in the location stated.

The Epileptiform Seizure label is supplied in 9 different languages. Please choose the label which matches your language location.
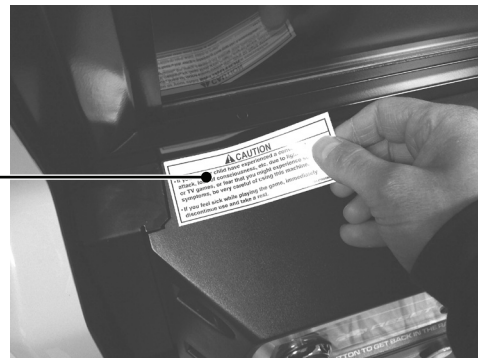
Apply the label to the top left hand corner of the Control Panel. This location is unobstructed and can be easily read by players and observers alike.
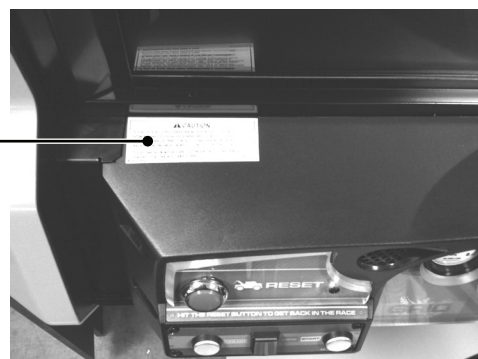
7 PRECAUTIONS WHEN MOVING THE MACHINE

⚠ WARNING

• **Always disconnect the power cable before moving the product. If it is moved with the power cable connected, the cable could be damaged, causing fire or electric shock.**

• **To move the unit over the floor, pull in the adjustors and have the casters contact the floor. While moving the unit, be careful that the casters do not roll over the power cord or the ground wire. If cord or wire is damaged, there could be electrical shocks and/or short circuits.**

• **When crossing a sloped or stepped area, always have the machine travel lengthways. Travelling with the machine in a sideways position could result in the machine falling over onto its side. Always use a minimum of two people working together plus lifting apparatus to accommodate slopped areas or stairs.**

• **To lift up the cabinet, hold it at the bottom at the designated lifting points. If you hold it anywhere else, the weight of the cabinet could cause damage to parts or attachments, resulting in injury.**

• **Do not push the cabinet from the side when moving. Pushing from the side as it may result in the cabinet falling over.**

STOP IMPORTANT

• **When moving the cabinet, do not grip or push the Billboard Plate. Doing so could deform or damage the part.**

• **If moving through a door or place with a low ceiling such as an elevator, you should take apart the billboard and billboard plate.**

7-1 PRECAUTIONS WHEN MOVING (US STD)

STOP **IMPORTANT**

> • **When moving the cabinet, do not grip or push the Billboard Plate. Doing so could deform or damage the part.**
>
> • **If moving through a door or place with a low ceiling such as an elevator, you should take apart the billboard and billboard plate.**

Detailed instructions for removing the Assy Billboard and Billboard Plate can be found in Chapter 6 of this manual. Please follow these instruction in reverse order for removal.

Ensure that the casters come into contact with the floor before moving.
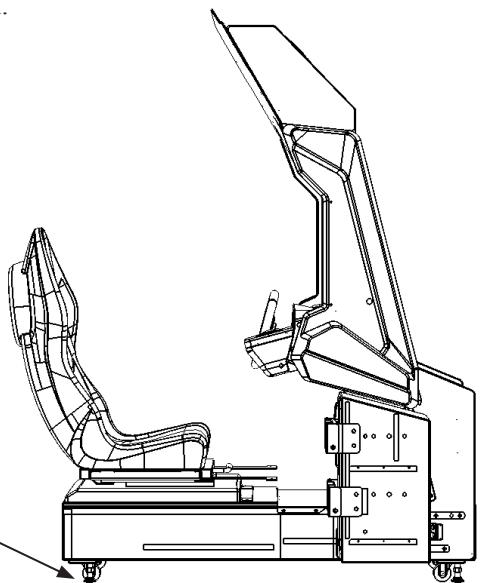
Remove the Billboard Plate. Please refer to Chapter 6-1 of this manual and follow the steps in reverse.
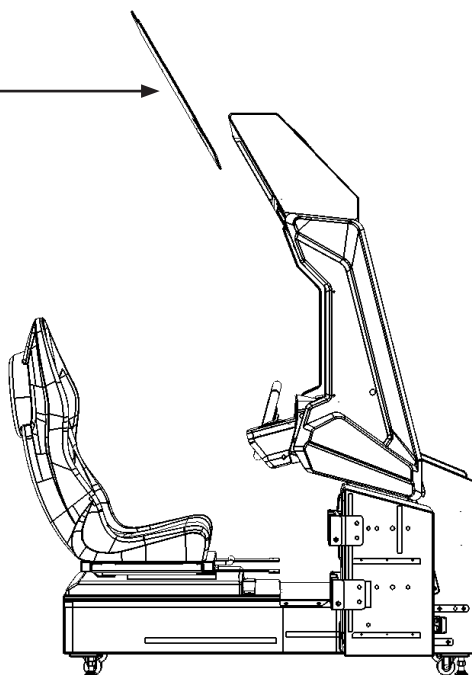
- When moving the cabinet, do not push from the side. Pushing from the side may result in the machine falling over.
- When moving the cabinet always push or pull from the rear.
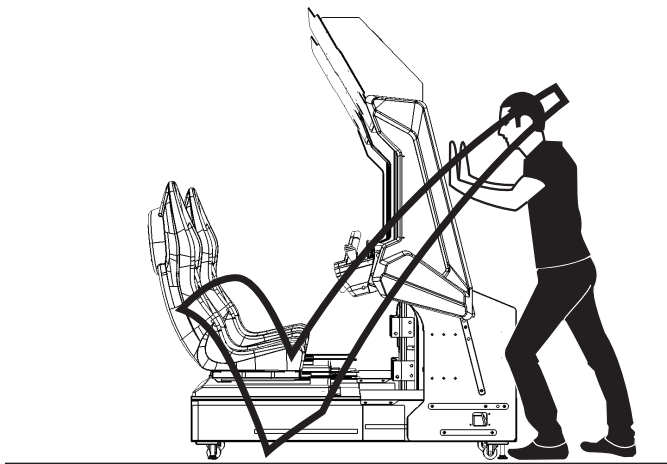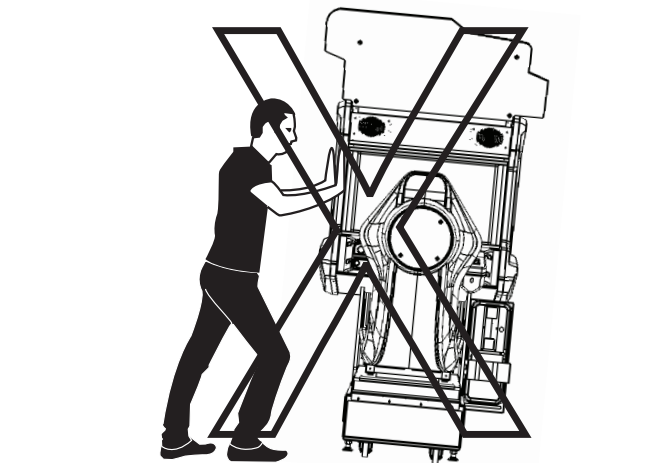
7-2 PRECAUTIONS WHEN MOVING (EU TWIN)

STOP IMPORTANT

- When moving the cabinet, do not grip or push the Billboard Plate. Doing so could deform or damage the part.

- If moving through a door or place with a low ceiling such as an elevator, you should take apart the billboard and billboard plate.

STOP IMPORTANT

- When moving the cabinets it is important that the cabinets are split into individual units. Trying to move the cabinets whilst connected can cause damage to either or both units.

- Refer to Chapter 6 in this manual for Billboard and Billboard Plate removal. Failing to follow these instructions can cause damage to the product.

Remove the Billboard Plate when transporting the machine in and out of buildings or when passing through areas with low ceilings.

Split the cabinet before attempting to move in or out of location. Failure to do so will result in the product becomming damaged.
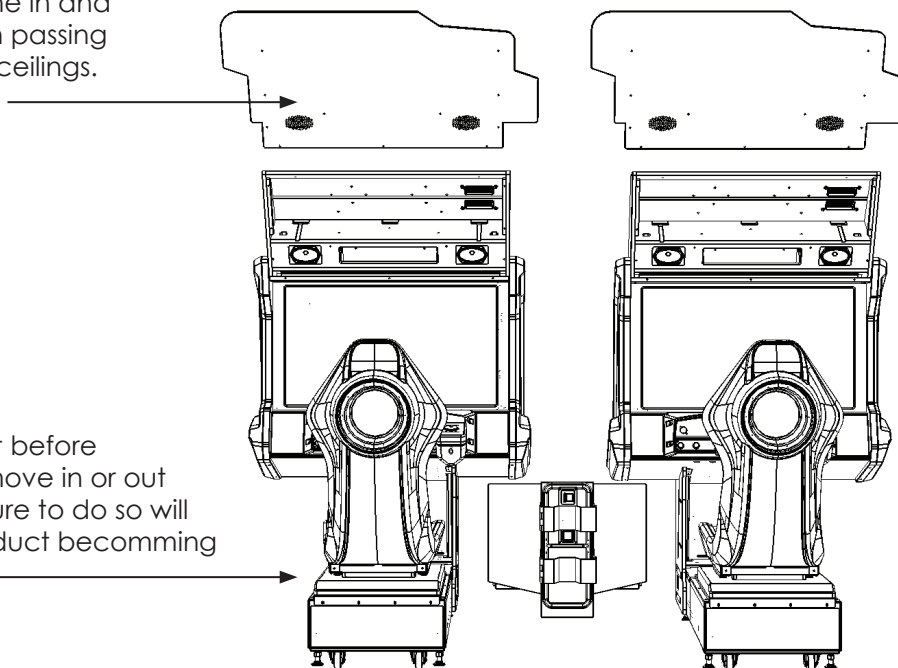
8 GAME DESCRIPTION

The following explanations apply when the product is functioning satisfactorily. Should there be any actions different from the following contents, some sort of faults may have occurred. Immediately look into the cause of the fault and eliminate the cause thereof to ensure satisfactory operation.

Standby Screen

In order to make the product more attractive, a standby screen is displayed on the monitor while the power is on. The standby screen shows advertisement video, a game description, rankings and precautionary notes together with voice/BGM audio. The sequence is repeated until a coin is placed in the coin slot.

8 FIG. 01

Featuring only the most powerful race cars current and classic, circuit and drift players will compete to conquer the most prestigious official race tracks and championships and then go beyond to compete in challenging city-based competitions, through to road events and urban street races.

With races crammed with action and incident, high-impact moments will come at you thick and fast, one right after another: engine blows, tyre blow outs, tight overtaking, accidents, opponent cars flipping, spinning, collisions with other cars and trackside objects.

8-1 GAME OUTLINE

Races in GRID are against the CLOCK and OTHER OPPONENT CARS. Each game mode features a RACE TIMER continually counting down the remaining play time which can be increased by starting a new lap on the track that is being raced upon.

There are several game modes within GRID. In addition to choosing either 'Multiplayer' or 'Single Player', players have 2 different Game Types to choose from in 'Single Player'.

Quick Race
Championship

8-2 THE GAME

8-2-1 GAME SELECTION

WHEN THE MACHINE IS IN CREDIT AND THE START BUTTON IS PRESSED, THE FOLLOWING GAME SCREEN IS DISPLAYED, INDICATING THE GAME PLAY AVAILABLE.

When a cabinet is not linked up to any other cabinets, once the player presses the Start button, they will be taken straight into a Single Player game where they are given the option between QUICK RACE or CHAMPIONSHIP.

GAME SELECTION <continued>

When there are multiple cabinets linked together, the first action of the player is to select whether to enter into a Multiplayer or Single Player game.

The default selection is Multiplayer, so if the game is left to time out on this screen, a Multiplayer Lobby will be created where other players can then join.
If the player wants to enter into a Single Player game, they must hold down the RESET BUTTON in order to be taken to the Single Player Game Mode Select Screen.

8-2-1 FIG. 01

During this selection sequence, a COUNTDOWN is displayed in the top left hand corner of the screen. If the player does not hold down the RESET BUTTON to enter a Single Player game, the game will automatically set up a Multiplayer Lobby once the time on the countdown has run out.

If the player has entered into a Single Player Game, they will have the choice of choosing either QUICK RACE or CHAMPIONSHIP.

The default selection is QUICK RACE and this can be changed by moving the 'Steering Wheel' either left or right. When the desired Game Mode is displayed the player can make their selection by pressing the ACCELERATOR pedal or START button to confirm their choice.

8-2-1 FIG. 02

A COUNTDOWN timer is also displayed in the top left corner of the screen. If the timer is left to run out, whichever Game Mode is highlighted at this time will be automatically selected and the game will advance to the next stage; Track Select.

8-2-2 CHAMPIONSHIP - SINGLE PLAYER

Championship is a single player race against AI opponents over a sequence of tracks. This mode has three 'tiers' to it with each tier allowing the player to choose from 1 of up to 3 selectable tracks ranging from Easy to Hard in difficulty. Success can be achieved within each tier by finishing within the top 3 positions in that race.

Progress is maintained by completing a lap on the selected track which acts as a checkpoint, adding on a set amount of time to the COUNTDOWN timer displayed in the top left of the screen. The time handed out at each of these laps/checkpoints becomes smaller on a harder difficulty setting.

Upon completing a Tier, the player will then be presented with the Track Select screen where they can then pick the Track, Car and Transmission they want to use for the next Tier.

If the player runs out of time while racing on any of the tracks, they will be offered the option of inserting a credit and continuing from the start of that same race.

The tracks selectable for each tier are as follows:
Tier 1 – Washington, San Francisco, Detroit
Tier 2 – Milan, Long Beach, Nurburgring
Tier 3 – Spa Francorchamps, Okutama

Access to Nurburgring and Okutama can only be gained by finishing in 1st place on the previous tier's track. For example, finishing 1st in Washington will allow the player to access Nurburgring in Tier 2.

During each track, the game will record the player's lap times for that race. If a lap time achieved in that race is among the top 20 times previously recorded on the cabinet or series of linked cabinets, the player will be prompted to enter a 3 letter name that will be entered into the High Score Table (HST) for that track. If the player then sets further lap times on different tracks through the course of their Championship, the game will automatically enter the name the player initially chose for their first HST time.

In completing all three Tiers in the Championship by finishing within the top 3, the player will be rewarded with a completion sequence which also shows the credits for the game.

If the timer reaches 0 during a race, the race stops and a Time Over screen is displayed.

If the operator has enabled continues, the player can insert another coin to continue play before the 10 second countdown expires. On continuing, the player is reset back to the start of the stage they were racing on. The time allocation given to the player on their restart will be specific to the track.

8-2-3 QUICK RACE - 1 TO 6 PLAYERS

Quick Race mode can be played in either Single Player or Multiplayer. The mode features a race over multiple laps of a single track against a grid of 5 opponent cars. When cabinets are configured for link play, players can race against other players on the other cabinets. If less than 6 players join in a Multiplayer game, the remaining grid slots will be filled by AI cars.

There are four tracks to pick from in Quick Race. The tracks that are available vary based on what Track Pack is enabled. If Track Pack A is enabled, the Quick Race track options will be Washington, San Francisco, Milan and Spa Francorchamps. If Track Pack B is enabled, the track options will be Washington, Detroit, Milan and Long Beach.

A secret track is also available in this mode. This can be chosen by performing the following action:

If the player holds down the VIEW CHANGE BUTTON when they press Start to begin a game, upon entering the Track Select screen for Quick Race, the hidden track will be available at the far right. In Track Pack A, the hidden track is Donington. In Track Pack B, the hidden track is Okutama.

8-2-4 MULTIPLAYER

8-2-3 FIG. 01

When starting up a Multiplayer Quick Race, the players are first asked to enter a 3 letter name to represent them in the race before they are taken to the Track Select.

There is no scoreboard entry in Multiplayer races.

8-2-3 FIG. 02

In a multiplayer game, Track Selection is decided upon by a voting system. Each player within the game will be given their choice of what track to select.

Once all players have selected a track, whichever track had the most votes will be the one that the players will then race on.

In the case of a tie, the track that is the easiest in difficulty of the ones voted for will be the one that is raced on.
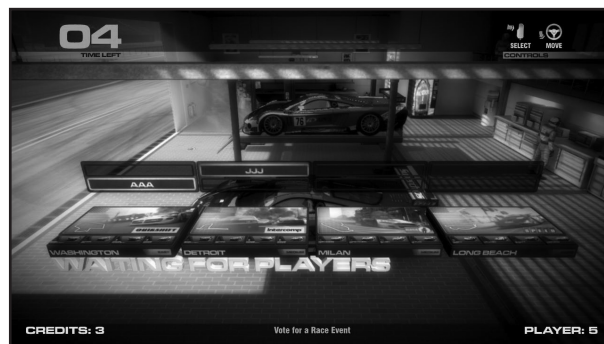
8-2-3 FIG. 03

The players are then taken through the default Car and Transmission Select screens.

If a player has selected both their car and transmission whilst others are still making their selections, the player will be held on a Waiting For Players screen, that will update the information of all other players when they each make their selections.

8-2-3 FIG. 04

The race timer is added to whenever the player (or leading player in the case of link play) begins a new lap. In the case of Time Over, there are no continues.

8-2-5 TRACK SELECTION

The next choice for the player after selecting the Game Mode is to select which Track to Race on.

GRID features a total of 9 tracks spread across North America, Europe and Asia, though not all tracks are available in every Game Mode.

Turning the 'Steering Wheel' left and right will change the selected track and allow the player to view each track that is selectable in the game mode that is being played.

8-2-4 FIG. 01

When the desired track is displayed, it can be selected by pressing either the Gas pedal or the Start button to confirm the choice.

During this selection sequence, a COUNTDOWN timer is displayed in the top left corner of the screen. If no selection has been made when the timer runs out, the track that is currently highlighted at that point will be automatically selected, and the player will be taken to the next stage which is the Car Select.

Quick Race contains 4 tracks, with one hidden track that can become available by performing a particular action when starting a game (see the Quick Race section for details). Championship contains 8 tracks split into 3 different Tiers, with a maximum of three tracks selectable in each Tier.

The table below shows what Tracks are available to select from for each of the Game Modes.

Note 1 – There is a Track Pack option contained within the game in the Game Settings of the Test Menu. The Track Pack can be switched within the Game Settings whenever the Operator wishes to do so. This will change which tracks appear in Quick Race / Multiplayer. Tracks that are linked to the Track Pack (and so will appear but only dependant on that Track Pack being enabled) will be highlighted with a *. Please see the Quick Race section for a list of what Track Pack contains which Tracks.

NOTE 2 – All linked cabinets must be set to the same Track Pack, otherwise multiplayer game sessions will not be able to be created.

08 TABLE 01

Track	Championship	Quick Race
Washington	O	O
San Francisco	O	O*
Detroit	O	O*
Milan	O	O
Long Beach	O	O*
Nurburgring	O	X
Spa Francorchamps	O	O*
Okutama	O	O* (Hidden)
Donington	X	O* (Hidden)

8-2-6 CAR SELECTION

The next choice for the player is to select which car to drive on the track they have selected.

8-2-5 FIG. 01

GRID has a total of 12 cars, with the vehicles split into 3 groups of 4 with specific cars only being available with certain tracks.

Turning the Steering Wheel left and right will enable the player to see each of the cars that are available to be selected.

When the desired car is displayed, the selection can be made by pressing either the Gas pedal or the Start button.

During this selection sequence, a COUNTDOWN timer is displayed in the top left hand corner of the screen. If the player does not make a selection during this time, when the timer reaches zero, the car that is currently highlighted will be automatically selected and the game will advance to the next stage; Transmission Select.

All the cars are available across all the game modes, with the track selected dictating which cars are available to choose from. The list of which cars are available for which tracks can be found in the table below:

08 TABLE 02

Cars	Tracks they can be Selected
Ford Mustang GT-R Concept Toyota Supra Dodge Challenger Concept Dodge Viper SRT-10	Washington San Francisco Detroit
Koenigsegg CCGT Aston Martin DBR9 Saleen SR7 Jaguar XKR	Milan Donington Nurburgring
Pagani Zonda R McLaren F1 Bugatti Veyron Mercedes SLR 722	Long Beach Spa Francorchamps Okutama

8-2-7 TRANSMISSION SELECT

There are only two choices available to choose from, Automatic Transmission and Manual Transmission. Turning the Steering Wheel left and right will allow the player to move between the two options. The Gas pedal or Start button can be used to confirm the choice they want to make.

8-2-6 FIG. 01

A COUNTDOWN timer is displayed in the top left hand corner of the screen.

If no selection has been made when the timer runs out, whichever transmission is highlighted will be automatically selected for use in the race.

8-2-8 ON SCREEN DISPLAY

Before a race begins, an information screen is displayed describing to the player what the Reset button is for and how it can be used in race.

The Reset button will reset the player's vehicle back on to the middle of the road during a race when used, and is there in case a player gets spun round and is facing the wrong way, or gets knocked into a wall by another opponent etc.

8-2-7 FIG. 01

If there is ever a point during the race where the Reset button is most likely to be used, an indicator will appear on the bottom left of the screen, pointing to where the Reset button is placed on the cabinet.

Time Left – Time remaining to complete the lap and extend the time.

Timer – Total time racing on the track, along with current lap time.

Lap Indicator – Displays which lap the player is currently on.

Position – Displays the player's position in the race.

Position Detail – Shows the player's position along with the position of all other opponents in the race.

8-2-7 FIG. 02

Mini Map – Shows the player's position on the track.

Speedo & Tacho – Speed, Gear and RPM display

Proximity Indicator – Represents position and distance of opponents approaching from the rear.

8-2-9 Drivers View – Camera Position

GRID features three different in-game camera views that are cycled between when the VIEW CHANGE button is pressed.
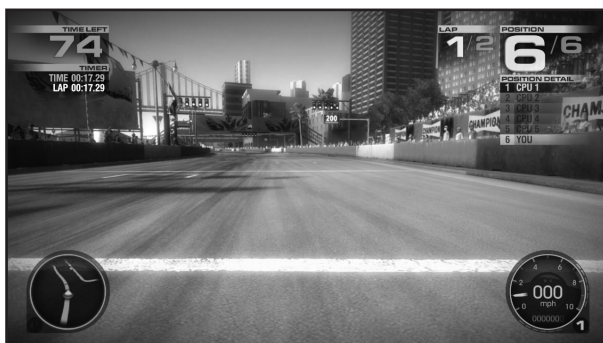
8-2-8 FIG. 01   Bumper Camera

8-2-8 FIG. 02   Bonnet Camera

DRIVER VIEW - CAMERA POSITIONS <continued>
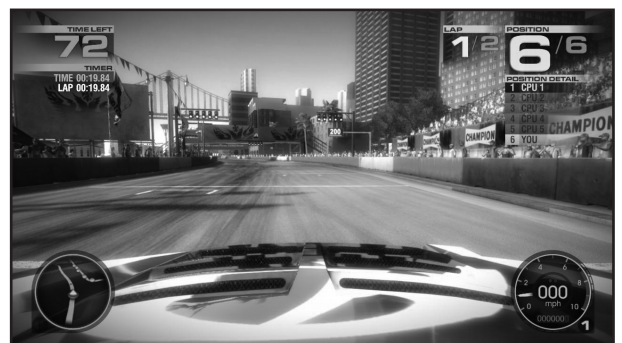
8-2-8 FIG. 03   Chase Camera

GAME DESCRIPTION

8-2-10 High Score Tables

Each of the single player modes will record the fastest lap times with separate data being kept for each track. Each of the High Score Tables will hold the Top 20 times for each track.

Data Recorded:

Rank
Name (3 characters)
Car
Transmission
Time

TO ENTER A NEW RECORD
1.Turn the Steering Wheel left and right to scroll to the required letter.
2.Press the Gas Pedal or Start Button to enter the letter.
3.Pressing the Brake Pedal will erase any selected letter.

8-2-9 FIG. 01

8-2-9 FIG. 02

9   EXPLANATION OF TEST AND DATA DISPLAY

Perform tests and data checks periodically by manipulating the TEST Button and SERVICE Button in the cabinet. Follow the instructions in this chapter to conduct checks when the game machine is first installed, when money is being collected, or when the game machine does not operate properly.

Shown overleaf are the tests and screens to be used for different problems.

⚠ WARNING

- **When installing 2 of more cabinets which are networked together. The GAME SETTINGS which are adjusted within the first cabinet are reflected throughout all cabinets within that network.**

(STOP) IMPORTANT

- **When changing the game configuration within the TEST MODE, be sure to exit all screens in the correct manner by choosing exit. DO NOT turn the machine ON/OFF to resume game. Changes WILL NOT take effect unless the correct method is used.**

9-1 SWITCH UNIT AND COIN METER (U.S)

⚠ WARNING

Never touch places other than those specified. Touching places not specified can cause electric shock and short circuit accidents.

(STOP) IMPORTANT

- Adjust the sound to the optimum volume, taking into consideration the environmental requirements of the installation location.
- Removing the Coin Meter circuitry renders the game inoperable.

9-1-1 SWITCH UNIT (U.S. TYPE)

Open the coin chute door, and the switch unit shown will appear.
The functioning of each SW is as follows:

Coin Counter

Volume Control

Service Button
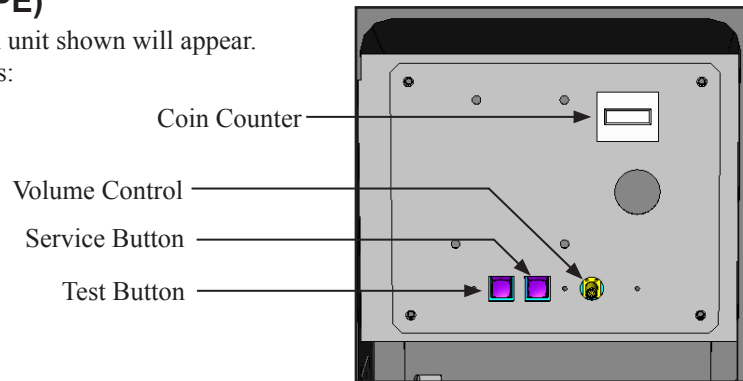
Test Button

9-1-1 FIG. 01

TEST Button (TEST):	For the handling of the Test Button, refer to the following pages.
SERVICE Button (SERVICE):	Gives credits without registering on the coin meter.
Sound Volume Switch (SOUND VOLUME):	Adjust sound volume for all of the machines' speakers.
Coin Counter	Counts and displayes coins in $0.10 units.

9-1-2 VTS UNIT (E.U. TYPE)

(STOP) IMPORTANT

- **Adjust the sound to the optimum volume, taking into consideration the environmental requirements of the installation location.**
- **Removing the Coin Meter circuitry renders the game inoperable.**

COIN CHANNEL A

DIP SW 3

DIP SW 1

TEST BUTTON
SERVICE BUTTON
DEMAG (NOT USED)
VOLUME CONTROL A
VOLUME CONTROL B
VOLUME CONTROL C
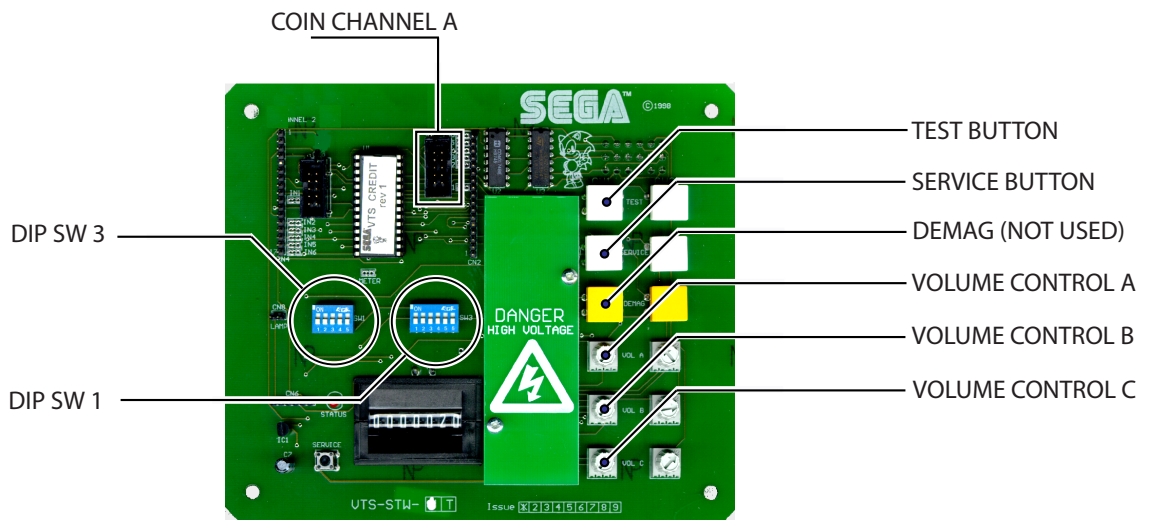
The TEST and SERVICE buttons have a dual function.

Use the TEST and SERVICE buttons to navigate through the TEST and SYSTEM MENUS.

TEST Button (TEST):	For the handling of the Test Button, refer to the following pages.
SERVICE Button (SERVICE):	Gives credits without registering on the coin meter.
Sound Volume Switch (SOUND VOLUME):	Adjust sound volume for all of the machines' speakers.
Coin Counter	Counts and displayes coins in $0.10 units.

9-2 TEST MODE

(STOP) **IMPORTANT**

- • **The details of changes to Test Mode settings are saved when you exit from Test Mode by selecting EXIT from the system test mode menu. Be careful because if the power is turned off before that point, changes to the settings will be lost.**

- • **Entering the Test Mode clears fractional number of coins less than one credit and bonus adder data.**

- • **Use with the specified settings. If settings other than those specified are used, inappropriate operations or malfunction may occur.**

9-2-1 TEST MENU

The following options are available from the System Test Menu.
Use the SERVICE button to move the cursor to the desired test item. Press the TEST button to enter the selected item.

```
                    TEST MENU

        >>   SYSTEM INFORMATION
             INPUT TEST
             OUTPUT TEST
             COIN SETTINGS
             SOUND SETTINGS
             SCREEN TEST
             NETWORK TEST
             CALIBRATION TEST
             BOOKKEEPING
             CLOCK SETTINGS
             GAME SETTINGS
             RESET TO FACTORY DEFAULTS
             EXIT




             SELECT WITH SERVICE BUTTON
                AND PRESS TEST BUTTON
```
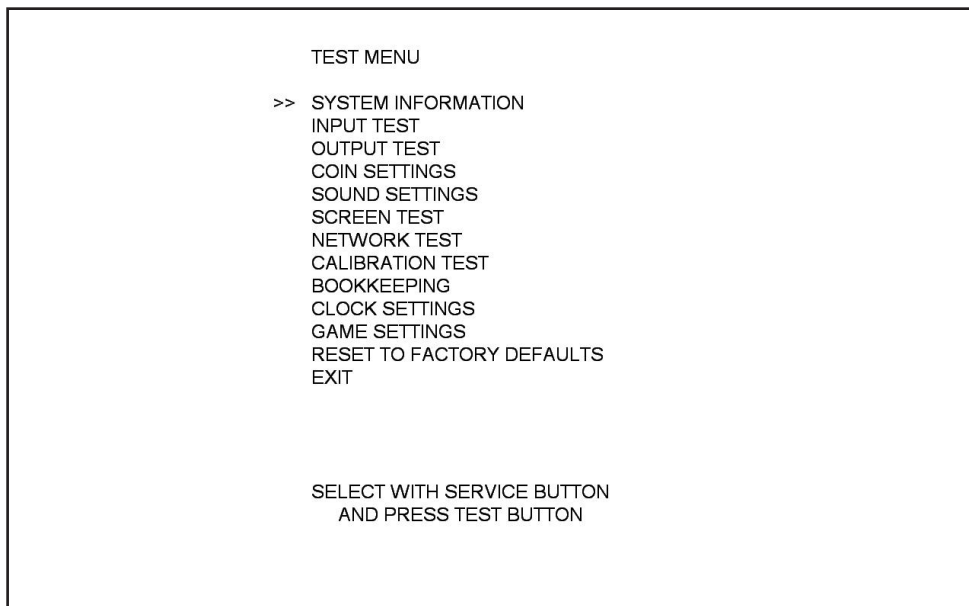
9-1-1 FIG. 01

SYSTEM INFORMATION:	General information on Software & Hardware.
INPUT TEST:	Test routine for input peripherals.
OUTPUT TEST:	Test routine for output peripherals.
COIN SETTINGS:	Test routine for coin handling.
SOUND SETTINGS:	Test routine for audio outputs.
SCREEN TEST:	Test routine for the display screen.
NETWORK TEST:	Test routine for the Ethernet link.
CALIBRATION TEST:	Calibration routine for input peripherals.
BOOKKEEPING:	System meters and bookkeeping.
CLOCK SETTINGS:	System clock setting.
GAME SETTINGS:	Change the settings within the game (number of laps etc).
RESET TO FACTORY DEFAULTS:	Reset all settings to factory default.
EXIT:	Exit the System Test Menu back to the game.

9-2-2 SYSTEM INFORMATION

Select 'System Information' from the Test Menu to display the System Information menu.

```
                        TEST MENU

          >>   SYSTEM INFORMATION
               INPUT TEST
               OUTPUT TEST
               COIN SETTINGS
               SOUND SETTINGS
               SCREEN TEST
               NETWORK TEST
               CALIBRATION TEST
               BOOKKEEPING
               CLOCK SETTINGS
               GAME SETTINGS
               RESET TO FACTORY DEFAULTS
               EXIT




               SELECT WITH SERVICE BUTTON
                  AND PRESS TEST BUTTON
```

9-2-2 FIG. 01

This test displays general system information regarding the hardware configuration and software installed.

DISK IMAGE VERSION:	Version number for the Master Disk Image in XX YY ZZ format.
LAUNCHER VERSION:	Version number for System Launcher in XX YY ZZ format.
GAMESHELL VERSION:	Version number for the Shell in XX YY ZZ format.
GAME NAME:	Name of Installed Game.
GAME VERSION:	Version number of installed game in XX YY ZZ format.
CABINET TYPE:	Cabinet as defined by the type of Security Key being used.
SECURITY KEY:	Displays which Security Key is being used.
IO BOARD STATUS:	Displays 'OK' and a Revision Number if a valid IO Board is fitted, otherwise 'FAILED' is displayed.

Move the cursor to EXIT and press the TEST button to return to the Test Menu screen.

9-2-3 INPUT TEST MODE

STOP **IMPORTANT**

> If an error is displayed during the input test, look up the error code within this manual and try to determine the cause of the error, and take the appropriate corrective measures. If problems continue, contact your local SEGA office for further advise.

Select 'Input Test' from the Test Menu to display the Input Test menu.

```
INPUT TEST

STEERING                : 0081
BRAKE                   : 0038
ACCELERATOR             : 0033
START BUTTON            : OFF
VIEW BUTTON             : OFF
RECOVERY BUTTON         : OFF
GEARSHIFT UP            : OFF
GEARSHIFT DOWN          : OFF
TEST BUTTON             : OFF
SERVICE BUTTON          : OFF
COIN INPUT              : OFF


PRESS TEST AND SERVICE BUTTON
           TO EXIT
```
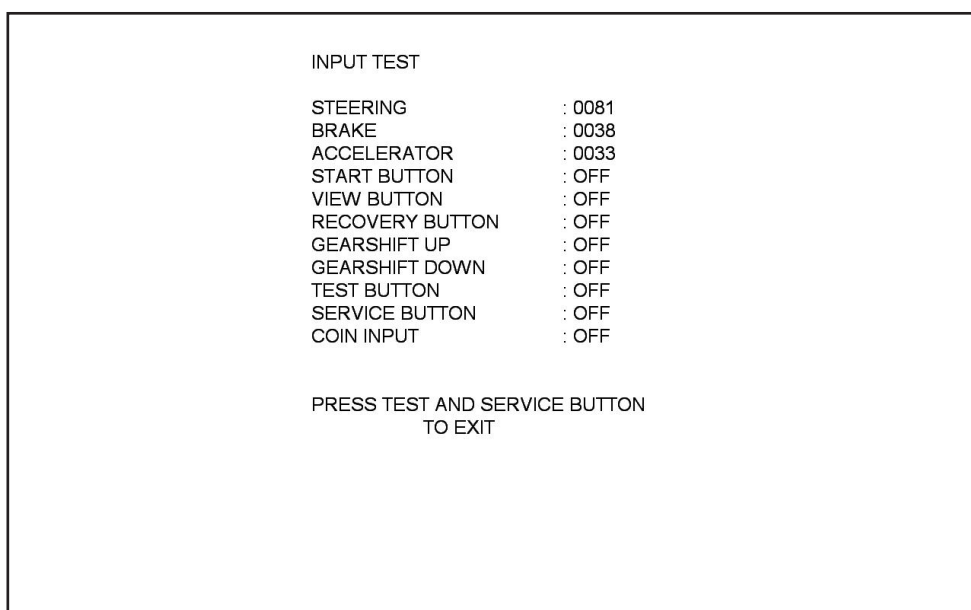
9-2-3 FIG. 01

This menu is used to test the System Inputs such as Steering, Pedals and Buttons. To implement the test, press each device that is listed and check the results on screen.

STEERING: 080H - Centre Position
BRAKE: 0000 - 0255 = Pedal Fully Down (Numbers are approximate, may vary on cabinets).
ACCELERATOR: 0000 - 0255 = Pedal Fully Down (Numbers are approximate, may vary on cabinets).

START BUTTON:	ON/OFF
VIEW BUTTON:	ON/OFF
RECOVERY BUTTON:	ON/OFF
GEARSHIFT UP:	ON/OFF
GEARSHIFT DOWN:	ON/OFF
TEST BUTTON:	ON/OFF
SERVICE BUTTON:	ON/OFF
COIN INPUT:	ON/OFF

Press the TEST and SERVICE button together to return to the Test Menu screen.

9-2-4 OUTPUT TEST

```
                    OUTPUT TEST

              >>   START LAMP              OFF
                   VIEW LAMP               OFF
                   RECOVERY LAMP           OFF
                   RACE LEADER LED         OFF
                   TOP LED RED             OFF
                   TOP LED BLUE            OFF
                   TOP LED GREEN           OFF
                   BASE LED RED            OFF
                   BASE LED BLUE           OFF
                   BASE LED GREEN          OFF
                   EXIT




                   SELECT WITH SERVICE BUTTON
                     AND PRESS TEST BUTTON
```
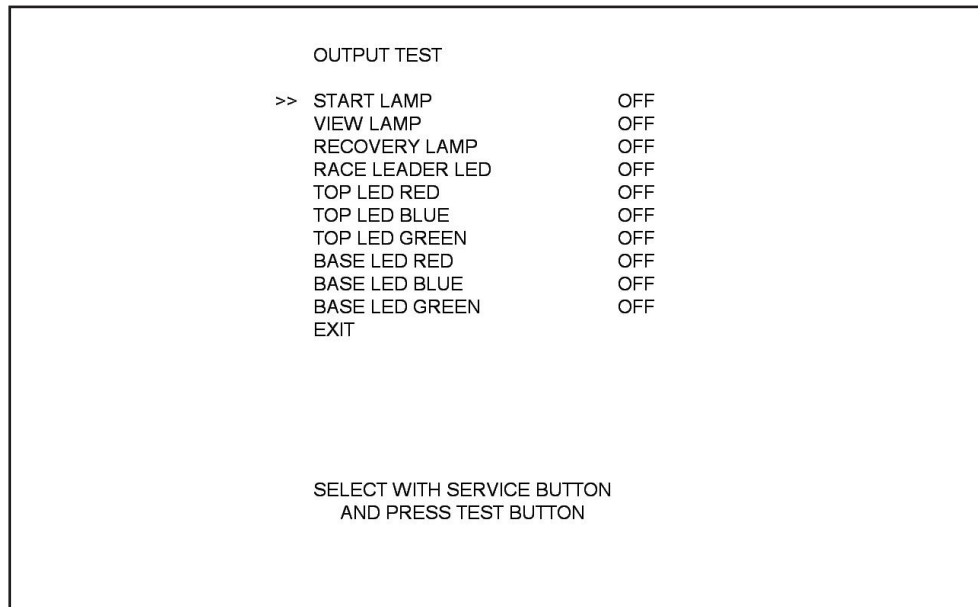
9-2-4 FIG. 01

Select 'Output Test' from the Test Menu to display the Output Test Menu.

This test is used to check the System Output on the Lamps in the cabinet.

Use the SERVICE button to move the cursor to the desired test item.
Press the TEST button to test the selected item.

START LAMP:	ON/OFF
VIEW LAMP:	ON/OFF
RECOVERY LAMP:	ON/OFF
RACE LEADER LED:	ON/OFF
TOP LED RED:	ON/OFF
TOP LED BLUE:	ON/OFF
TOP LED GREEN:	ON/OFF
BASE LED RED:	ON/OFF
BASE LED BLUE:	ON/OFF
BASE LED GREEN:	ON/OFF

Move the cursor to EXIT and press the TEST button to return to the Test Menu screen.

9-2-5 COIN SETTINGS

```
                    COIN SETTINGS

                    COIN COUNT        0000
                    CREDITS           0000
                    SERVICE CREDITS   0003
                    CREDIT SETTING    SETTING #1
                                      1 COIN 1 CREDIT




              >>   EXIT




                    SELECT WITH SERVICE BUTTON
                      AND PRESS TEST BUTTON
```
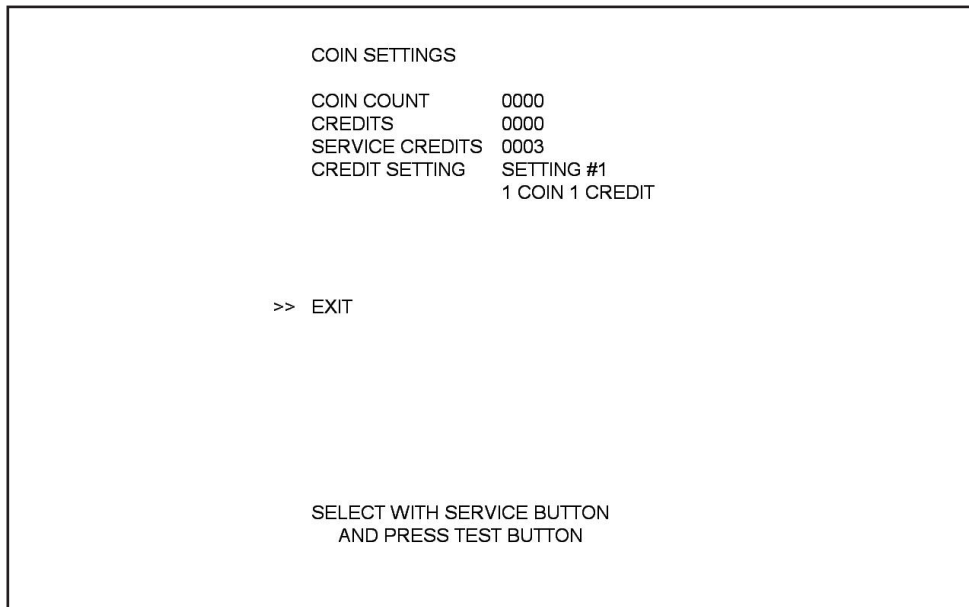
9-2-5 FIG. 01

Select 'Coin Settings' from the Test Menu to display the Coin Settings Menu.

Use the SERVICE button to move the cursor to the desired test item.
Press the TEST button to change the selected item.

COIN COUNT: Coin Count value from IO Board (cannot be reset).
CREDITS: Total number of Coin credits added to the system.
SERVICE CREDITS: Total number of Service credits added to the system.
COIN SETTING: The Coin Settings available are listed below.
EXIT: Exit back to the Test Menu.

1.	1 Coin / 1 Credit				
2.	1 Coin / 2 Credit				
3.	1 Coin / 3 Credit				
4.	1 Coin / 4 Credit				
5.	1 Coin / 5 Credit				
6.	1 Coin / 6 Credit				
7.	2 Coin / 1 Credit				
8.	1 Coin / 1 Credit	2 Coin / 3 Credit			
9.	3 Coin / 1 Credit				
10.	4 Coin / 1 Credit				
11.	1 Coin / 1 Credit	2 Coin / 2 Credit	3 Coin / 3 Credits	4 Coin / 5 Credits	
12.	5 Coin / 1 Credit				
13.	3 Coin / 1 Credit	5 Coin / 2 Credit			
14.	2 Coin / 1 Credit	4 Coin / 2 Credit	5 Coin / 3 Credits		
15.	1 Coin / 1 Credit	2 Coin / 2 Credit	3 Coins / 3 Credits	4 Coin / 4 Credits	5 Coin / 6 Credits
16.	FREEPLAY				

Move the cursor to EXIT and press the TEST button to return to the Test Menu screen.

9-2-6 SOUND TEST

```
SOUND SETTINGS

     ATTRACT AUDIO          MEDIUM
     GAME MUSIC AUDIO       MEDIUM
>>   GAME SFX AUDIO         MEDIUM
     TEST MUSIC LEVEL       OFF
     TEST SFX LEVEL         OFF
     TEST ATTRACT LEVEL     OFF
     TEST FRONT SPEAKERS    OFF
     TEST REAR SPEAKERS     OFF
     EXIT




          SELECT WITH SERVICE BUTTON
            AND PRESS TEST BUTTON
```
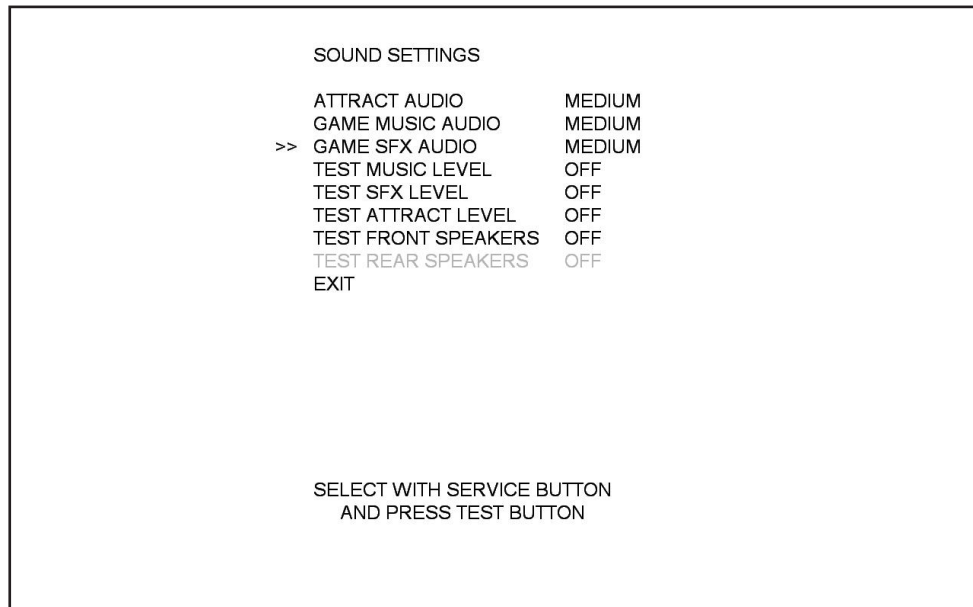
9-2-6 FIG. 01

Select 'Sound Settings' from the Test Menu to display the Sound Settings Menu.

This test is used to set the audio levels for the game and test the function of the speakers.

Use the SERVICE button to move the cursor to the desired test item.
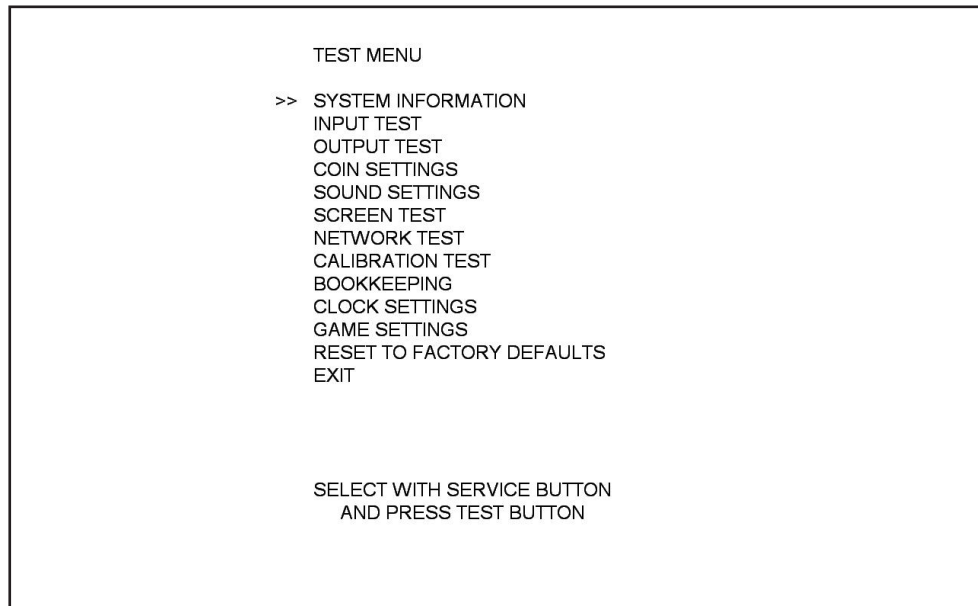Use the TEST button to enter the selected item.

ATTRACT AUDIO:	Changes the audio level of the attract music. Four options are available: LOW, MEDIUM, HIGH AND OFF.
GAME MUSIC AUDIO:	Changes the audio level of the music played when a game is in progress. Four options are available: LOW, MEDIUM, HIGH AND OFF.
GAME SFX AUDIO:	Changes the audio level of the SFX that are played when a game is in progress. Four options are available: LOW, MEDIUM, HIGH AND OFF.
TEST MUSIC LEVEL:	Plays looping music audio.
TEST SFX LEVEL:	Plays test SFX audio.
TEST ATTRACT LEVEL:	Plays test attract audio.
TEST FRONT SPEAKERS:	Plays music audio with emphasis on the front speakers.
TEST REAR SPEAKERS:	Plays music audio with the emphasis on the rear speakers.
EXIT:	Exit to the Test Menu.

Move the cursor to EXIT and press the TEST button to return to the Test Menu screen.

9-2-7 SCREEN TEST


```
                    SCREEN TEST

                    COLOUR BARS
            >>      BRIGHTNESS
                    GRID ALIGNMENT
                    EXIT






                SELECT WITH SERVICE BUTTON
                   AND PRESS TEST BUTTON
```

9-2-7 FIG. 01

Select 'Screen Test' from the Test Menu screen to display the Screen Test menu.

Use the SERVICE button to move the cursor to the desired test item.
Press the TEST button to enter the selected item.

COLOUR BARS – Selecting this test will display the following:
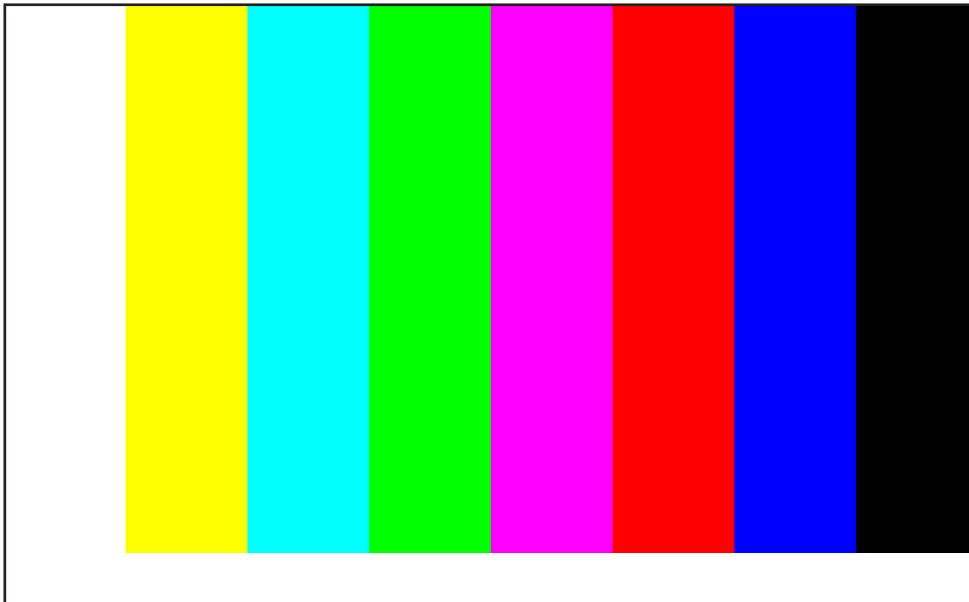
9-2-7 FIG. 02

9-2-7 FIG. 03   BRIGHTNESS SCREEN
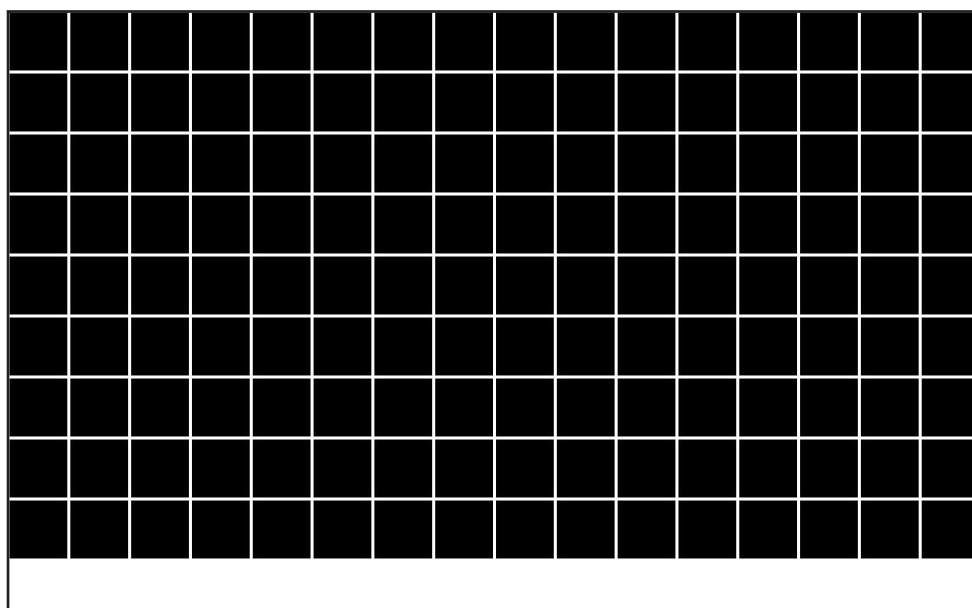
9-2-7 FIG. 04   GRID ALIGNMENT

Move the cursor to EXIT and press the TEST button to return to the Test Menu screen.

9-2-8 NETWORK TEST

```
                    NETWORK TEST

            NETWORK STATUS         ON
            CABINETS CONNECTED     5
            CABINET ID             6
            CONFIRM CHANGES
        >>  EXIT




                SELECT WITH SERVICE BUTTON
                  AND PRESS TEST BUTTON
```
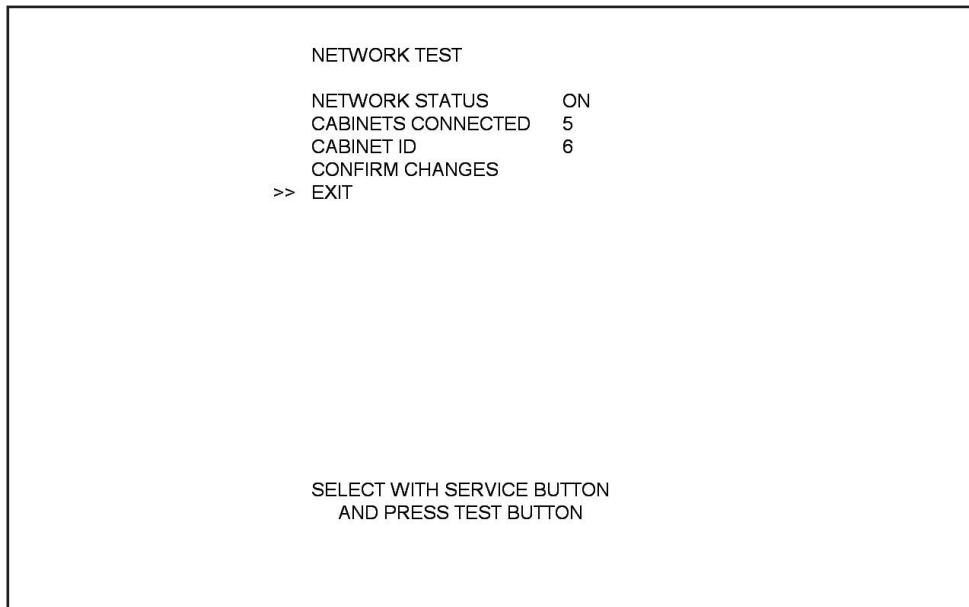
9-2-8 FIG. 01

Select 'Network Test' from the Test Menu to display the Network Test menu.

This test is used to check the Network link between cabinets (if connected).

Use the SERVICE button to move the cursor to the desired test item.
Press the TEST button to enter the selected item.

NETWORK STATUS:	ON if network hardware is OK. FAILED if network hardware is faulty.
CABINETS CONNECTED:	The number of cabinets connected EXCLUDING the current one. (So if two cabinets are linked, this will show 1 cabinet connected).
CABINET ID:	ID Cabinet from 1 to 6. If this value is changed, the user must use CONFIRM CHANGES below in order to confirm the new ID of the cabinet.
CONFIRM CHANGES:	The user will be prompted to press the TEST button again to confirm. If the user presses the TEST button again, the action is confirmed and the PC will reset. If the user presses the SERVICE button, the action is aborted and settings are discarded.
EXIT:	Exit to the Test Menu.

Move the cursor to EXIT and press the TEST button to return to the Test Menu screen.

9-2-9 CALIBRATION TEST

```
┌─────────────────────────────────────────────────────────┐
│                                                           │
│              CALIBRATION TEST                             │
│                                                           │
│          STEERING              MIN: 9  MAX:246            │
│          BRAKE                 MIN: 38  MAX:191           │
│          ACCELERATOR           MIN: 33  MAX:214           │
│          STEERING FORCE        STRONG                     │
│          TEST STEERING FORCE   OFF                        │
│          CALIBRATE STEERING                               │
│          CALIBRATE BRAKE                                  │
│          CALIBRATE ACCELERATOR                            │
│      >>  EXIT                                             │
│                                                           │
│                                                           │
│                                                           │
│                                                           │
│                                                           │
│              SELECT WITH SERVICE BUTTON                   │
│                AND PRESS TEST BUTTON                      │
│                                                           │
│                                                           │
└─────────────────────────────────────────────────────────┘
```
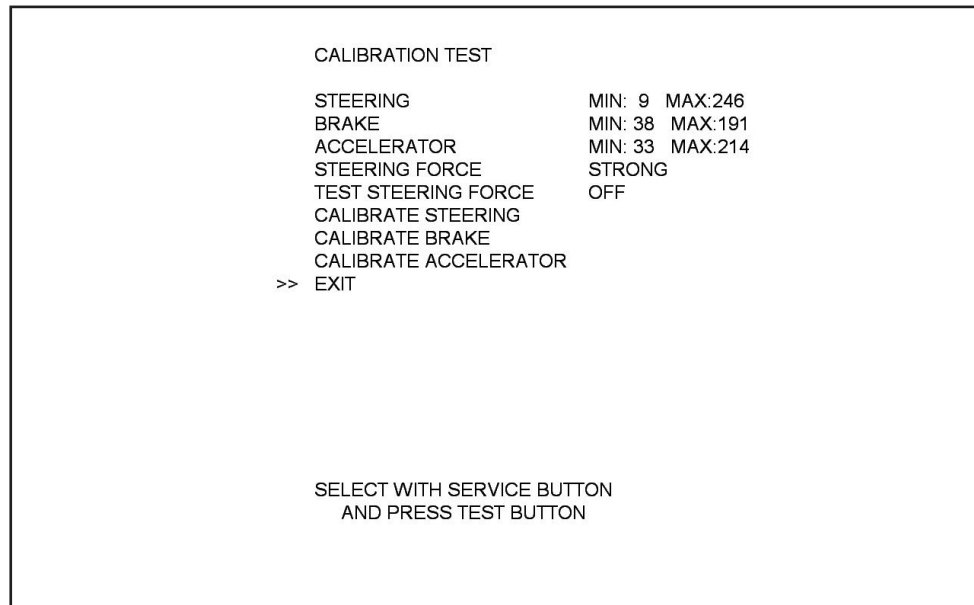
9-2-9 FIG. 01

Select 'Calibration Test' from the Test Menu screen to display the Calibration Test menu.

This test is used to calibrate devices such as the Steering Wheel and Pedals.

Use the SERVICE button to move the cursor to the desired test item.
Press the TEST button to enter the selected item.
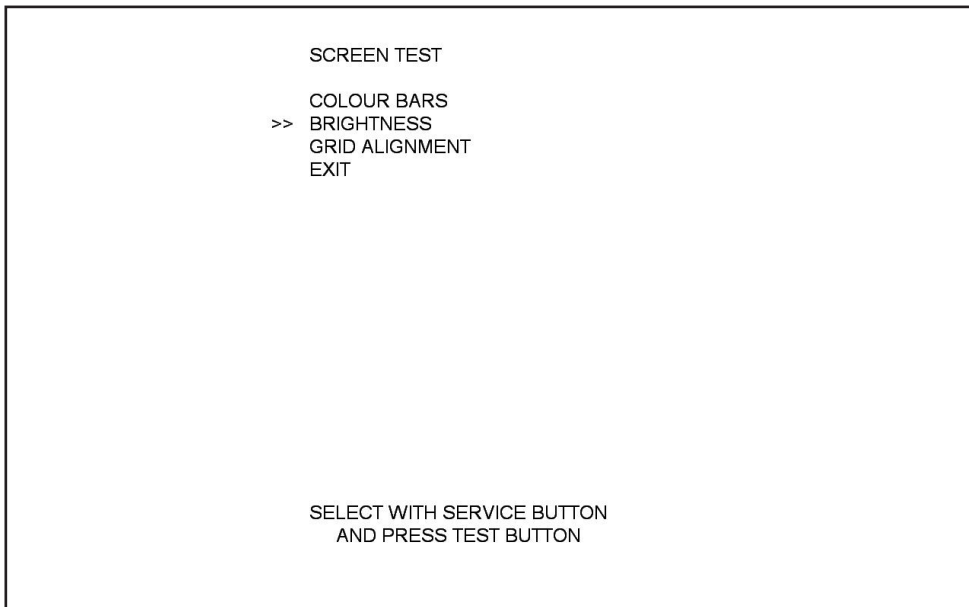
STEERING:	Displays the current Calibration settings for the Steering Wheel.
BRAKE:	Displays the current Calibration settings for the Brake Pedal.
ACCELERATOR:	Displays the current Calibration settings for the Accelerator Pedal.
STEERING FORCE:	Sets the amount of force feedback used in the Steering Wheel when playing the game. There are four options available: OFF – No steering force will be used.
	WEAK: Minimal steering force will be used.
	NORMAL: Normal steering force will be used (recommended).
	STRONG: Maximum steering force will be used.
TEST STEERING FORCE:	FULL LEFT: Current steering feedback strength applied LEFT.
	FULL RIGHT: Current steering feedback strength applied RIGHT.
	OFF: No force applied to steering.
CALIBRATE STEERING:	Starts the steering calibration routine. The wheel will automatically be calibrated by turning full left and then full right. No input is needed from the user once the test has been started.
CALIBRATE BRAKE:	Starts the brake calibration routine. The user must follow the on screen prompts to fully depress and then release the brake pedal for 5 seconds.
CALIBRATE ACCELERATOR:	Starts the accelerator calibration routine. The user must follow the on screen prompts to fully depress and then release the accelerator pedal for 5 seconds.

EXIT – Exit to the Test Menu.

Move the cursor to EXIT and press the TEST button to return to the Test Menu.

9-2-10 BOOKKEEPING

Select 'BOOKKEEPING' from the Test Menu to display the BOOKKEEPING menu.

```
BOOKKEEPING PAGE 1/7  SUMMARY

TOTAL TIME ON                      100:02'19"
TOTAL CREDITS IN                   67
TOTAL CREDIT CONTINUES             0
TOTAL SERVICE CREDITS              5
TOTAL SERVICE CREDIT CONTINUES     0
TOTAL PLAYS                        65
TOTAL AVERAGE GAME TIME            02'51"
TRANSMISSION MANUAL                4
TRANSMISSION AUTO                  57
BOOKKEEPING LAST CLEARED           22/07/2012 at 09:26
HIGH SCORES LAST CLEARED           00/00/0000 at 00:00
CLEAR HIGH SCORES
CLEAR BOOKKEEPING
>>  NEXT PAGE
EXIT


SELECT WITH SERVICE BUTTON
  AND PRESS TEST BUTTON
```

9-2-10 FIG. 01   Bookkeeping – Screen 1

This test is used to review statistical data from the system. It consists of 7 screens of data. Screen 1 contains an overview of the game play data.

TOTAL TIME ON:	The total time the cabinet has been switched on. Displayed in HH:MM:SS
TOTAL CREDITS IN:	The total number of coin credits entered.
TOTAL CREDIT CONTINUES:	The total number of coin credits used for continue games.
TOTAL SERVICE CREDITS:	The total number of service credits entered.
TOTAL SERVICE CREDIT CONTINUES:	The total number of service credits used for continue games.
TOTAL PLAYS:	The total number of games played.
TOTAL AVERAGE GAME TIME:	The average game time for all games.
TRANSMISSION MANUAL:	The total number of games played using Manual Transmission. Only Quick Race and Multiplayer races are counted in this total.
TRANSMISSION AUTOMATIC:	The total number of games played using Automatic Transmission. Only Quick Race and Multiplayer races are counted in this total.
BOOKKEEPING LAST CLEARED:	The time the bookkeeping meters were last cleared.
HIGH SCORES LAST CLEARED:	The time the high score tables were last cleared. (For the high score tables to be cleared, this must be done across all linked cabinets simultaneously).
CLEAR HIGH SCORES:	When selected, the user will be prompted to confirm. If the user confirms, the high score table is reset. Note, if there are cabinets linked together, the high score tables will only be reset if all linked cabinets perform this process simultaneously. If the user presses the SERVICE button, then no action is taken.
CLEAR BOOKKEEPING:	When selected, the user will be prompted to confirm. If the user confirms, the bookkeeping meters are reset to zero. If the user presses the SERVICE button, then no action is taken.
NEXT PAGE:	Proceed to bookkeeping screen #2.
EXIT:	Exits to the Test Menu.

Use the SERVICE button to move the cursor to the desired test item.
Press the TEST button to enter the selected item.

Move the cursor to EXIT and press the TEST button to return to the Test Menu.
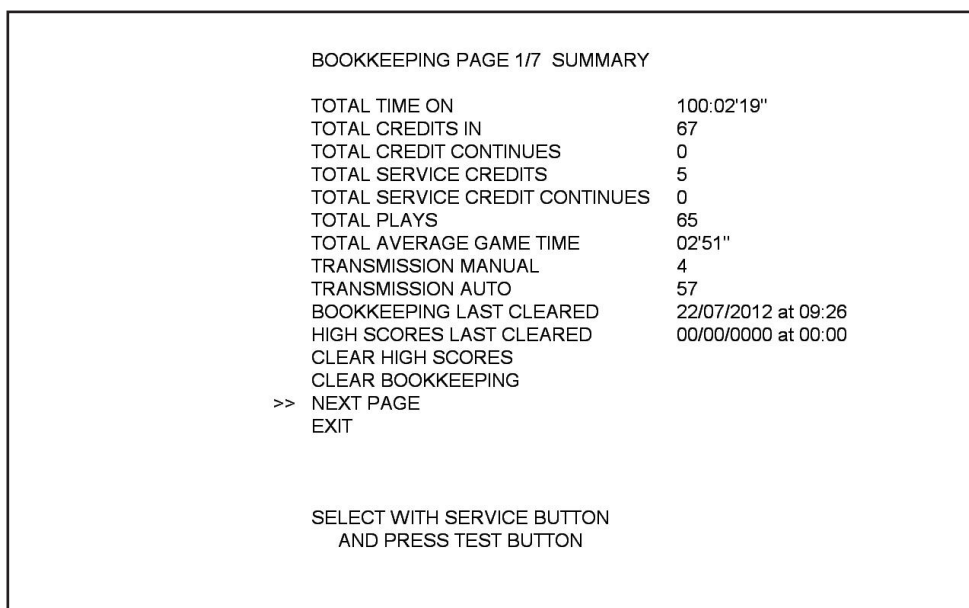
BOOKKEEPING <continued>

```
                    BOOKKEEPING PAGE 2/7  PLAYS

            TOTAL PLAYS                   65
            TOTAL PLAYS CHAMPIONSHIP   4  (6%)
            TOTAL PLAYS QUICK RACE SP  2  (3%)
            TOTAL PLAYS QUICK RACE MP  59 (90%)




        >>  NEXT PAGE
            EXIT


            SELECT WITH SERVICE BUTTON
              AND PRESS TEST BUTTON
```

9-2-10 FIG. 02   Bookkeeping – Screen 2 – Data on TOTAL PLAYS

Move the cursor to NEXT PAGE and press the TEST button to proceed to bookkeeping screen #3.

Move the cursor to EXIT and press the TEST button to return to the Test Menu.

```
                    BOOKKEEPING PAGE 3/7  GAME TIMES

            TOTAL AVERAGE GAME TIME            2'51"
            AVERAGE GAME TIME SINGLEPLAYER     1'57"
            AVERAGE GAME TIME MULTIPLAYER      2'56"
            AVERAGE GAME TIME CHAMPIONSHIP     1'57"
            AVERAGE GAME TIME QUICKRACE SP     1'57"
            AVERAGE GAME TIME QUICKRACE MP     2'56"




        >>  NEXT PAGE
            EXIT


            SELECT WITH SERVICE BUTTON
              AND PRESS TEST BUTTON
```

9-2-10 FIG. 03   Bookkeeping – Screen 3 – Data on AVERAGE GAME TIMES

Move the cursor to NEXT PAGE and press the TEST button to proceed to bookkeeping screen #4.

Move the cursor to EXIT and press the TEST button to return to the Test Menu.

BOOKKEEPING <continued>

```
BOOKKEEPING PAGE 4/7  PLAYS BY DAY

PLAYS ON SUNDAY          42
PLAYS ON MONDAY          22
PLAYS ON TUESDAY          0
PLAYS ON WEDNESDAY        0
PLAYS ON THURSDAY         1
PLAYS ON FRIDAY           0
PLAYS ON SATURDAY         0




>>   NEXT PAGE
     EXIT



     SELECT WITH SERVICE BUTTON
        AND PRESS TEST BUTTON
```

9-2-10 FIG. 04   Bookkeeping – Screen 4 – Data on PLAYS BY DAY

Move the cursor to NEXT PAGE and press the TEST button to proceed to bookkeeping screen #5.

Move the cursor to EXIT and press the TEST button to return to the Test Menu.

```
BOOKKEEPING PAGE 5/7  PLAYS BY TIME

00-01  0              12-13  17
01-02  0              13-14  0
02-03  0              14-15  5
03-04  0              15-16  6
04-05  0              16-17  6
05-06  0              17-18  0
06-07  0              18-19  0
07-08  0              19-20  0
08-09  0              20-21  0
09-10  9              21-22  0
10-11  18             22-23  0
11-12  4              23-24  0

>>   NEXT PAGE
     EXIT



     SELECT WITH SERVICE BUTTON
        AND PRESS TEST BUTTON
```

9-2-10 FIG. 05   Bookkeeping – Screen 5 – Data on PLAYS BY TIME

Move the cursor to NEXT PAGE and press the TEST button to proceed to bookkeeping screen #6.

Move the cursor to EXIT and press the TEST button to return to the Test Menu.

BOOKKEEPING <continued>

```
          BOOKKEEPING PAGE 6/7  TRACKS

          Milan                    14
          Spa                       0
          Donington Park            0
          Detroit                   8
          Washington               17
          Long Beach               11
          San Francisco             0
          Okutama                  11




      >>  NEXT PAGE
          EXIT



          SELECT WITH SERVICE BUTTON
            AND PRESS TEST BUTTON
```

9-2-10 FIG. 06   Bookkeeping – Screen 6 – Data on TRACKS

Only Multiplayer and Quick Race plays are logged on this menu. Tracks raced in Championship are not counted.

Move the cursor to NEXT PAGE and press the TEST button to proceed to bookkeeping screen #7.

Move the cursor to EXIT and press the TEST button to return to the Test Menu.

```
          BOOKKEEPING PAGE 7/7  CARS

          Pagani Zonda R            4
          McLaren Mercedes SLR722 GT  5
          Bugatti Veyron            5
          Mclaren F1 GTR            8
          Aston Martin DBR9         2
          Koenigsegg CCGT           6
          Jaguar XKR GT3            2
          Saleen S7R                4
          Ford Mustang GTR Concept  11
          Dodge Viper               2
          Toyota Supra              5
          Dodge Challenger          7

      >>  NEXT PAGE
          EXIT



          SELECT WITH SERVICE BUTTON
            AND PRESS TEST BUTTON
```

9-2-10 FIG. 07   Bookkeeping – Screen 7 – Data on CARS

Only Multiplayer and Quick Race plays are logged on this menu. Cars selected in Championship are not counted.

Move the cursor to EXIT and press the TEST button to return to the Test Menu.

9-2-11 CLOCK SETTINGS

(Final Clock Settings Screenshot will be sent when final Clock Settings menu is in place).

Select 'CLOCK SETTINGS' from the Test Menu to display the Clock Settings menu.

This test is used to set the current time and date of the computer system.

Use the SERVICE button to move the cursor to the desired test item.
Press the TEST button to enter the selected item.

YEAR: Variable from 2000 to 2050
MONTH: Variable from 01 to 12
DATE: Variable from 1 to 28, 29, 30, 31 (dependant on MONTH and YEAR)
HOURS: Variable from 0 to 23
MINUTES: Variable from 0 to 59
SECONDS: Variable from 0 to 59

EXIT: Exits to the Test Menu.

When selected, the screen will show fields for YEAR, MONTH, DATE, HOURS, MINUTES and SECONDS. The SERVICE button is used to select the desired option and the TEST button will increment the value of that option between specified parameters.

Move the cursor to EXIT and press the TEST button to return to the Test Menu.

9-2-12 GAME SETTINGS

Select 'GAME SETTINGS' from the Test Menu to display the Game Settings Menu.

This test is used to set up the various Game Options that are available.

Use the SERVICE button to move the cursor to the desired test item.
Press the TEST button to enter the selected item.

SET TRACK PACK: Two options are available: Track Pack A and Track Pack B. The Track
                         Pack changes which tracks appear in the Quick Race game mode.
SPEEDO: Option A = MPH   Option B = Km/H
VIEW: Option A = BUMPER   Option B = BONNET   Option C = CHASE
LANGUAGE: Option A = ENGLISH   Option B = FRENCH   Option C = ITALIAN
                         Option D = GERMAN   Option E = SPANISH
DIFFICULTY: Option A = EASY   Option B = MEDIUM   Option C = HARD
CONTINUES: Option A = ON   Option B = OFF
RACE LENGTH: Option A = 2   Option B = 3   Option C = 4

EXIT: Exits to the Test Menu.

Move to the cursor to EXIT and press the TEST button to return to the Test Menu.

Problem
Linked cabinets will not sync together in the attract mode.

Causes
1.Network cables are not connected.
2.The cabinets are using security keys from different regions
3.Network cables are faulty.

Solutions
1.Reconnect the network cables to each cabinet.
2.Ensure each cabinet has the same region which is viewable on the System Information page. Cabinets will only link together from the same region.
3.Replace the faulty network cables. Contact the company from whom the unit was purchased.

Problem
Cabinets are unable to start a Multiplayer session together.

Causes
1.Network cables are not connected.
2.Cabinets have different Track Packs enabled.
3.Cabinet ID's are not set up correctly.

Solutions
1.Ensure network cables are properly connected to the cabinets.
2.Go into Game Settings in the Test Menu and ensure each cabinet is set to the same Track Pack.
3.Go into the Network Settings and ensure each cabinet has a different Cabinet ID. Confirm the settings and then the cabinets will reset with the new changes saved.

Problem
The Steering Wheel does not work correctly in the game.

Causes
1.The Steering Wheel has not been calibrated correctly.

Solutions
1.Go into the Calibration Settings in the Test Menu and select Calibrate Steering.

Problem
The Pedals do not work correctly in the game. Vehicles move forward or backwards with no player input.

Causes
1.The Pedals have not been calibrated correctly.

Solutions
1.Go into the Calibration Settings in the Test Menu and select Calibrate Brake and follow the on screen instructions. Once this has been done, select Calibrate Accelerator and follow the on screen instructions.

Problem
No audio can be heard in either the attract mode, or throughout the game.

Causes
1.The audio level has not been correctly set with the Hardware Volume Control inside the cash drawer.
2.The volume levels within the Sound Settings in the Test Menu have not been set correctly.

Solutions
1.Go into the cash drawer and adjust the Hardware Volume Control until audio in the game can be heard.
2.Enter the Sound Settings menu from the Test Menu and check that all volume levels are set to the appropriate levels. Options are available within this menu to test the volume levels of each setting to make sure each are correct.

Problem
High Score Tables have not been cleared after attempting to clear them in the Bookkeeping menu.

Causes
1.The high scores have only been cleared on one cabinet when multiple cabinets are linked together.

Solutions
1.When multiple cabinets are linked together, the high score tables will only be cleared if the process is done on all connected machines at the same time. Each cabinet must be in the Bookkeeping menu, and then Clear High Scores should be selected on each one and then confirmed. If any cabinets are left in the attract mode during this, the high score tables will not be cleared.

Problem
An error message appears in the game that says: "IO BOARD NOT DETECTED".

Causes
1.The IO USB cable has become disconnected.

Solutions
1.Reconnect the IO USB cable to the game board and perform a power cycle.

Problem
An error message appears in the game that says: "SECURITY KEY NOT DETECTED".

Causes
1.The security key has become disconnected.

Solutions
1.Reconnect the security key to the game board and perform a power cycle.

10 CONTROLLER UNIT(S)

⚠WARNING

- When working with the product, be sure to turn the power off. Working with the power on may cause an electric shock or short circuit.

- Be careful not to damage the wires. Damaged wires may cause an electric shock, short circuit or present a risk of fire.

- Exercise due caution in performing soldering work. If soldering iron is handled carelessly, there could be fires or burns.

⚠CAUTION

- When fastening plastic parts, be careful not to tighten screws or nuts excessively. If these are tightened to excess, parts could be damaged, resulting in injuries from fragments, etc.

- After the unit has been disassembled and reassembled again, check carefully that the unit has been reassembled correctly.

- Be sure to inspect the outer covers on both gear and hand brake units.

- Assemble so that there is no gap between the L and R covers. If there is a gap or rattling, the players could get fingers or hands caught, resulting in injury.

(STOP) IMPORTANT

- Once the product has been disassembled, use slack preventive agent (product No. : 090-0012-N). Coat screws with suitable amounts of this agent and then tighten them. If this agent is not used, the product might start rattling or come apart.

- Use the slack preventive agent prescribed in these instructions. If any other agent is used, there could be chemical changes that inhibit the use of screws and part surfaces could be damaged.

- Be careful not to damage or lose small parts or screws.

- When a part has been replaced, be sure to always make adjustments and check conditions in Test Mode.

10-1 CONTROLLER - EXPLODED DIAGRAM

The exploded diagram below shows the Active Steering Wheel Assy. Each part is tagged with a part number. Please quote this number when ordering spare parts.
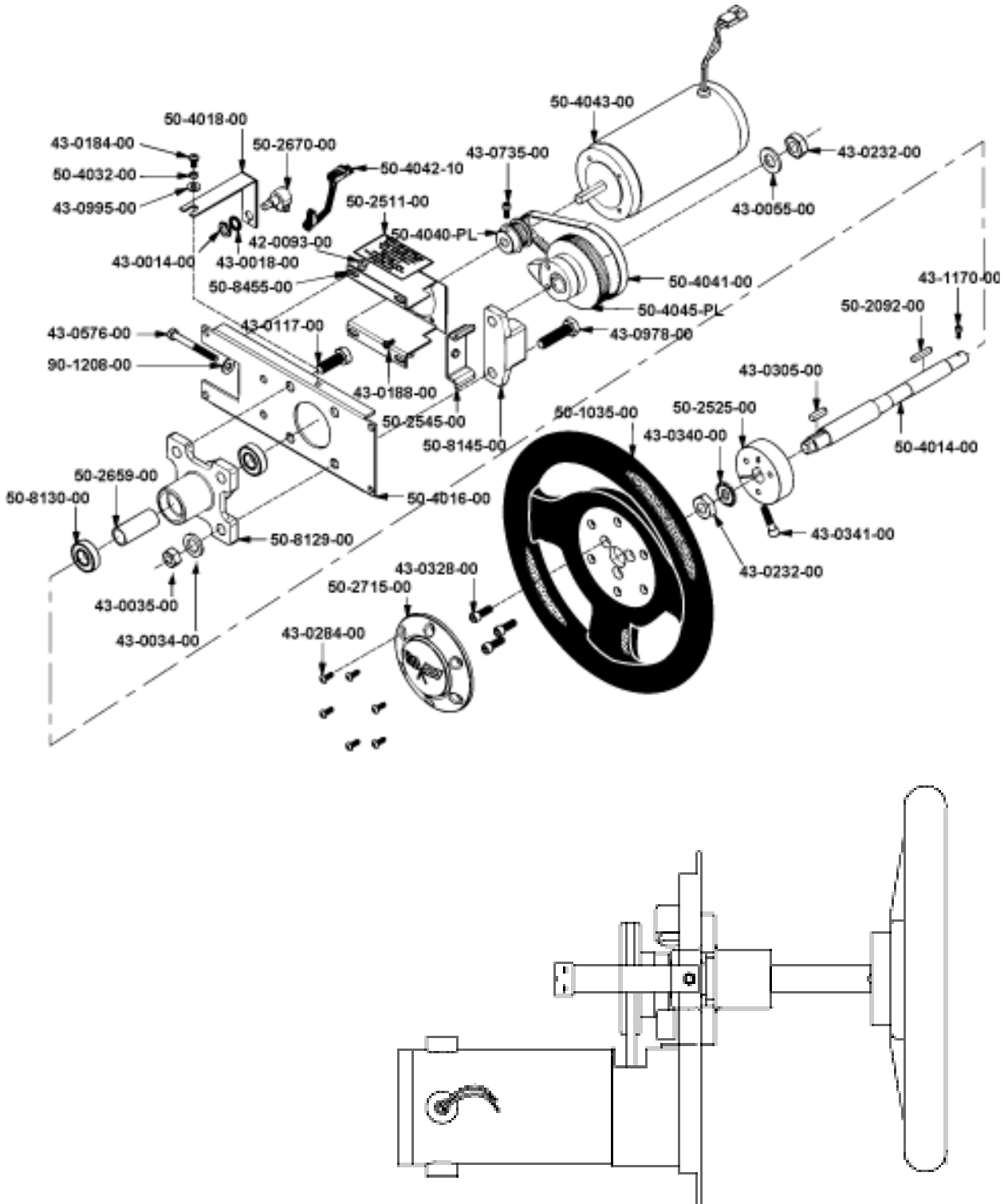
10-2 SHIFT LEVER

⚠ WARNING

- **When working with the product, be sure to turn the power off. Working with the power on may cause an electric shock or short circuit.**

- **Be careful not to damage the wires. Damaged wires may cause an electric shock, short circuit or present a risk of fire.**

If the shift lever switch input does not function correctly on the INPUT TEST screen, the switch may need to be replaced. To carry out this maintenance, you must first remove the shift lever unit.

For this task, you will need a tamper proof wrench (for M5 screws), /and a Phillips-head screwdriver (for M4 screws).

10-2-1 SHIFT LEVER REMOVAL

1 Turn the power OFF

2 Using the M5 tamper proof wrench remove the four tamper proof screws, 1 located in each of the corner of the Shift Lever.

3 Gently lift out the Shift Lever to reveal the wiring harness, locate the plug connecting it to the Control panel and remove the connection. The Shift Lever can now be extracted.

4 When re-installing the Shift Lever follow the above instructions in the reverse order. At this time ensure that the 'DOWN' display appears on the upper part of the Shift Lever as shown.

5 After the Re-installation of the Shift Lever, be sure to check the INPUT TEST in the Game Test mode to determine it's correct operation.
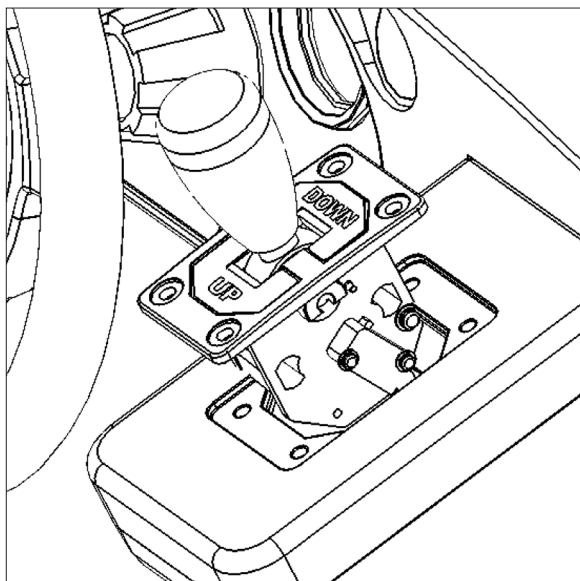
10-2-2 SHIFT SWITCH REPLACEMENT

Follow the instructions below to change the microswitch.

1   Unscrew and remove the M3x16 Self Tapping Screws which secure the microswitch to the Gear Shift base.

2   Remove the microswitch

3   Remove the wiring harness from the old microswitch and re-attacj it to the replacement switch in the same manner

2x TAPPING SCREWS M3x16

MICRO SWITCH 509-5704
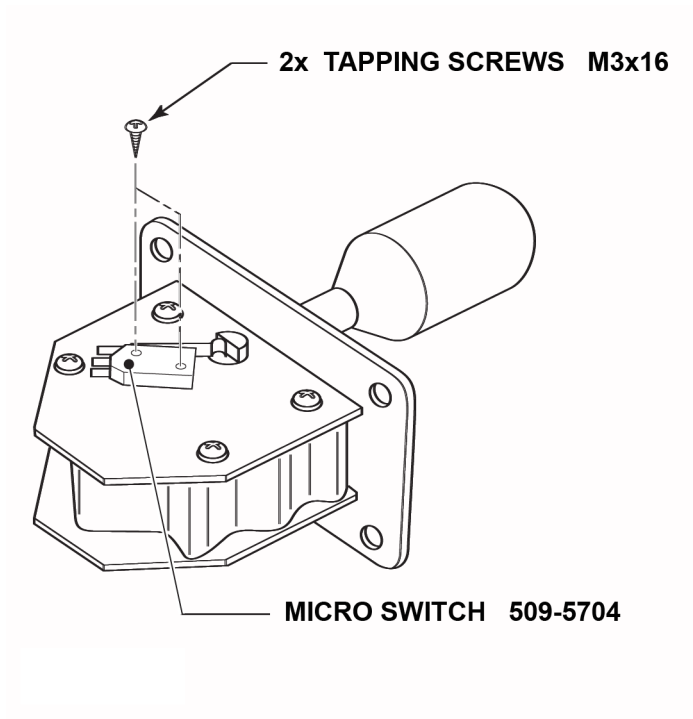
4   Using the M3x16 Self Tapping Screws, refit the replacement microswitch to the Gear Shift base.

5   The unit is now ready to be refitted into the Control Panel, to do this follow the instructions in reverse order

⚠ WARNING

When working with the product, be sure to turn the power off. Working with the power on may cause an electric shock or short circuit. However, the unit must be switched on when using test mode. Do not touch any part of the unit except those areas indicated.

Be careful not to damage the wires. Damaged wires may cause an electric shock, short circuit or present a risk of fire.

This work should be performed by site maintenance personnel or other skilled professionals. Work performed by non-technical personnel can cause a severe accident such as an electric shock.

To prevent accidents while working or while operating the product after it has been installed, be sure not to conduct any procedures other than those given in this manual. There are cases in which procedures not covered in this manual require special tools and skills.

If a procedure not given in this manual is required, request service from the office given in this manual or from the point of purchase.

(STOP) IMPORTANT

Be sure to perform volume's move value setting in the Input Test in the Game Test Mode after replacing or adjusting the Volume.

If the accelerator or brake pedals are not functioning correctly, you may need to adjust the positioning of the volume or replace it with a new one. In addition, you should apply grease to the gear contacts and spring parts once every three months.

When the accelerator pedal is not being pressed, the accelerator volume should have a value of 30H or less. When the pedal is being pressed, the value should be C0H or greater.

When the brake pedal is not being pressed, the value should be 35H or less. When the pedal is being pressed, it should be D0H or more. You can view these values in test mode. Note that the unit must be switched on to use test mode. Do not touch any part of the unit except those areas indicated when the unit is switch on, as there is a danger of electrical shock or short-circuit.

For this task, you will need a Phillips-head screwdriver (for M4, M5 screws).

Adjusting Procedure

1 On the accelerator and brake pedal unit, remove the two truss screws and lift off the front cover.

TRUSS SCREW (2), chrome
M4x8

FRONT COVER
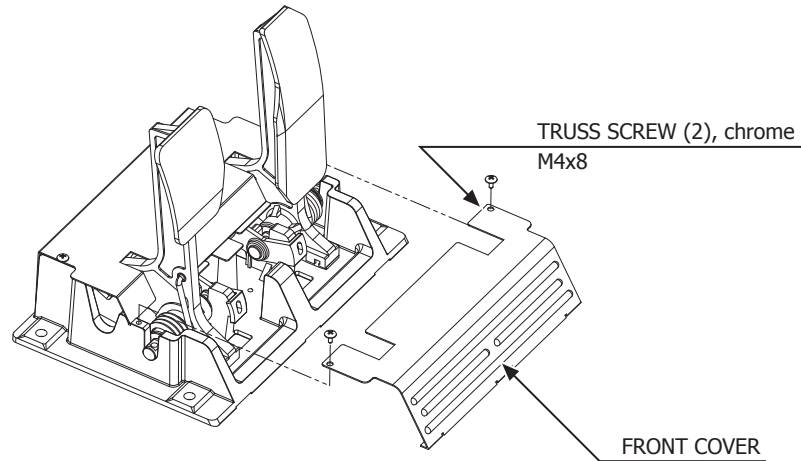
10-3 FIG. 01

2 Loosen the single screw that secures the potentiobase, and move the base to adjust the volume values.

SCREW (1)

M5x12, w/flat & spring washers

VOLUME

220-5484
220-5753   **10-3 FIG. 02**
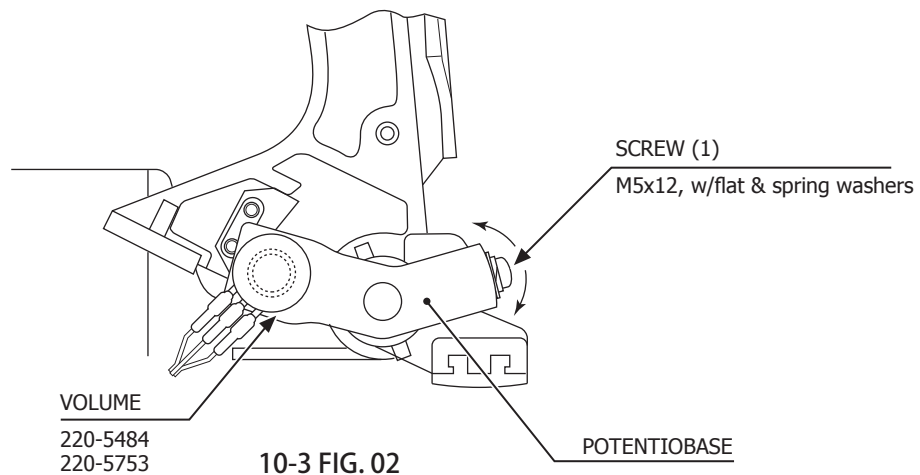
POTENTIOBASE

3 Secure the potentiobase.

4 Configure the volume values on the INPUT ASSIGNMENTS screen in Game Test Mode.

5 Check that the values change smoothly in response to pedal input.

10-3-1 ADJUSTING/REPLACING THE VOLUME POT

Replacing the Volume

1   Switch off the unit.

2   Remove the two screws and lift off the potentio cover.

TRUSS SCREW (2), chrome
M4x8

POTENTIO COVER
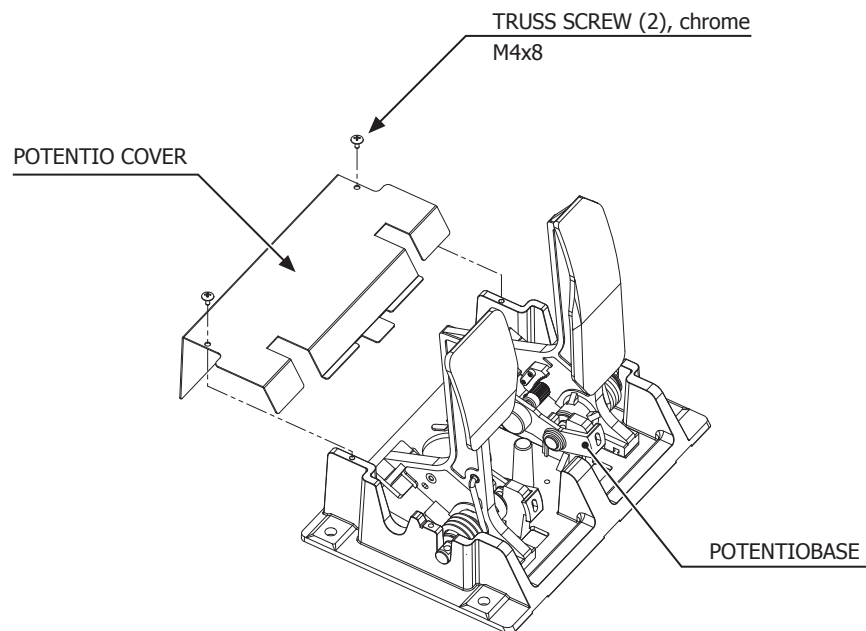
POTENTIOBASE

10-3-1 FIG. 01

3   Detach the connector from the volume to be replaced.

4   Remove the single screw that secures the potentiobase. (see 10-31 FIG. 02).

5   Without detaching the volume, remove the potentiobase. (see 10-31 FIG. 03).

6   Remove the base and gear from the volume, and replace it.

7   After replacement, configure the volume as described above in "Adjusting Procedure"

8   When you have finished, check that the values change smoothly in response to pedal input.

10-3-2 ADJUSTING/REPLACING THE VOLUME POT

(STOP) **IMPORTANT**

> **Use only the specified grease. Using any other kind of grease can result in damage to parts.**

Once every three months, you should apply grease to the gear contacts and spring parts.
Use Grease Mate-brand spray grease (Part No.: 090-0066).

POTENTIOBASE
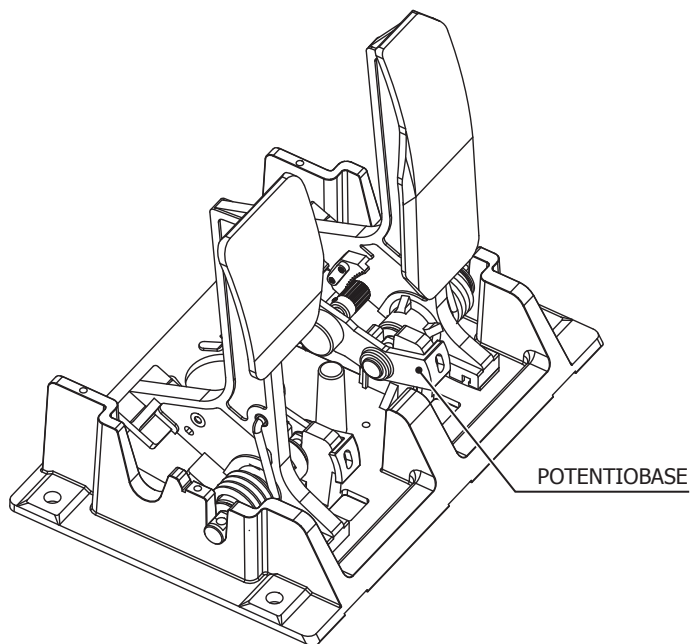
10-3-2 FIG. 01

11-1 SAFETY PRECAUTIONS WHEN HANDLING THE MONITOR

⚠ WARNING

Responding to breakdown or abnormality

* If smoke or a strange odor appears, immediately unplug the power cable from the power source.

  Continuing to use the product may cause a fire or an electric shock. Ensure that smoke is no longer emitted, and contact the point of purchase.

* If nothing displays on the screen, immediately unplug the power cable from the power source.

  Continuing to use the product may cause a fire or an electric shock. Contact the point of purchase and request an inspection.

* If water or a foreign object enters the monitor's interior, immediately unplug the power cable from the power source.

  Continuing to use the product may cause a fire or an electric shock. Contact the point of purchase and request an inspection.

* If the monitor is dropped or the cabinet is damaged, immediately unplug the power cable from the power source.

  Continuing to use the product may cause a fire or an electric shock. Contact the point of purchase and request an inspection.

  During operation

* Do not repair, reconstruct, or disassemble the monitor.

  The monitors interior contains high voltage parts. A fire or an electric shock could result.

  For inspections, adjustments, and repair of the monitors interior, request work from the point of purchase.

* Do not insert foreign objects.

  If metal objects or flammable materials such as paper are inserted into the interior through ventilation openings or other apertures, an electric shock could result.

* In the event of a thunder storm, do not touch the product or the power cable. An electric shock could result.

* Make sure to perform appropriate adjustments. Do not operate the product when the screen is flickering, distorted, or experiencing other abnormalities. Images from an improperly adjusted screen could cause players and other customers to experience dizziness, headaches, and other ailments.

11-2 CLEANING THE SCREEN SURFACE

⚠CAUTION

● **Use a soft, dry cloth (flannel-type) to wipe away dirt. Do not use materials such as coarse mesh gauze.**

● **Alcohol (ethanol) is the recommended solvent for removing dirt. When using a cleaning agent, follow the precautions below.**

- **Dilute neutral cleaning agents for home use with water. Soak a soft cloth in the solution, and wring it thoroughly before wiping the screen.**

- **Do not use abrasive cleaning agents or powders, or cleaning agents containing bleach.**

- **Do not use alkaline cleaning agents such as glass cleaners, or solvents such as thinners.**

● **Do not scrub or scratch the screen surface with abrasive materials such as brushes or scrub brushes.**

CLEAN THE SCREEN DAILY.

(STOP) **IMPORTANT**

All adjustment values are set accurately at the time of shipping from the factory. Do not readjust these values needlessly or apply adjustments not specified in this manual. The display may not appear properly if the values are incorrect.

CONTROL - ADJUSTMENT PROCEDURE

This sections explains basic control procedures for making adjustments using the buttons on the 'Monitor Adjustment Board'

This Adjustment Board, and the Monitor Power Supply are located behind the Rear Door.

Power Supply

LCD Driver Bd

11-3 Fig. 01

42" LCD Panel

LCD Controller PCB
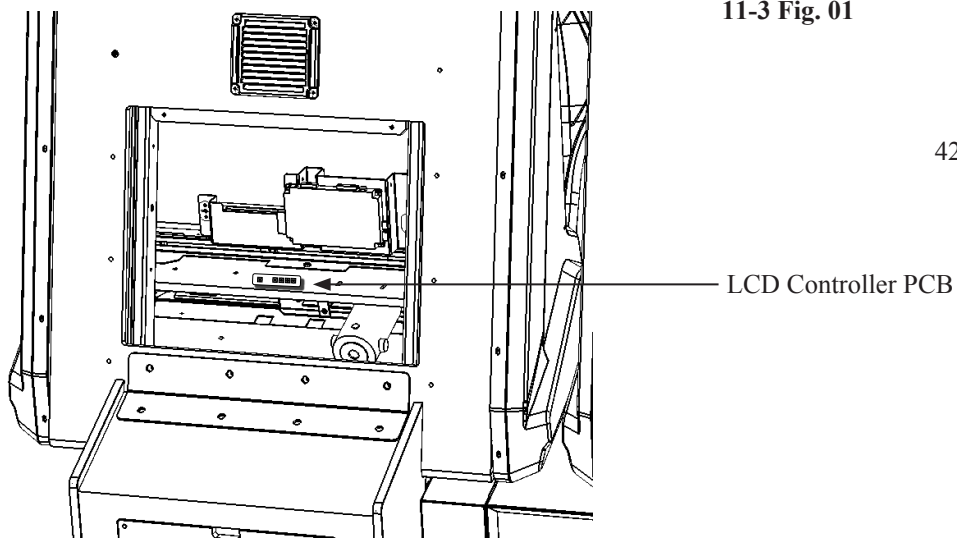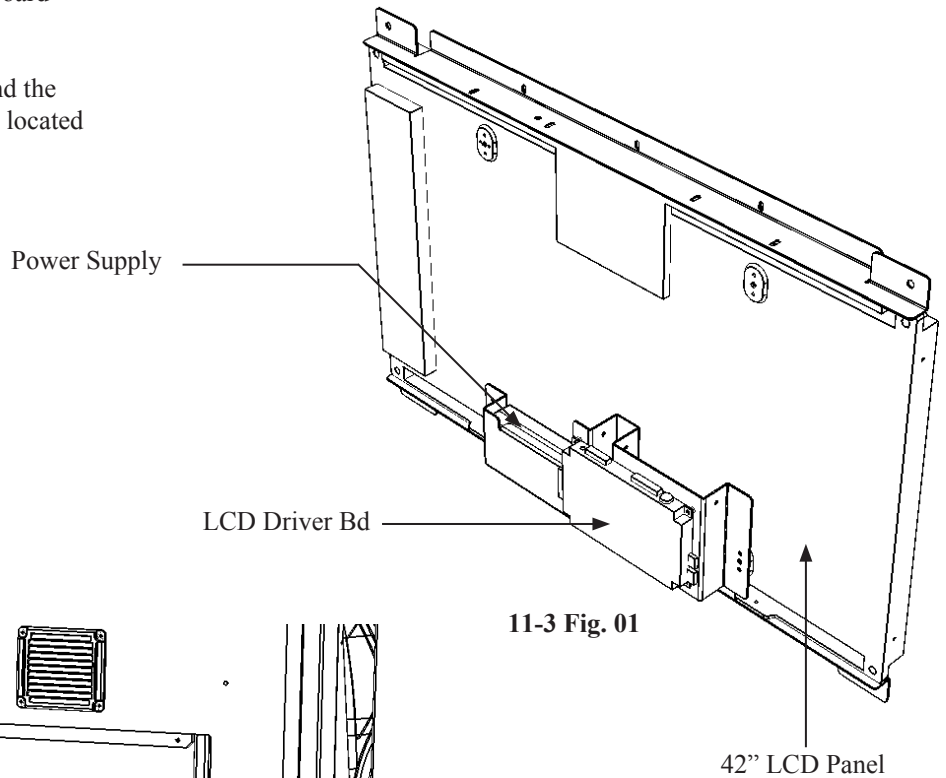
11-3 Fig. 02

11-3 ADJUSTMENT METHOD

Button Names and Functions
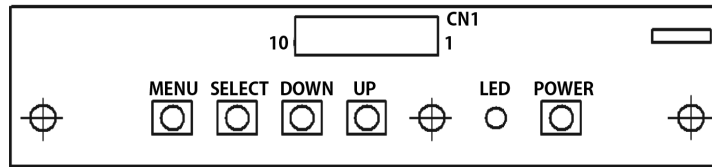
11-3 Fig. 03

MENU: Turn the Picture Menu display ON and OFF.

SELECT: Gains entry to the Item selected in the menu. (Highlights in Yellow when selected)
Exits the Item adustment. Any changes made during this
operation are actioned.

DOWN: Moves the cursor (Black Bar) down to select a menu item.
                 Decrease the value of, or change, a selected menu item.

UP: Move the cursor (Black Bar) up to select a menu item.
                 Increase the value of, or change, a selected menu item.

LED: LED illuminates green: Monitor is operating.
                 LED flashes red: Power is off.

POWER: Turns the LCD Display ON and OFF. (Usually, it's not necessary to operate.)

On-Screen Display (OSD)

Press the MENU Button while the OSD is not displayed to bring up the Picture Menu.
On the Picture Menu, it is possible to perform various screen adjustments.
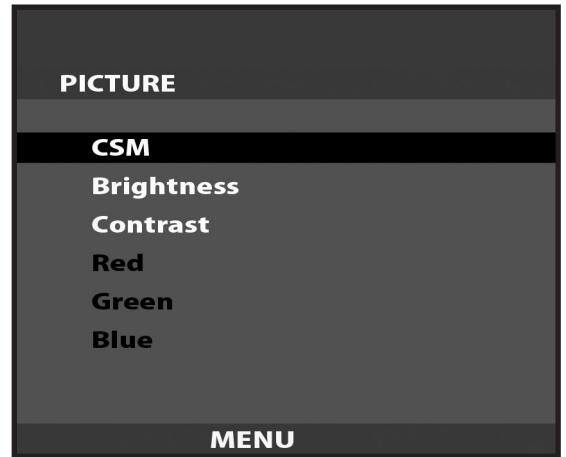
11-3 Fig. 04

Use the UP and DOWN Buttons to move the 'Black Bar' to the item you want to adjust.
After selecting the desired item, pressing the SELECT Button will extend the MENU Screen and allow adjustments to be changed.

Within each item, press the SELECT Button to exit the adjustment screen. The adjustment values at this time will be saved simultaneously.
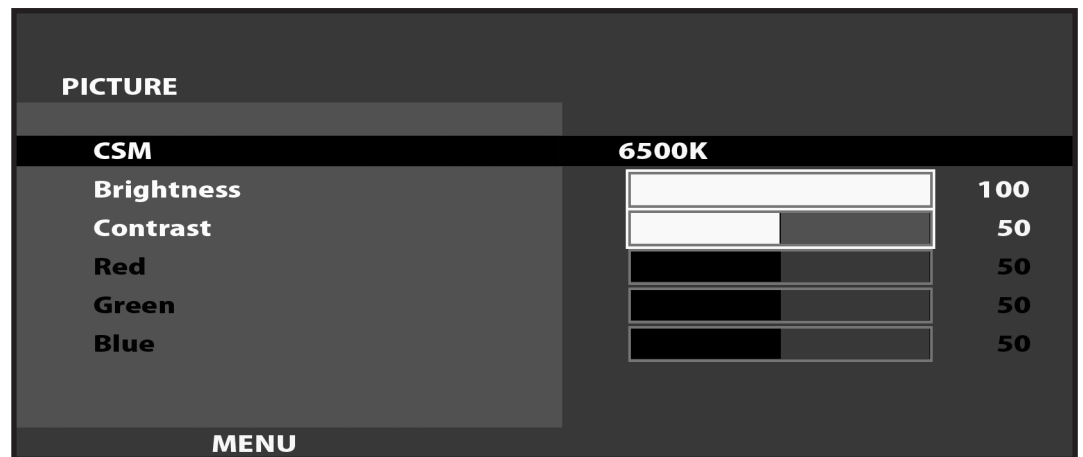
11-3 Fig. 05

The current options are set at :

CSM	-	6500K
Brightness	-	100
Contrast	-	50

11-3 ADJUSTMENT METHOD

On-Screen Display (OSD) <continued>

```
PICTURE

    CSM                           6500K
    Brightness                [_____]        100
    Contrast                  [_____     ]         50
    Red                       [____      ]         50
    Green                     [____      ]         50
    Blue                      [____      ]         50

            MENU
```
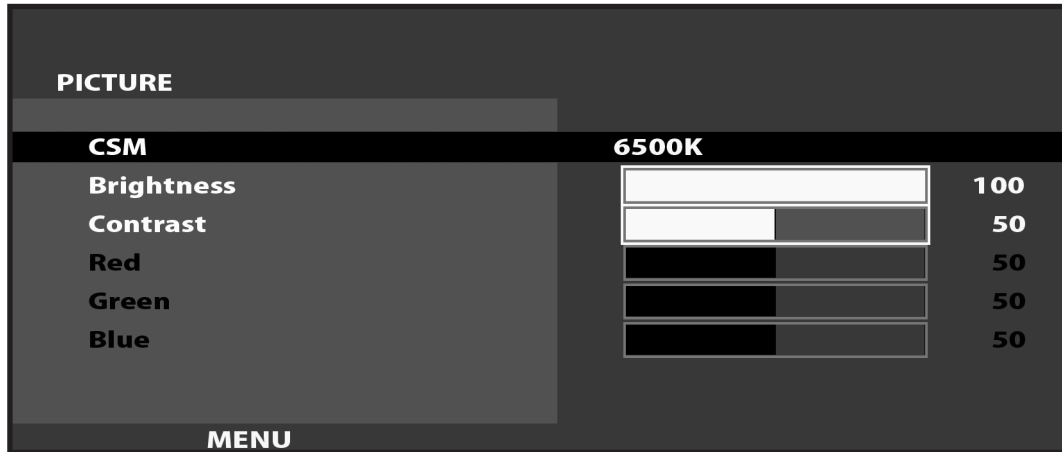
11-3 Fig. 06

Available Settings

CSM   (Selects Operation Mode))
Selection availble -   6500K - 9300K - USER

BRIGHTNESS   (Adjust Brightness)
Adjust screen Brightness. - Values: 0 - 100
(0" being the darkest setting, and "100" being the brightest)

CONTRAST   (Adjust Contrast)
Adjust Contrast level. - Values: 0 - 100
(0" having the least amount of difference between light and dark, and "100" having the most)

NOTE :   The Red, Green, and Blue adjustments are unavailable in the Mode of Operation selected on the Screen
shown in 11-3 Fig. 06. These adjustments can only be made is the CSM option is set to 'User'.

12 COIN HANDLING

Handling the Coin Jam

If the coin is not rejected when the REJECT button is pressed, open the coin chute door and open the selector gate. After removing the jammed coin, put a normal coin in and check to see that the selector correctly functions.

12-1 CLEANING THE COIN SELECTOR

(STOP) IMPORTANT

- **Remove and clean smears by using a soft cloth dipped in water or diluted chemical   detergent and then squeezed dry.**
- **Never apply machine oil, etc. to the Coin Selector.**
- **After cleaning the Coin Selector, insert a regular coin in the normal working status and ensure that the selector correctly functions.**

The Coin Selector should be cleaned once every 3 months.
When cleaning, follow the procedure below:

1 Turn the power for the machine OFF. Open the Coin Chute Door

2 Remove the Coin Selector from the Coin Chute Door

3 Open the gate and dust off by using a soft brush (Small soft Paint Brush, etc.)
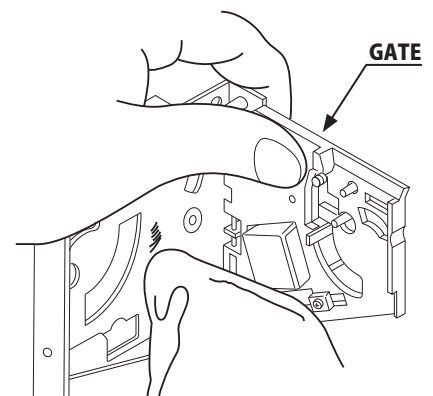
12-1 FIG 1

CLEANING THE COIN SELECTOR (MECHANICAL).

1 Remove and clean smears by using a soft cloth dipped in water or diluted chemical detergent and then squeezed dry.

2 Remove the CRADLE.. When removing the retaining ring (E ring) be very careful so as not to bend the rotary shaft.

3 Remove stain from the rotary shaft and shaft receiving portions by wiping off with a soft cloth. etc.

CRADLE
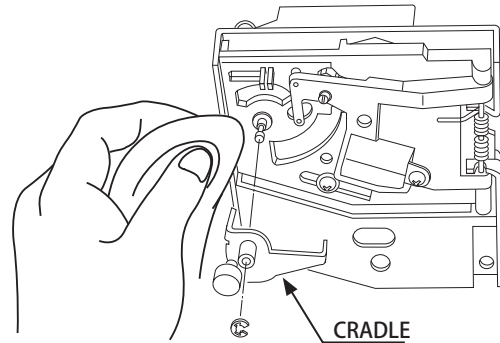
12-1 FIG 2

4 After wiping off as per previous step, further apply a dry cloth to completely dry the Coin Selector.

Coin Insertion Test

Once every month, when performing the Coin SW Test, simultaneously check the following:

Does the Coin Meter count satisfactorily?

Does the coin drop into the cashbox correctly?

Is the coin rejected when inserted while keeping the REJECT Button pressed down?

Insert a coin while keeping the REJECT Button pressed down and check if it is rejected.
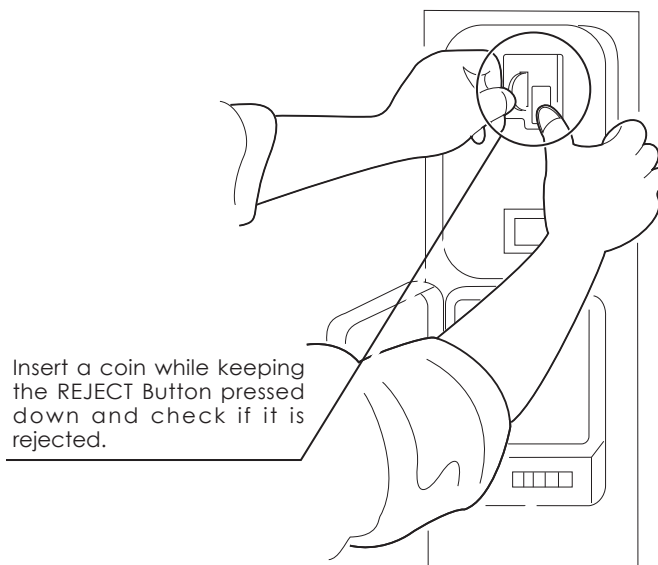
12-1 FIG 3

CLEANING THE COIN SELECTOR (SR3) <continued>

1   Remove and clean smears by using a damp soft cloth dipped in water. DO NOT use any diluted chemical detergent or cleansing agent as this will impair the workings of the component.
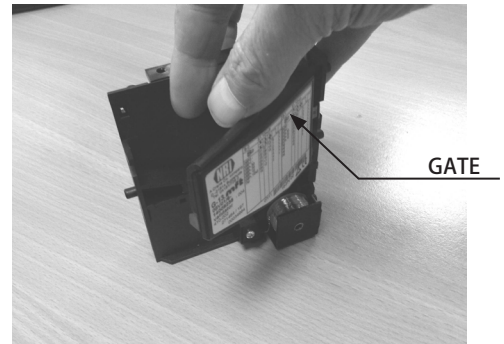
GATE

2   Open the reject gate to gain access to the rundown path.
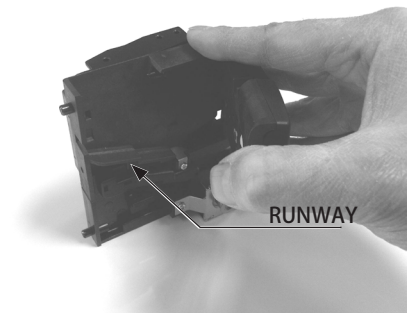
RUNWAY

3   Remove the dirt and stains from the runway by wiping off with a soft damp cloth.

4   After wiping off as per previous step, further apply a dry cloth to completely dry the coin Selector.

12-2 FAULT FINDING

Fault Finding

The following information is presented for customers' guidance in rectifying a fault but does not cover all possible causes.

All acceptors with electronic faults should be returned to an approved service centre for repair.

SYMPTOM	INVESTIGATE	POSSIBLE CAUSE
Acceptor does not work (all coins reject)	Connector	Poor Contact
		Loose Wire
	Power Supply	Not switched on
		Incorrect voltage
		Inadequate current
		Rise time too slow
	Inhibit all inputs	Acceptor Inhibited
	Accept gate	Gate not free or dislocated
	Accept channel	Obstruction
	Reject gate	Not fully closed
	LED on rear cover RED	EEPROM chksm error
		SR Sensor fault
		Credit opto fault
		Credit sensor blocked
		Reject lever pressed
	LED on rear cover YELLOW	Reinstall power
Poor Acceptance	Power Supply	Voltage less than 10v (Voltage drops when coil engages)
	Accept gate	Gate jam or dislocated
	Connector	Loose
	Coin rundown	Dirty
	Bank Select	Both banks enabled
Coin stick or jam in acceptor.	Accept channel	Acceptor dirty or may have some damage
	Accept gate	
	Regect gate	
A true coin type rejects	Label	Coin not programmed
No accept signal	Connector	Loose or broken wire
	Accept channel	Path dirty or obstructed

12-3 ADJUSTING THE PRICE OF PLAY (EXCEL)

This product comes equipped with a Money Controls SR3 Coin Acceptor. To adjust the price of play ALL credit setting are adjusted via the EXCEL CREDIT BOARD.

IMPORTANT!
The CREDIT SETTINGS within the SYSTEM TEST MODE must be set to 1 coin 1 credit to allow the CREDIT BOARD to function correctly.

The VTS BD has a built in Credit Board. This is controlled by 2 DIL Switches. These allow the operator to select the price of play, type of coin acceptor and region.

EXCEL Credit Board
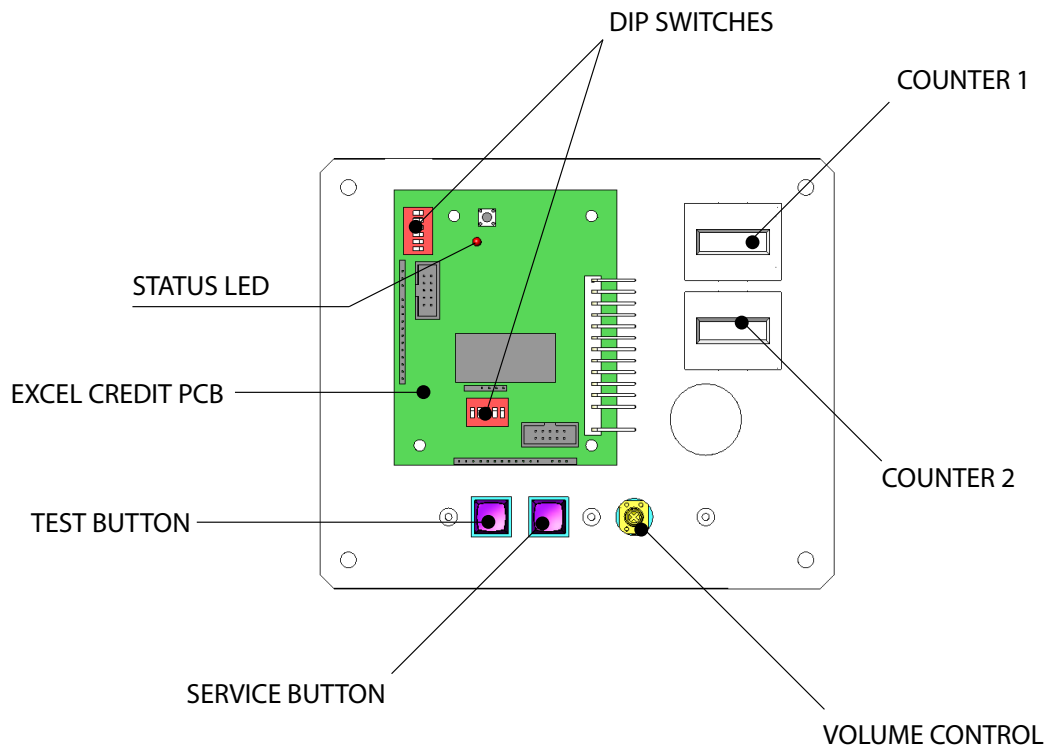
DIP SWITCHES

COUNTER 1

STATUS LED

EXCEL CREDIT PCB

TEST BUTTON

COUNTER 2

SERVICE BUTTON

VOLUME CONTROL

DIL SW3 (Regional Settings)
Adjust these switches to specify the type of Coin Acceptor used and currency.

Default = SW1&SW2 ON - SR3 in parallel mode, Sterling.

TEST BUTTON	Provides access to the TEST MENU when pressed.
SERVICE BUTTON	Provides a SERVICE CREDIT when pressed
Status LED	Flashes when functioning.
CHANNEL 1	To Coin Acceptor (SR3 TYPE.)
DIL SW1 (credit settings)	Adjust to required price of pay.
VOL CONTROL	MAIN VOLUME ADJUSTMENT (FRONT SPEAKERS)

12-4 ADJUSTING THE PRICE OF PLAY (VTS)

This product comes equipped with a Money Controls SR3 Coin Acceptor. To adjust the price of play ALL credit setting are adjusted via the EXCEL CREDIT BOARD.

IMPORTANT!
The CREDIT SETTINGS within the SYSTEM TEST MODE must be set to 1 coin 1 credit to allow the CREDIT BOARD to function correctly.

The VTS BD has a built in Credit Board. This is controlled by 2 DIL Switches. These allow the operator to select the price of play, type of coin acceptor and region.

VTS Board
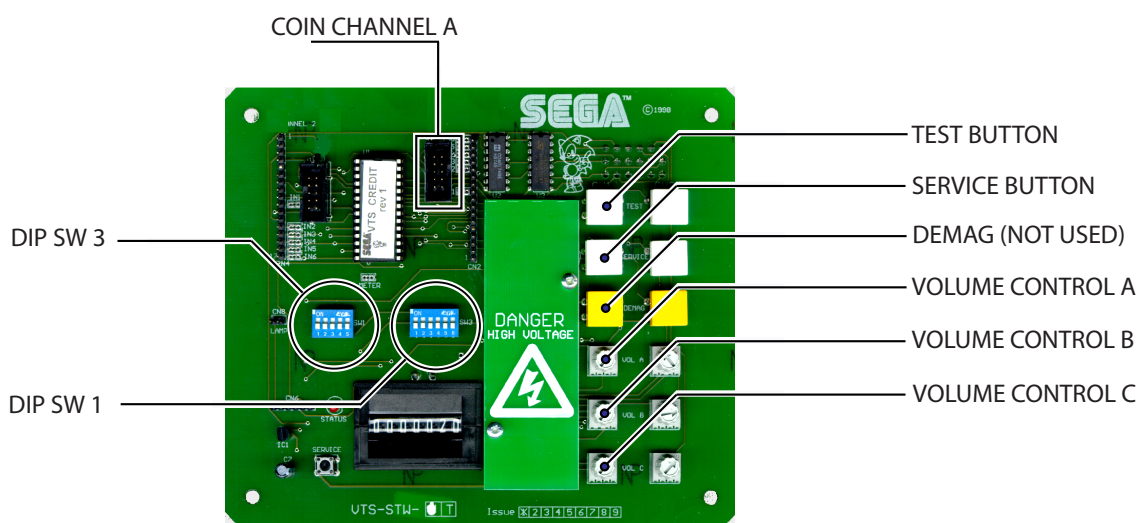
DIL SW3 (Regional Settings)
Adjust these switches to specify the type of Coin Acceptor used and currency.

Default = SW1&SW2 ON - SR3 in parallel mode, Sterling.

TEST BUTTON	Provides access to the TEST MENU when pressed.	
SERVICE BUTTON	Provides a SERVICE CREDIT when pressed	
Status LED	Flashes when functioning.	
CHANNEL A	To Coin Acceptor (SR3 TYPE.)	
DIL SW1 (credit settings)	Adjust to required price of pay.	
DEMAG		NOT USED
VOL CONTROL A		MAIN VOLUME
ADJUSTMENT (FRONT SPEAKERS)		
VOL CONTROL B		SECONDARY
VOL ADJUSTMENT (GUN SPEAKERS)		
VOL CONTROL C		NOT USED

Country	Setting	Switch 3 Setting						Credit Board Mode Settings Switch 3 — Coin Validator Programming								C120/SR3 Only			
		SW1	SW2	SW3	SW4	SW5	SW6	COIN1	COIN2	COIN3	COIN4	COIN5	COIN6	COIN7	COIN8	COIN9	COIN10	COIN11	COIN12
UK	Coin Controls C220 Parallel	OFF	OFF	OFF	OFF			£1	50p new	20p	10p	50p old	-	-	-				
UK	Coin Controls C220 Binary	ON	OFF	OFF	OFF			£1	50p new	20p	10p	50p old	-	£2	-				
UK	Coin Controls C220 Binary	OFF	ON	OFF	OFF			£1	50p new	20p	10p	-	-	£2	-				
UK	Coin Controls SR3 Parallel	ON	ON	OFF	OFF			£1	50p new	20p	10p	-	£2	-	50p old				
UK Euro	SR3 Parallel	OFF	OFF	ON	OFF			£2 / €2	£1 / €1	50p new / 50¢	20p / 20¢	10p / 10¢	-	-	50p old				
UK	Mars ME/MS 111 Parallel	ON	OFF	ON	OFF			£1	£2	20p	10p	50p new	50p old	-	-				
UK	NRI Parallel	OFF	ON	ON	OFF			10p	20p	50p	£1	£2	-						
Belgium	Parallel	ON	ON	ON	OFF			50Bfr	20Bfr	5Bfr	5Bfr	-							
Holland	Parallel	OFF	OFF	OFF	ON			-	5NLG	2.5NLG	1NLG								
Austria	SR3 Parallel	ON	OFF	OFF	ON			20Sch	10Sch	5Sch	1Sch								
Spain	Coin Controls C220 Binary	OFF	ON	OFF	ON			500Pta	200Pta	100Pta	50Pta	25Pta	200Pt old	25Pta old	200Pta old				
Spain	SR3/NRI Parallel	ON	ON	OFF	ON			500Pta	200Pta	100Pta	50Pta	25Pta	50Pta old	25Pta old	200Pta old	50Pta old	25Pta old	-	
Spain	Coin Controls C220 Parallel	OFF	OFF	ON	ON			100Pta new	50Pta new	-	25Pta new	-	-	25Pta old	25Pta old	50Pta old	25Pta old		
Portugal Euro	Parallel	ON	OFF	ON	ON			200Es / €1	100Es / 50¢	50Es	-	-	-	-					
	TBA	OFF						TBA											

Channels

	SW5	SW6	
	OFF	OFF	TBA / Direct Mode
	ON	OFF	Direct Mode
		ON	2 channel Mode

Please Note

The credit board automatically sets the validator for parallel and binary operation through an output on pin 8 of the 17 way pinstrip. For the feature to work it is necessary for the validator interconnecting cable to include at wire at this position

Note: These switch settings are under constant review and may change due to world currency updates.

Set SW 1 according to the option settings found in the relevant Price of Play Settings Table on the following pages.

Set SW 3 on the VTS /Excel board as shown in the table above corresponding to the country required.

#	Price		Bonus		DIL Switch 1				
					1	2	3	4	5
1	10p	50p = 5 plays	£1 = 10 plays	£2 = 20 plays	OFF	OFF	OFF	OFF	OFF
2	10p	50p = 6 plays @ 8.33p per play	£1 = 12 plays @ 8.33p per play	£2 = 24 plays @ 8.33p per play	ON	OFF	OFF	OFF	OFF
3	20p	50p = 2.5 plays	£1= 5 plays	£2 = 10 plays	OFF	ON	OFF	OFF	OFF
4	20p	50p = 3 plays @ 16.66p per play	£1 = 6 plays @ 16.66p per play	£2 = 12 plays @ 16.66p per play	ON	ON	OFF	OFF	OFF
5	30p	50p = 1.66 plays	£1 = 3.33 plays	£2 = 6.66 plays	OFF	OFF	ON	OFF	OFF
6	30p	50p = 1.66 plays	£1 = 4 plays @ 25p per play	£2 = 8 plays @ 25p per play	ON	OFF	ON	OFF	OFF
7	30p	50p = 2 plays @ 25p per play	£1 = 4 plays @ 25p per play	£2 = 8 plays @ 25p per play	OFF	ON	ON	OFF	OFF
8	30p	50p = 2 plays @ 25p per play	£1 = 3 plays @ 33.33p per play	£2 = 6 plays @ 33.33p per play	ON	ON	ON	OFF	OFF
9	40p	50p = 1.25 plays	£1 = 2.5 plays	£2 = 5 plays	OFF	OFF	OFF	ON	OFF
10	40p	50p = 1.25 plays	£1 = 3 plays @ 33.3p per play	£2 = 6 plays & 33.3p per play	ON	OFF	OFF	ON	OFF
11	50p	50p = 1 play	£1 = 2 plays	£2 = 4 plays	OFF	ON	OFF	ON	OFF
12	50p	50p = 1 play	£1 = 3 plays @ 33.3p per play	£2 = 6 plays @ 33.3p per play	ON	ON	OFF	ON	OFF
13	50p	50p = 1 play	£1 = 2 plays	£2 = 5 plays @ 40p per play	OFF	OFF	ON	ON	OFF
14	60p	50p = 0.83 play	£1 = 1.66 plays	£2 = 3.33 plays	ON	OFF	ON	ON	OFF
15	60p	50p = 0.83 play	£1 = 2 plays @ 50p per play	£2 = 4 plays @ 50p per play	OFF	ON	ON	ON	OFF
16	80p	50p = 0.62 play	£1 = 1.25 plays	£2 = 2.5 plays	ON	ON	ON	ON	OFF
17	80p	£1 = 1.25 plays	£1.50 = 2 plays @ 75p per play	£2 = 2.5 plays	OFF	OFF	OFF	OFF	ON
18	£1	2x50p = 1 play	£1 = 1 play	£2 = 2 plays	ON	OFF	OFF	OFF	ON
19	£1	2x50p = 1 play	£1 = 1 play	£2 = 3 plays @ 66.6p per play	OFF	ON	OFF	OFF	ON
20	£1	2x50p = 1 play	£2 = 2 plays	£4 = 5 plays @ 80p per play	ON	ON	OFF	OFF	ON
21	£1.50	3x50p = 1 play	£1 = 0.66 plays	£3 = 2 plays	OFF	OFF	ON	OFF	ON
22	£1.50	3x 50p = 1 play	£1 = 0.66 plays	£2 = 2 plays @ £1 per play	ON	OFF	ON	OFF	ON
23	£2	4x 50p = 1 play	£1 = 0.5 play	£2 = 1 play	OFF	ON	ON	OFF	ON
24	£2	4x 50p = 1 play	£1 = 0.5 play	£5 = 3 plays @ £1.66 per play	ON	ON	ON	OFF	ON
25	£3	6x50p = 1 play	£1.50 = 0.5 play	£3 = 1 play	OFF	OFF	OFF	ON	ON
26	£3	6x50p = 1 play	£1.50 = 0.5 play	£5 = 2 plays @ £2.50 per play	ON	OFF	OFF	ON	ON
27	£5	£1 = 0.2 play	£5 = 1 play	£10 = 2 plays	OFF	ON	OFF	ON	ON
28	£5	£1 = 0.2 play	£5 = 1 play	£10 = 3 plays @ £3.33p per play	ON	ON	OFF	ON	ON
29	£7.50	£5 = 0.66 play	£10 = 1.33 plays	£15 = 2 plays	OFF	OFF	ON	ON	ON
30	£7.50	£5 = 0.66 play	£10 = 1.33 plays	£10 = 2 plays @ £5 per play	ON	OFF	ON	ON	ON
31	£10	£10 = 1 play	£20 = 2 play	£30 = 3 play	OFF	ON	ON	ON	ON
32		Free Play			ON	ON	ON	ON	ON

EURO PRICE OF PLAY SETTINGS (SW1)

#	Price	Bonus	1	2	3	4	5
1	10¢	50¢ = 5 plays / €1 = 10 plays / €2 = 20 plays	OFF	OFF	OFF	OFF	OFF
2	10¢	50¢ = 6 plays @ 8.33¢ per play / €1 = 12 plays @ 8.33¢ per play / €2 = 24 plays @ 8.33¢ per play	ON	OFF	OFF	OFF	OFF
3	20¢	50¢ = 2.5 plays / €1 = 5 plays / €2 = 10 plays	OFF	ON	OFF	OFF	OFF
4	20¢	50¢ = 3 plays @ 16.66¢ per play / €1 = 6 plays @ 16.66¢ per play / €2 = 12 plays @ 16.66¢ per play	ON	ON	OFF	OFF	OFF
5	30¢	50¢ = 1.66 plays / €1 = 3.33 plays / €2 = 6.66 plays	OFF	OFF	ON	OFF	OFF
6	30¢	50¢ = 1.66 plays / €1 = 4 plays @ 25¢ per play / €2 = 8 plays @ 25¢ per play	ON	OFF	ON	OFF	OFF
7	30¢	50¢ = 2 plays @ 25¢ per play / €1 = 3 plays @ 33.33¢ per play / €2 = 6 plays @ 33.33¢ per play	OFF	ON	ON	OFF	OFF
8	30¢	50¢ = 2 plays @ 25¢ per play / €1 = 3 plays @ 33.33¢ per play / €2 = 6 plays @ 33.33¢ per play	ON	ON	ON	OFF	OFF
9	40¢	50¢ = 1.25 plays / €1 = 2.5 plays / €2 = 5 plays	OFF	OFF	OFF	ON	OFF
10	40¢	50¢ = 1.25 plays / €1 = 3 plays @ 33.33¢ per play / €2 = 6 plays @ 33.33¢ per play	ON	OFF	OFF	ON	OFF
11	50¢	50¢ = 1 play / €1 = 2 plays / €2 = 4 plays	OFF	ON	OFF	ON	OFF
12	50¢	50¢ = 1 play / €1 = 3 plays @ 33.33¢ per play / €2 = 6 plays @ 33.33¢ per play	ON	ON	OFF	ON	OFF
13	50¢	50¢ = 1 play / €1 = 2 plays / €2 = 5 plays @ 40¢ per play	OFF	OFF	ON	ON	OFF
14	60¢	50¢ = 0.83 play / €1 = 1.66 plays / €2 = 3.33 plays	ON	OFF	ON	ON	OFF
15	60¢	50¢ = 0.83 play / €1 = 2 plays @ 50¢ per play / €2 = 4 plays @ 50¢ per play	OFF	ON	ON	ON	OFF
16	80¢	50¢ = 0.62 play / €1 = 1.25 plays / €2 = 2.5 plays	ON	ON	ON	ON	OFF
17	80¢	£1 = 1.25 plays / €1.50 = 2 plays @ 75¢ per play / €2 = 2.5 plays	OFF	OFF	OFF	OFF	ON
18	€1	2x50¢ = 1 play / €1 = 1 play / €2 = 2 plays	ON	OFF	OFF	OFF	ON
19	€1	2x50¢ = 1 play / €1 = 1 play / €2 = 2 plays	OFF	ON	OFF	OFF	ON
20	€1	2x50¢ = 1 play / €2 = 2 plays / €4 = 5 plays @ 80¢ per play	ON	ON	OFF	OFF	ON
21	€1	2x50¢ = 1 play / €1 = 0.66 plays / €2 = 3 plays @ 66.6¢ per play	OFF	OFF	ON	OFF	ON
22	€1.50	3x 50¢ = 1 play / €1 = 0.66 plays / €2 = 2 plays @ €1 per play	ON	OFF	ON	OFF	ON
23	€2	4x 50¢ = 1 play / €1 = 0.5 play / €2 = 2 plays @ €1 per play	OFF	ON	ON	OFF	ON
24	€2	4x 50¢ = 1 play / €1 = 0.5 play / €2 = 1 play	ON	ON	ON	OFF	ON
25	€3	6x50¢ = 1 play / €1.50 = 0.5 play / €3 = 1 play	OFF	OFF	OFF	ON	ON
26	€3	6x50¢ = 1 play / €1.50 = 0.5 play / €3 = 1 play	ON	OFF	OFF	ON	ON
27	€5	€1 = 0.2 play / €5 = 1 play / €5 = 2 plays @ €2.50 per play	OFF	ON	OFF	ON	ON
28	€5	€1 = 0.2 play / €5 = 1 play / €10 = 2 plays	ON	ON	OFF	ON	ON
29	€5	€5 = 1 play / €10 = 2 plays / €10 = 3 plays @ 3.33¢ per play	OFF	OFF	ON	ON	ON
30	€7.50	€5 = 0.66 play / €10 = 1.33 plays / €15 = 2 plays	ON	OFF	ON	ON	ON
31	€7.50	€5 = 0.66 play / €10 = 1.33 plays / €15 = 2 plays	OFF	ON	ON	ON	ON
32	€10	€10 = 1 play / €20 = 2 play / €30 = 3 play	ON	ON	ON	ON	ON

Free Play

12-5 SR3 OPTIONS - STERLING / EURO SELECT

SELECTING STERLING / EURO OPTION

The SR3 coin acceptor (supplied) is programmed to accept UK Sterling and the Euro. Factory setting is for the UK Sterling. If the configuration needs to change to the Euro, then please follow the instructions below for changing over to the Euro and visa versa.

BANK SELECT

This function allows you to enable both or individual select banks of coins via switches 7 and 8 on the 8 way DIL switch.
This enables the selection of 2 different currencies, one in each bank, or 12 coins/tokens in both banks from the same country.

To enable/disable the banks set the switches as show below.
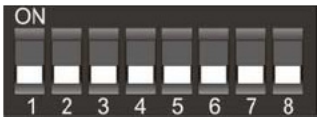
Both Banks ON (enabled) - Sterling and Euro's
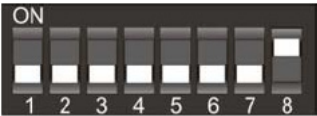
Bank 1 ON (enabled) and Bank 2 OFF (disabled) - Sterling ONLY
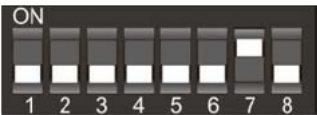
Bank 1 OFF (disabled) and Bank 2 ON (enabled) - Euro's ONLY

Please remove power from the SR3 before changing the status on the DIP SW.

12-6 SR3 OPTIONS - TEACH AND RUN PROGRAMMING

TEACH AND RUN PROGRAMMING (SR3)

If the machine is positioned in location where only tokens are used, then the SR3 Coin Acceptor can be programmed to accept and credit special coins/tokens.

Please follow the instructions below to enable and program the TEACH & RUN facility.

Table 1: Teach & Run Programming Bank 1.

Coin Number	SW1	SW2	SW3	SW4	SW5	SW6
1	off	off	off	ON	ON	off
2	off	off	ON	off	ON	off
3	off	off	ON	ON	ON	off
4	off	ON	off	off	ON	off
5	off	ON	off	ON	ON	off
6	off	ON	ON	off	ON	off

Bank 2

Table 2: Teach & Run Programming Bank 2

Coin Number	SW1	SW2	SW3	SW4	SW5	SW6
7	off	ON	ON	ON	ON	off
8	ON	off	off	off	ON	off
9	ON	off	off	ON	ON	off
10	ON	off	ON	off	ON	off
11	ON	off	ON	ON	ON	off
12	ON	ON	off	off	ON	off

Teach and Run EXAMPLE. (To teach coin channel 12 for £1)

Switch off the power to the SR3 and set the Program DIL switches to:-

MSB SW1	SW2	SW3	LSB SW4	TOTAL	SW5	SW6
ON	ON	OFF	OFF	12	ON	OFF

Switch on the power to the SR3.
Press the reject lever within 20 seconds. The LED will turn RED.
Start entering £1 coins until the LED flashes GREEN, typically after 8 to 10 insertions.

NOTE: If the LED turns GREEN after the 1st coin, then the Teach & Run is DISABLED.

Press the reject lever and the LED will turn GREEN. The coin channel has now been programmed.

SET ALL SWITCHES TO THE OFF POSITION.

13 LAMPS AND LIGHTING

⚠️WARNING

- **When working with the product, be sure to turn the power off. Working with the power on may cause an electric shock or short circuit.**

- **You may get burned by hot lamps. Pay full attention to the lamps when performing the work.**

- **Be sure to use lamps of the designated rating. Using lamps of undesignated rating can cause a fire or malfunctioning.**

- **There is the danger of short circuits or smoke generation due to deterioration of insulation in lighting fixtures resulting from age deterioration. Check for anomalies such as the following: Does it smell like something is burning? Is there socket discoloration? Are any lamps being replaced frequently? Do lamps not go on properly?**

⚠️CAUTION

The Coin Door Lamp utilises a 12v 1.2w Wedge Bulb. It is important that you replace this bulb or any other bulb of that of the same voltage and rating. Failing to observe this caution may result in PCB failure or possible fire hazard.

13-1 COIN DOOR LAMP

Step 1. Open the Coin Door and locate the Lamp Housing directly behind the Coin Insert Bezel.

Lamp Housing

Step 2. Hold the Lamp Housing firmly between your index finger and thumb and gently pull upwards. Do Not try to remove the Lamp Housing whilst holding the bulb a the bulb may break causing injury.

Step 3. Once the Lamp Housing has been removed, carefully hold the bulb between your fingers and pull the Lamp Housing away.

Do not twist either bulb or Lamp Housing whilst removing the bulb as this may cause damage to both bulb and or Housing.

Type: Wedge Bulb - 12v, 1.2w

Step 4. Simply push-fit a replacement bulb of the same type and follow these steps in reverse to refit.

13-2 LED LIGHTING - BILLBOARD

> ### ⚠ WARNING
>
> **THIS WORK ON TOP OF THE CABINET, SHOULD NOT BE UNDERTAKEN WITHOUT THE USE OF A SUITABLE STEP OR FOOTSTOOL.**

> ### ⚠ WARNING
>
> **MAKE SURE THAT THE MAIN SUPPLY VOLTAGE TO THE MACHINE IS SWITCHED OFF BEFORE ATTEMPTING TO CARRY OUT THIS WORK**

1 The Billboard lighting is located inside the back section of the Billboard Base, before attempting to change the LED, TURN THE POWER OFF.

2 To gain access to the LED STRIP, extract the eleven (11) fixing screws which hold the Billboard Title Panel in place and remove.

Title Panel

Remove the 8 fixings and washers which secure the Title Panel.

Remove the 3 fixings and washers which secure the Title Panel Bracket.
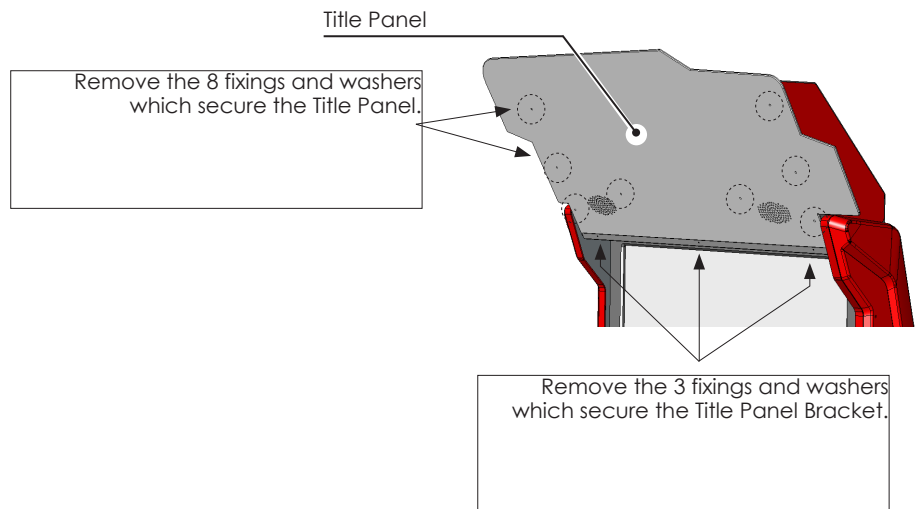
3 Carefully remove the Billboard Plate to reveal the LED strip..

LED STRIP

3 The LED STRIP is self adhesive. Before removal, unclip the connector at the R/H edge. Carefully peel off the LED STRIP from the back of the BILLBOARD.

LED STRIP

Remove Connector
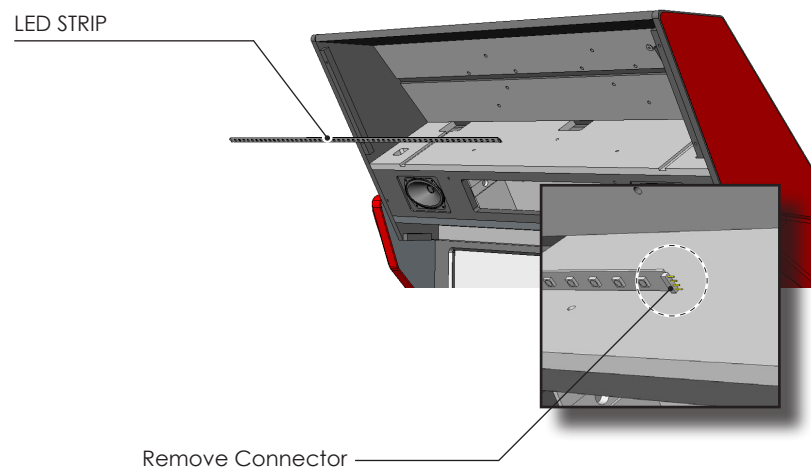
4 Replace the LED strip with a new one of the same type and re-assemble the Billboard in the reverse order.

13-3 RACE LEADER LED

⚠ WARNING

THIS WORK ON TOP OF THE CABINET, SHOULD NOT BE UNDERTAKEN WITHOUT THE USE OF A SUITABLE STEP OR FOOTSTOOL.

⚠ WARNING

MAKE SURE THAT THE MAIN SUPPLY VOLTAGE TO THE MACHINE IS SWITCHED OFF BEFORE ATTEMPTING TO CARRY OUT THIS WORK

---

1 The Race Leader Lamp is a strip of bright white LED's mounted on a self adhesive strip.

---

2 To gain access to the RACE LEADER Lamp, remove the BILLBOARD PLATE as described in the previous section.

Feature Lamp
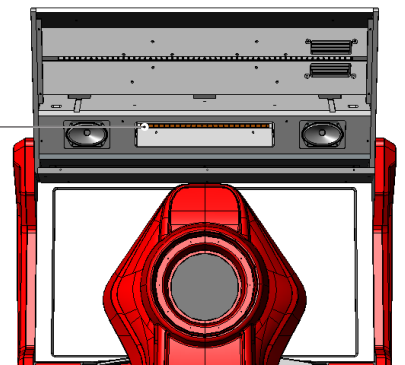
3 Unclip the LED cable clamp at the end of the LED strip and remove.

Clamp

Unclip the Clamp

Carefully pull the LED strip away from the clamp

Re-fit the NEW LED strip - ensure that the LED strip is pushed underneath the contacts of the clamp

Lock the Clamp
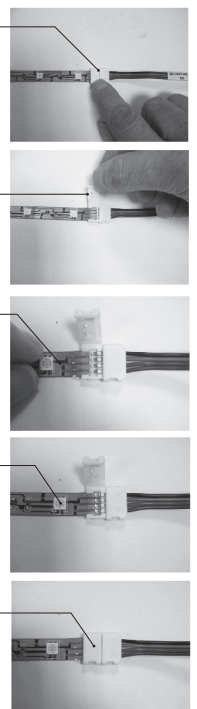
4 Adhere the LED strip back into location. TEST the LED strip in OUTPUT test before refitting the BILLBOARD Plate.
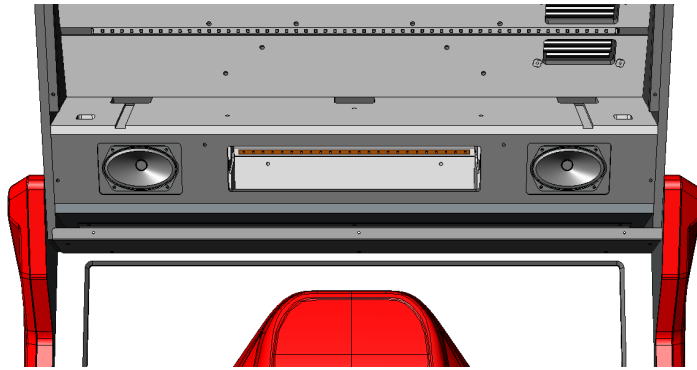
5 Refit the BILLBOARD plate following the instructions of the previous section in reverse order.

13-4 RECOVERY LAMP

> ### ⚠ WARNING
>
> MAKE SURE THAT THE MAIN SUPPLY VOLTAGE TO THE MACHINE IS SWITCHED OFF BEFORE ATTEMPTING TO CARRY OUT THIS WORK
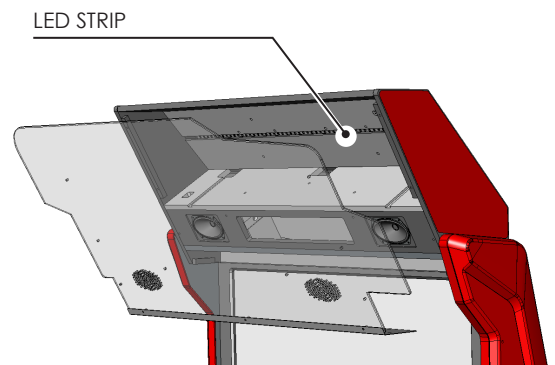
> ### ⚠ WARNING
>
> THE RECOVERY LAMP IS A 12V (White) LED TYPE. IT IS IMPORTANT THAT YOU REPLACE THIS LAMP WITH A LAMP OF THE SAME SPECIFICATION. REPLACING THE LAMP WITH A FILAMENT BULB OR A LED OF A DIFFERENT SPECIFICATION MAY RESULT IN PCB FAILURE OR EVEN A FIRE HAZARD.

1 Locate the Recovery Lamp housing positioned on the Left hand side of the cabinet above the Start and View switches.

2 Access to the Recovery Switch and Lamp housing is via the rear access panel.

Recovery Switch and Lamp housing
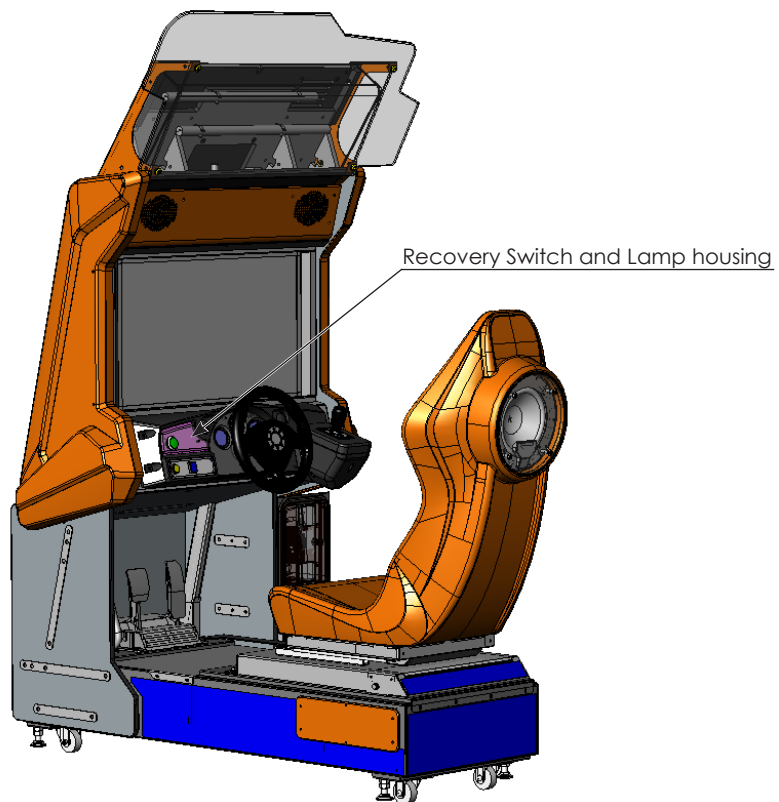
3 Remove the Rear Access Panel and locate the Recovery Button. Once located, pull out the switch housing to reveal the lamp to be replaced.

2x PH #1 Machine Screws

Recovery Switch and Lamp housing
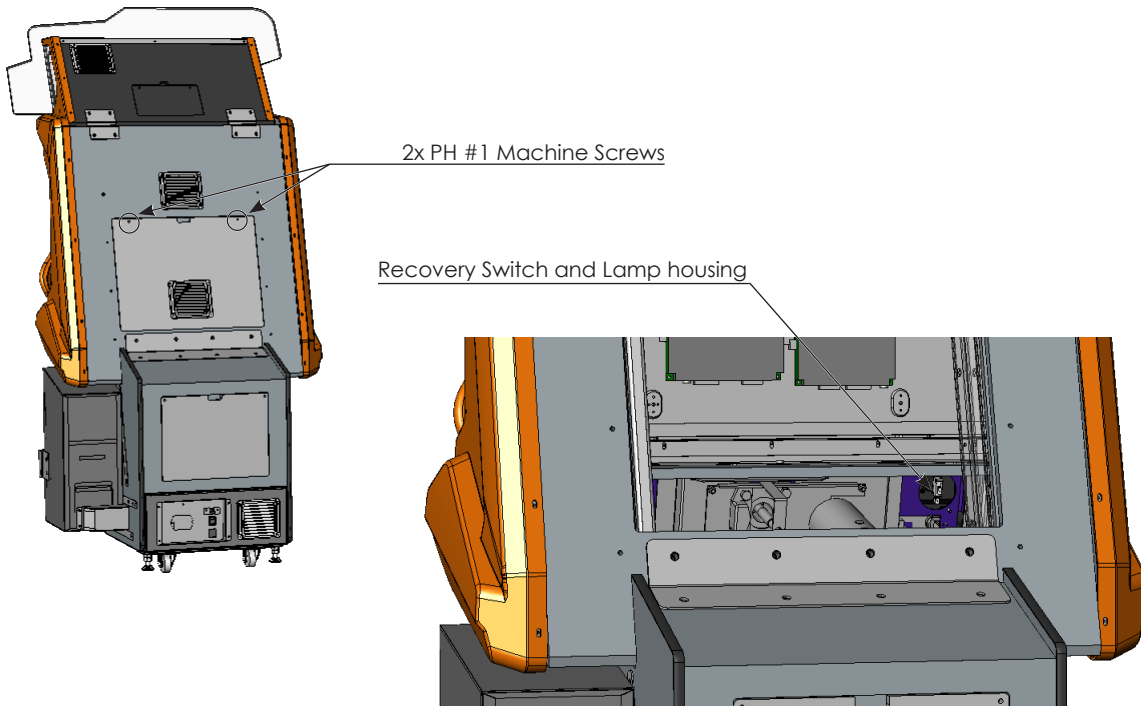
4 Once the Switch and Lamp Housing has been removed - pull out the LED (Do not twist) and replace with a 12V LED (White) of the same type.

LED & LED Housing

Using index finger and thumb, pull out the LED from its housing (Do not twist).
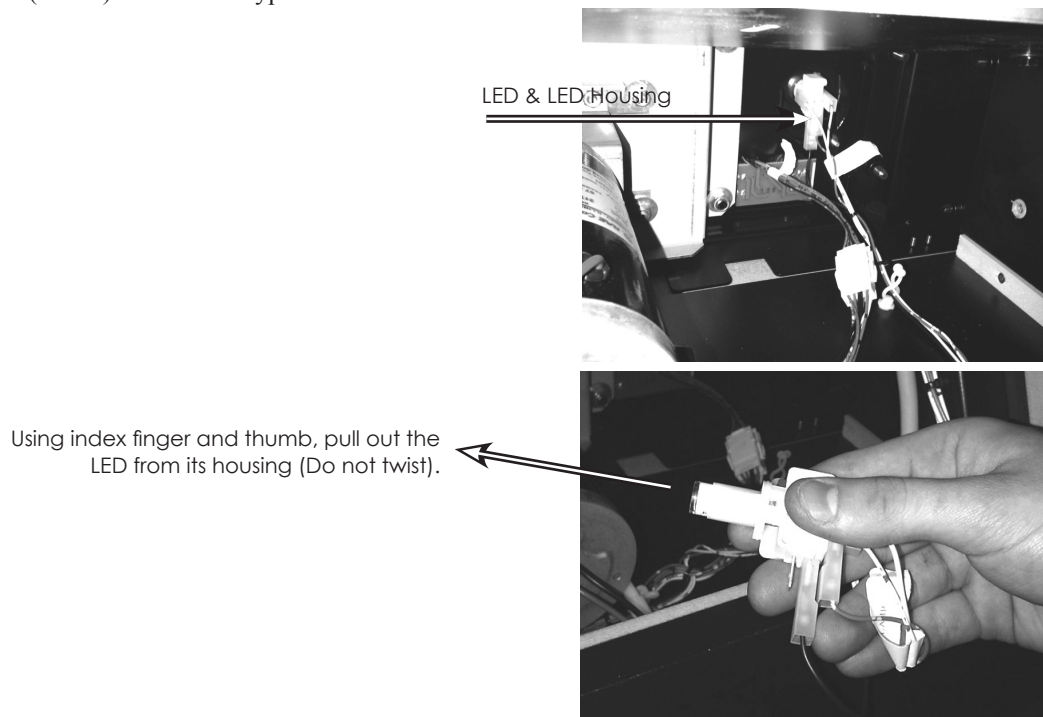
5 To re-fit the Lamp housing, follow steps 1 to 4 in reverse order.

Start Button Lamp, View Change Button Lamp

1 Turn off the power

2 Remove the 4 tamper proof screws.

TAMPERPROOF SCREW (4), chrome

M4x16
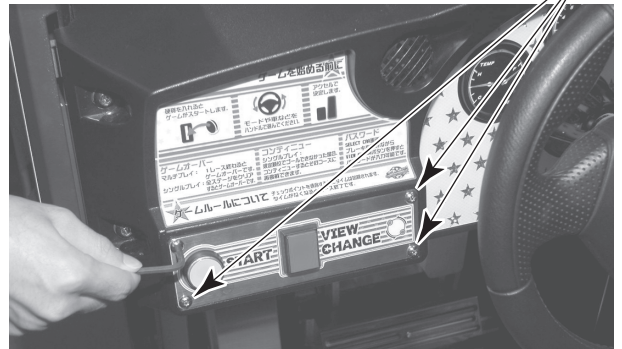
Please note that the images shown may differ from actual product but the process is the same.

3 Remove the Switch Plate. The Switch Plate contains wiring connections. Disconnect the connector, taking care not to damage the wiring.

Disconnect the connector.

SWITCH PLATE
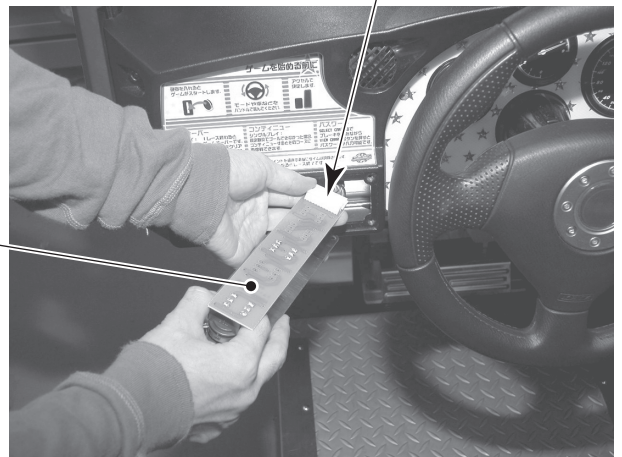
4 There is a metal fitting at the base of the buttons on the Button Plate. Rotate this metal fitting to unlock it, then remove the printed circuit board from the Button Plate.

BUTTON PLATE

Unlock.

PRINTED CIRCUIT BOARD
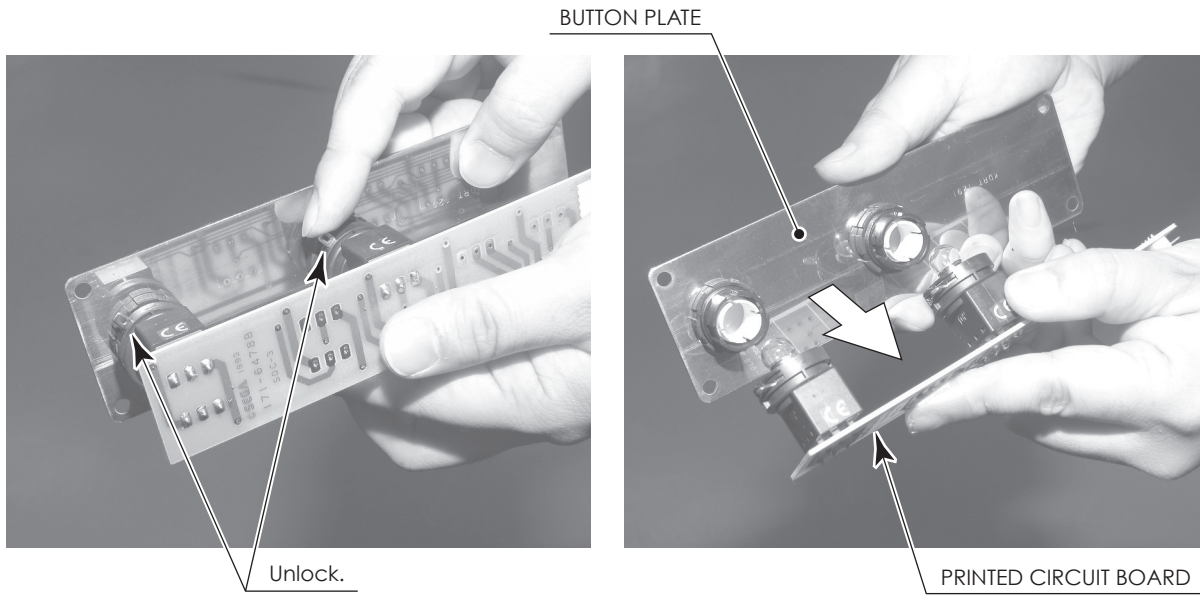
5 Press and turn the lamp counter-clockwise to remove it.

START LAMP 12V 2W (Pt No LT1060)
VIEW LAMP 12V 2W (Pt No LT1060)
CREDIT LAMP 12V 1.2W (Pt No LT1061)
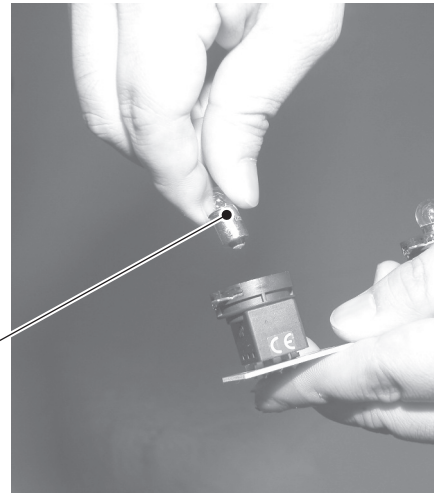
6 Replace the bulb with one matching the specification stated , then reassemble the Unit in the reverse order and refit the Button Unit to the control Panel.

14 PERIODIC INSPECTION

The items listed below require periodic check and maintenance to retain the performance of this machine and to ensure safe business operation.

When handling the controller, the player will be in direct contact with it. In order to always allow the player to enjoy the game, be sure to clean it regularly. Also, it is advisable to provide wet tissue, etc. available for player use.

⚠ WARNING

- Every 6 months check to see if power cords are damaged, the plug is securely inserted, dust is accumulated between the socket outlet and the power plug, etc. Using the product with accumulated dust in the interior may cause fire or electric shock.

- Never use a water jet, etc. to clean the inside and outside of the cabinet. If wetness occurs for any reason, do not use the product until it has completely dried.

- Once a year, request the office shown on this manual or the dealer from whom the product was originally purchased to perform the internal cleaning. Using the product with accumulated dust in the interior may cause fire or other accidents.

Note that you are liable for the cost of cleaning the interior parts.

- There is the danger of accidents involving electrical shorts circuits or fire caused by factors such as the deterioration of insulation in electrical and electronic equipment over time. Check that there are no abnormalities such as odors from burning.

---

14 TABLE 01 PERIODIC INSPECTION TABLE

ITEMS	DESCRIPTION	PERIOD
CABINET	Confirm that adjusters contact floor	Daily
CONTROL PANEL STEERING WHEEL	Volume inspection	Monthly
	Gear alignment inspection	Every 3 months
	Greasing	Every 3 months
SHIFT LEVER	Switch inspection	Monthly
	Greasing	Every 3 months
RESET BUTTON	Switch inspection	Every 3 months
ACCELERATOR & BRAKE	Volume inspection	Monthly
	Gear and spring potion greasing	Every 3 months
MONITOR	Screen cleaning	Weekly
	Confirm settings	Monthly or when moving
COIN CHUTE DOOR	Coin switch inspection	Monthly
	Coin insertion test	Monthly
	Selector cleaning	Every 3 months
SEAT	Greasing to the seat rail	Every 3 months
GAME BOARD	Confirm settings	Monthly
POWER CABLES	Inspection, Cleaning	6 months
INTERIOR	Cleaning	Yearly
CABINET SURFACES	Cleaning	As appropriate

Cleaning the Cabinet Surfaces

When the cabinet surfaces are badly soiled, remove stains with a soft cloth dipped in water or diluted (with water) chemical detergent and squeezed dry. To avoid damaging surface finish, do not use such solvents as thinner, benzine, etc. other than ethyl alcohol, or abrasives, bleaching agent and chemical dustcloth.
Some general-purpose household, kitchen and furniture cleaning products may contain strong solvents that degrade plastic components, coatings, and print. Before using any cleaning product, read the product's cautionary notes carefully and test the product first on a small area that is not highly visible.

Seat (Greasing to Seat Rail Portion)

Move the Seat to the rear most position and apply spray greasing to the portion shown at the right once every 3 months using NOK KLUBER L60 or GREASE MATE SEGA PART No. 090-0066.

After greasing, move the Seat a few times forward and backward so as to allow the grease to be applied all over uniformly.
Be sure to wipe grease which attaches to the surfaces of the PROTECT RUBBER on the Seat Rail, or any excess grease.
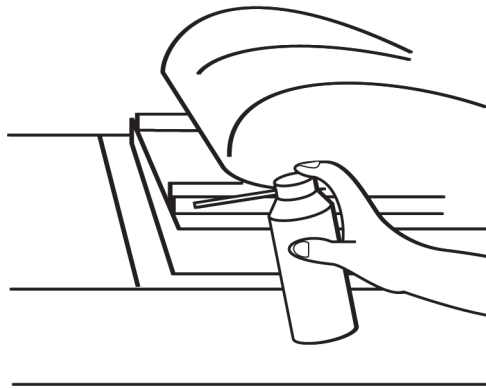
15 TROUBLESHOOTING

15-1 TROUBLESHOOTING (WHEN NO ERROR MESSAGE IS SHOWN)

> ⚠️ **WARNING**
>
> • In order to prevent electric shock and short circuit, be sure to turn power off before performing work.
>
> • Be careful so as not to damage wirings. Damaged wiring can cause electric shock or short circuit.
>
> • After removing the cause of the functioning of the Circuit Protector, reinstate the Circuit Protector. Depending on the cause of the functioning, using the Circuit Protector as is without removing the cause can cause generation of heat and fire hazard.
>
> • In the event that a problem cannot be resolved by employing the procedures listed in this Manual, be sure to request service from the office shown on this Manual or the dealer from whom the product was originally purchased. Attempts to employ procedures other than those specified in this Manual can cause electrical shock, shorting, or fire.
>
> • In the event of a problem that is not described here, be sure to contact the office shown on this Manual or the dealer from whom the product was originally purchased. Careless attempts at repair can result in electrical shock, shorting, or fire.

If a problem occurs, first check to make sure that the wiring connectors are properly connected.

15 TABLE 01

PROBLEM	CAUSE	COUNTERMEASURES
When the main SW is turned ON, the machine is not activated.	The power is not ON.	Firmly insert the plug into the outlet.
	Incorrect power source/voltage.	Make sure that the power supply/voltage are correct.
	The Fuse on the AC Unit has blown due to momentary over current.	After eliminating the cause of overload, replace the specified rating fuse.
	The fuse of the connect board has blown due to momentary over current.	After eliminating the cause of overload, replace the specified rating fuse.
Fluorescent lamp inside Billboard Unit not lighting	Connector connection fault.	Check connections to the Billboard Unit.
	Fluorescent lamp and glow lamp need replacement.	Replace the fluorescent lamp and the glow lamp.

Sound is not emitted.	Sound volume adjustment is not correct	Adjust the Switch Unit's sound adjustment volume.
	Faulty connections for various connectors	Check the connections for the game board, amp, speakers and Volume connectors
	Malfunctioning BD, amp and speaker	Perform Sound Test.
Sounds are emitted and the lamps are lit, but the screen is black.	Faulty connections for the visual signal connector or the monitor power connector	Check the connections for the monitor and game board connectors.
	Faulty LCD Display	See Chapter 11
Colors on the monitor screen are strange.	Faulty connection for the visual signal connector.	Check the visual signal connector connection and make sure it is secured properly.
	Screen adjustment is not appropriate.	Make adjustment appropriately.
The on-screen image sways and/or shrinks.	The power source and voltage are no correct.	Make sure that the power supply and voltage are correct.
Does not accept input from any switch or volume.	Faulty connector connections.	Check the connection for the I/O Board and Cabinet connector.
		Check the power for the I/O Board.
Does not accept input from the Shift Lever.	Faulty connector connections.	Check the connections for the connectors in the Control Panel and between the Control Panel and the Cabinet.
	Broken Microswitch.	Replace the Microswitch. <Microswitch 509-5704>
Steering (Servomotor) response is incorrect.	Incomplete power on check.	Power on and verify that the power on check completes properly.
	Deviation of the volume value.	Adjust the volume value in the Test Mode.
	Volume gear engagement fault.	Adjust the engagement of the gear.
	Volume malfunctioning.	Replace the volume.
	Detached wires.	Check for faulty wire connections around moving parts. When replacing wires, secure them so that they do not touch any moving parts.
No response from Steering (Servomotor).	Failure of power-on checking procedure.	Reconnect the power and complete a power-on checking procedure.
	Faulty connector connections.	Check the connections for the connectors between the Game Board and Servodriver and between the Servodriver and the Servomotor.
	Thermal element in the Servodriver is operating.	Occurs when the internal temperature reaches 70°C (158°F) and corrects automatically when the unit cools.
	Momentary overload caused a fuse on the Servodriver to blow.	Contact the company from whom the unit was purchased.

Steering (Servomotor) is weak in its force feedback	Ageing of the force feedback mechanism	Reset in the Test Mode.
Does not accept input in from the Reset Button unit.	Faulty connector or connections.	Check the connections between the I/O Board, the Cabinet and the Reset Button Unit
	Faulty Microswitch	Replace Microswitch
The accelerator or brake does not perform appropriately.	Incorrect volume setting.	Adjust the volume value in the Test Mode.
	Faulty Volume attachment or adjust gear alignment.	Adjust the volume attachment and verify in Test Mode.
	Faulty connector or connections.	Check the connections for the accelerator and brake connectors and the connectors between the accelerator, brake and cabinet.
	Failure of the volume.	Replace the volume.
Start button and View Change button input does not work and they do not flash.	Faulty connector or connections.	Check the connections for the connectors between the I/O Board, the cabinet and the control panel and those inside the control panel.
Start button and View Change button input works, but they do not flash.	Unverified settings or operation.	The Start button only flashes when Free Play is set. Check the operation in Test Mode.
	The lamp is blown.	Replace the lamp.
Failure of the network play.	Network play is wrongly set.	Reset correctly.
	Communication cables are disconnected. Communication cables are wrongly connected.	Reconnect the cables.
	Damage of communication cables.	Replace the cables. Contact the company from whom the unit was purchased.

Replacing Fuses

⚠️WARNING

• **In case fuse replacements other than those stated in this manual are necessary, contact where you purchased the product from for inquiries regarding this matter.**

• **In order to prevent an electric shock, be sure to turn power off and unplug from the socket outlet before performing work by touching the internal parts of the product.**

• **Be careful so as not to damage wirings. Damaged wiring can cause electric shock and short circuit accidents.**

• **Be sure to use fuses meeting specified rating. Using fuses exceeding the specified rating can cause fire and electric shock accidents.**

• **After eliminating the cause of the blowing of fuse, replace the fuse. Depending on the cause of fuse blowing, continued use with the fuse as is blown can cause generation of heat and fire hazard.**

Fuses are located on the following:

RD-1540UK	Assy AC Unit	(1) 5A Time Delay 20mm
		(1) 5A Time Delay 20mm (Spare)
838-14551-02UK	AC Distribution PCB	(2) 6.3A Time Delay 20mm
FR-838-0001UK	Servo Driver PCB	(1) 3A Time Delay 36mm
390-4018-FR-UK	FL Tray 110-240v 2x18w	(1) 3A 26mm

16 GAME BOARD

⚠ WARNING

● When working with the product, be sure to turn the power off. Working with the power on may cause an electric shock or short circuit.

● Be careful not to damage the wires. Damaged wires may cause an electric shock, short circuit or present a risk of fire.

● Do not use this product with connectors other than those that were connected and used with the game board at the time of shipping. Do not carelessly connect wires to connectors that were not used at the time of shipping, as this may cause overheating, smoke or fire damage.

⚠ CAUTION

In this product, setting changes are made during the test mode. The game board need not be operated. Use the game board, etc. as is with the same setting made at the time of shipment so as not to cause electric shock and malfunctioning.

(STOP) IMPORTANT

Static electricity from your body may damage some electronics devices on the IC board. Before handling the IC board, touch a grounded metallic surface so that the static electricity can be discharged.

16-1 GAME BOARD - LOCATION

⚠ WARNING

● **When returning the game board after making repairs or replacements, make sure that there are no errors in the connection of connectors. Erroneous connections can lead to electrical shock, short circuits or fires.**

● **When connecting a connector, check the direction carefully. Connectors must be connected in only one direction. If indiscriminate loads are applied in making connections, the connector or its terminal fixtures could be damaged, resulting in electrical shock, short circuits or fires.**

(STOP) IMPORTANT

Before commencing any work be sure to remove the power from the machine and disconnect the power cord. Failure to do so may result in an electric shock.

To access the GAME BOARD.

1 Locate and remove the 6x M6x20 HEX BOLT BLK (3 each side) from around the SEAT BASE.

2 Using 2 people, carefully raise the seat and disconnect the harnessing from underneath.

6x M6x20 HEX BOLT BLK
(3 each side)
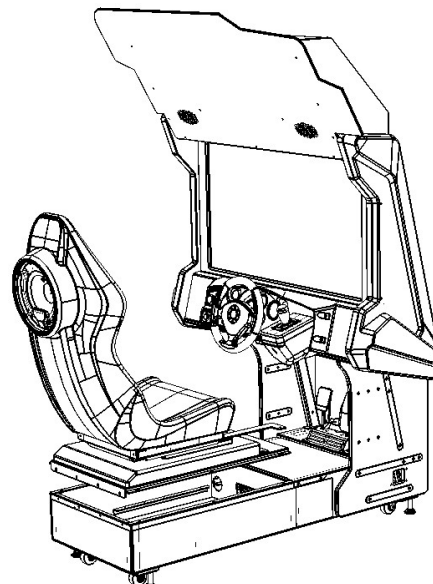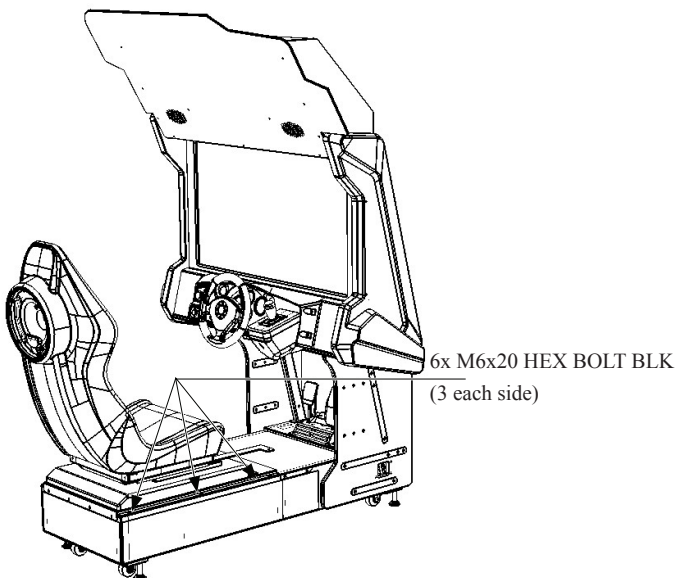
3 Tilt the seat to one side and carefully hold in position whilst another person disconnects the harnesses under-neath.
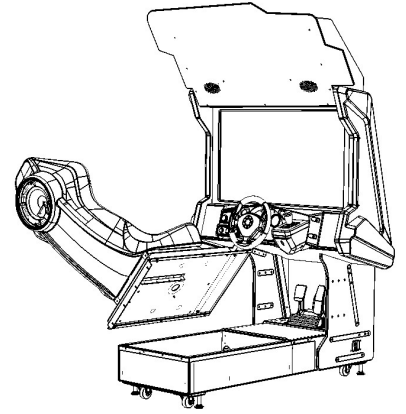
4 Once the seat is disconnected place it on the floor
(NOTE: Place a cushion upon the floor to prevent damage to the seat)
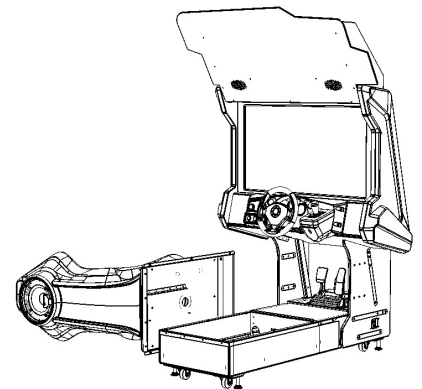
⚠ CAUTION

GREAT CARE SHOULD BE TAKEN WHEN OPENING AND CLOSING THIS UNIT.

LIKELY CHANCE OF MACHINE DAMAGE OR PERSONNEL INJURY IF UNIT IS DROPPED DURING OPENING, WITH A CHANCE OF FOREIGN BODIES GETTING TRAPPED WHEN CLOSING THE UNIT, CAUSING PERSONNEL INJURY.

5   Remove the 4x M4 Security Torx T20 fixings from the FOOT PLATE (2 each side)

4x M4x16 Security Torx T20

(2 each side)
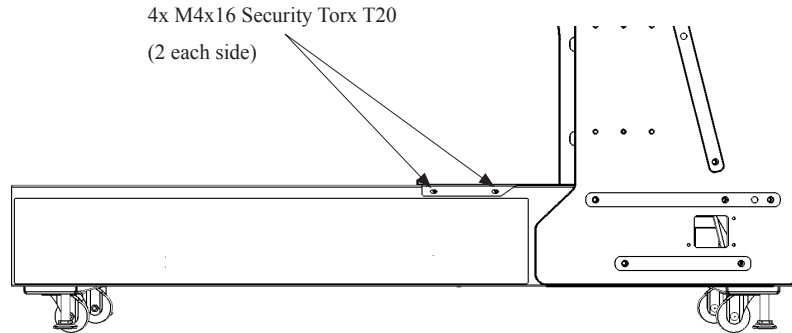
6   When screws have been removed, TILT the footplate in an upwards direction until the LIP on the backside of the footplate is clear of the front section of floor and REMOVE the plate.
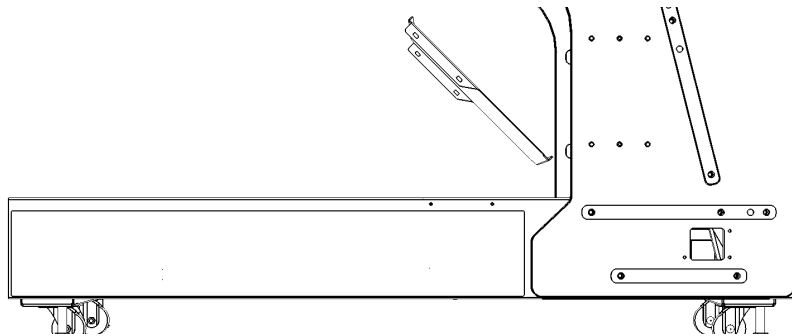
7   The Game Unit and Control Boards located inside the Cockpit Base are laid out in the following manner. When replacing a board, make sure that any connectors being removed should be handled correctly with any location fastener if any being released before disconnecting the connector.

Always disconnect a plug by holding the housing and never tug on the wiring as this may damage the terminations inside the connecter and lead to electrical failure.

8 The Assy Game Board is located at the front of the cabinet. For ease of access to the connections to the Game Board it may be required to remove the AC Bracket (See step 9)
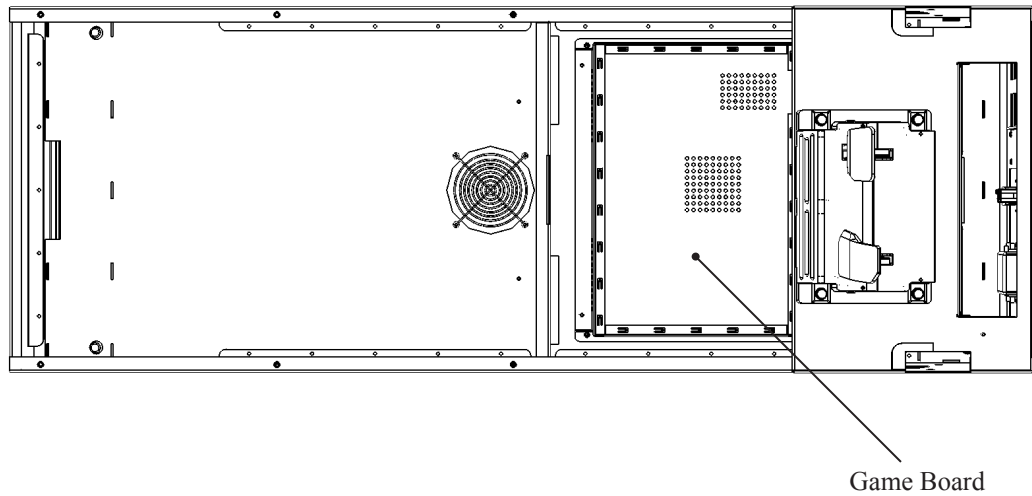
Game Board

9 For easy access to the GAME BOARD connections, remove the AC BKT by firstly removing the 4x M4 x 12 Machine Screws from the AC PLATE. Remove the plate and place to one side. All connections to the GAME BOARD can be accessed through the the AC BKT rescess.

AC BRACKET

4x M4x12 MSCR PH BLK
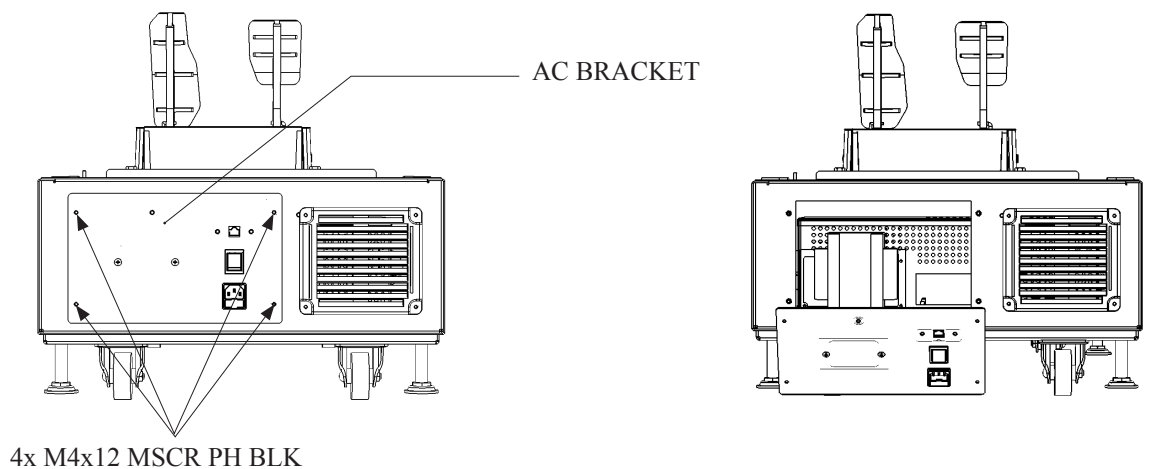
⚠ CAUTION

Do not open the Game Board without the express permission of SEGA. If for any reason entry has been gained into the Game Board without the permission of SEGA, then all warranty rights become void.

When returning the Game Board to SEGA for service, then please make sure that adequate packaging is used as damage in transit make occur.

17 COMMUNICATION PLAY

For this game, up to 6 machines can be networked together allowing up to 6 players to play simultaneously. In this instance, connecting the communication cable and adjustment to the settings for communication play will be required.

17-1 INSTALLATION PRECAUTIONS

⚠ WARNING

- **Before starting to work, ensure that the Power SW is OFF. Failure to observe this can cause electric shock or short circuit.**

- **Use care so as not to damage wirings. Damaged wiring can cause electric shock or short circuit.**

- **Do not touch undesignated places. Touching places not designated can cause electric shock or short circuit.**

- **The work described below should be carried out by the site maintenance personnel or other qualified professional. Work carried out by personnel without the necessary skill or technology can cause accident.**

- **To perform work safely and avoid serious accident such as the cabinet falling down, do not perform work in places where step-like grade differences, a ditch, or slope exist.**

- **To prevent accidents while working or while operating the product after it has been installed, be sure not to conduct any procedures other than those given in this manual. There are cases in which procedures not covered in this manual require special tools and skills. If a procedure not given in this manual is required, request service from the office given in this manual or from the point of purchase.**

⚠ CAUTION

- **To perform work safely, be sure to secure the space corresponding to number of machines to be linked. Failure to observe this can cause accident.**

- **To avoid accidents, use a cable cover that will not cause patrons to trip when laying network cables in areas of heavy foot traffic.**

- **To prevent accidents and acts of vandalism, cover the network cables with the strongest cover possible.**

Since 2 or more machines are to be linked, sufficient power corresponding to the number of machines used need to be supplied. Note that as a standard, the per machine capacity should be14A for the 100-120V area, and 6A for the 220-240V area.

Distance between Machines

The maximum distance between the game machines depends on the length of the cables connecting them, but make sure the units are separated from each other by at least 49 cm (19.2 in) so that players can pass between them.

49cm (19.2in)

20cm (7.9in)
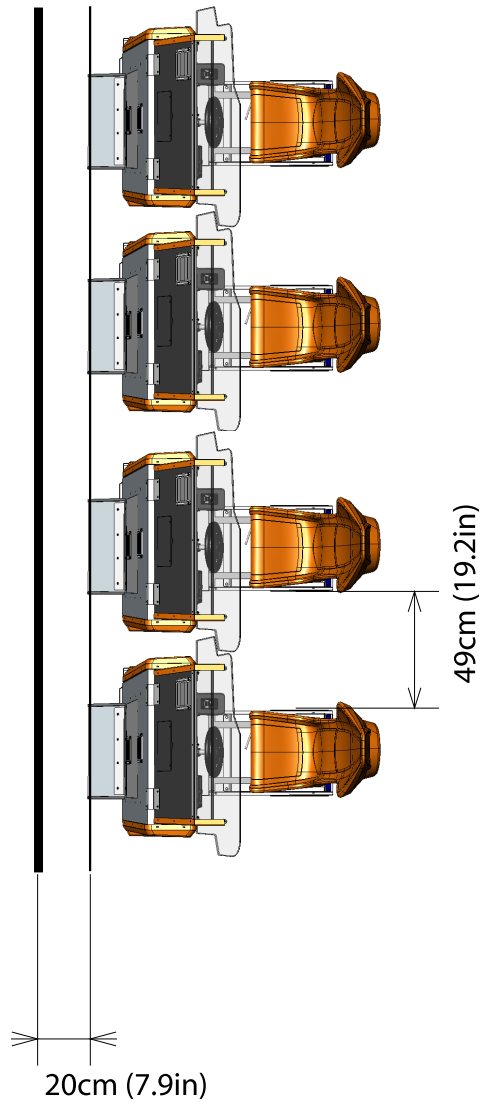
17-1 Fig 01

17-2 CONNECTING THE COMMUNICATION CABLE

To enable network play, the Hubs inside each of the game machines involved must be connected with network (LAN) cables. Up to a maximum of 3 machines (6 Players) can be Networked together, all that's required is to link between the Hubs of each of the machines that are to complete the 'Network'.
Do not connect LAN cables to game machines when they are not used for network play.

1 Turn off the power and unplug the power cord from the outlet.

2 Using Chapter 6 of this manual as reference, move the machines so that they are lined up.
Leave enough space behind each Unit to allow access for a Network HUB (only required for 6 or more seats) which when located will be positioned near the Slave Cockpit of each Machine.

3 When linking 2 seats or "Twin" cabinet, use the X-OVER Lan Cable, Pt. No. 600-7270-0200UK (Supplied). Do not use the common Lan Network Cable as this will cause a network failure or possible damage to networking components.

4 When linking 4 or more seats a Hub Kit must be used. Please contact SEGA or your local distributors office for further technical or sales information

5 Once the desired Network connections have been established, power on the machines and enter TEST MODE to allocate each seat a number within the NETWORK TEST.

Lan X-Over Cable (600-7270-0200UK).
(use ONLY when connecting 2 seats).

Network Kit - Not Supplied

Standard Lan Network Cable
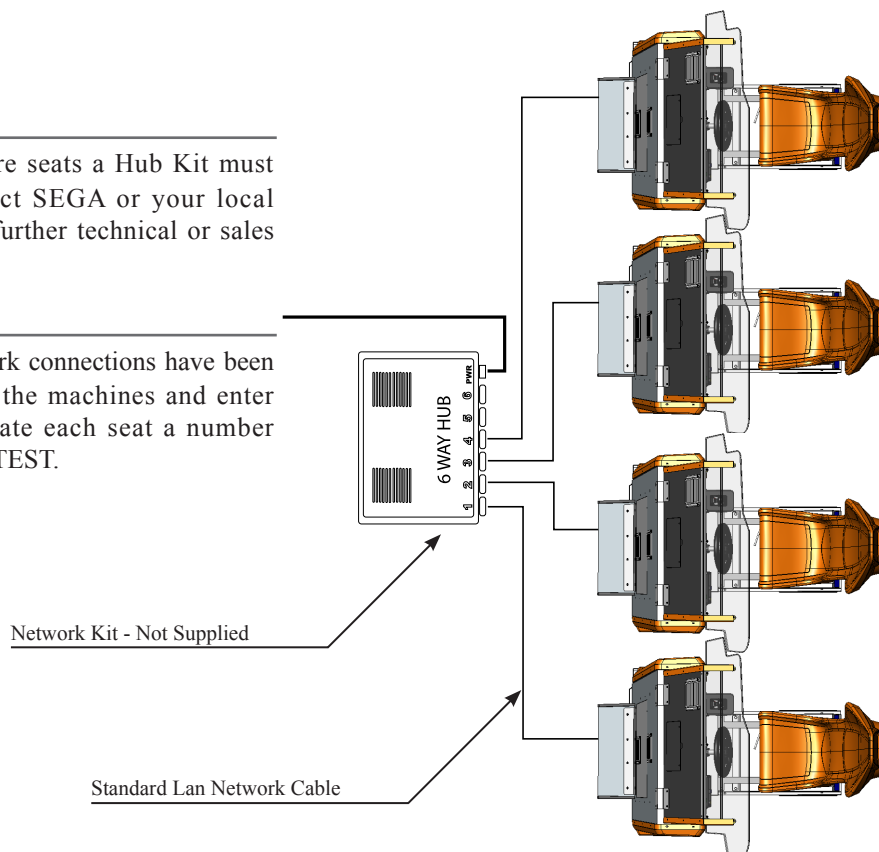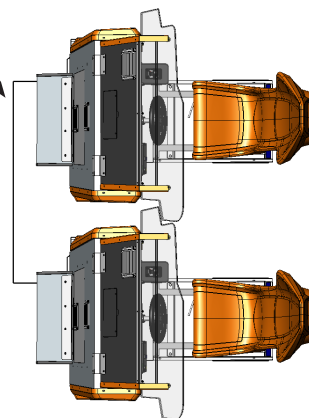
A typical illustration of 4 seats in a network

17-3 NETWORK PLAY SETTINGS

Each of the linked machines must be set up for network play. If the machines are not set up correctly, network play will not be possible.
For this game, up to 4 machines can be connected to allow up to 4 players to play simultaneously.

1 Turn on the power on each machine to be used in network play.

2 Initiate TEST MODE on ALL machines.

3 Select the GAME TEST MODE and press the Test button to display the GAME TEST MENU screen.

4 Select the NETWORK SETTINGS in the GAME TEST MENU screen and press the Test button.

```
                    NETWORK  SETTINGS


              NETWORK STATUS          ON
              CABINET CONNECTED       0
              NETWORK ENABLED         YES
              CABINET ID              1
              CONFIRM CHANGES
         >>   EXIT




              SELECT WITH  SERVICE  BUTTON
                 AND PRESS TEST BUTTON
```
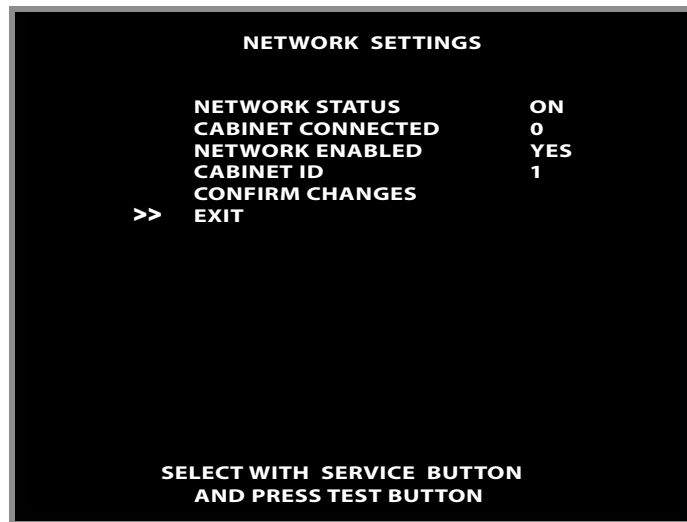
5 Perform the CABINET ID setting. Set the different ID number to each machine. Be sure to assign one of them with the ID number of "1"

6 Cause all of the machines to exit from the TEST MODE. Always select EXIT in the SYSTEM TEST MENU screen.

17-4 NETWORK PLAY PRECAUTIONS

STOP IMPORTANT

- In network play, difficulty level and other settings are made from CABINET ID Number 1. Changing the settings at CABINET ID Number 1 also changes the settings for other units.

- Only use the X-Over network cable (which is RED in colour) supplied to network 2 machines. When connecting 3 or more cabinets a Network Hub MUST be used along with standard Lan Network Cables).

- When networking machines it is important that all trailing network cables are placed safely away from players and observers alike. Untidy cables may cause a trip or electrical hazard.

18 DESIGN-RELATED PARTS

For the warning display stickers, refer to Section 1.

RD-0002UK - STICKER SUB INST

RD-2101UK - START/VIEW/CREDIT

RD-1651-BUK - SEAT STKR UPPR

RD-1654UK - WOOFER PLATE

RD-1651-CUK - SEAT STKR LWR

RD-1613UK - STICKER SEAT BASE

RD-1505UK - STICKER BASE REAR

RD-9004XUK - STICKER MAIN BASE R
RD-9003XUK - STICKER MAIN BASE L

RD-2001-BUK - STICKER METER PANEL
RD-2001-CUK - DESIGN PLATE L
RD-2001-DUK - DESIGN PLATE M
RD-2001-EUK - DESIGN PLATE R

RD-1210BUK - STICKER SIDE R
RD-1209BUK - STICKER SIDE L

RD-0507XUK - BILLBOARD PLATE

19 PARTS LIST

TOP ASSY GRID

*

**

***

****

*****

| RD-0000UK TOP ASSY GRID |

| RD-0300UK ASSY COIN CHUTE TOWER STD |
| RD-0320UK ASSY SW UNIT |
| RD-0500UK ASSY BILLBOARD |
| RD-1000UK ASSY COCKPIT |
| RD-1200UK ASSY MONITOR CABI |
| RD-1250UK ASSY SUB MONITOR CABI |
| ST-1340UK ASSY 240V FAN |
| RD-1280UK ASSY LCD MONITOR |
| RD-1300UK ASSY MONITOR MASK |
| RD-2000UK ASSY CONTROL PANEL |
| RD-2001UK CONTROL PANEL COVER |
| RD-2100UK ASSY SW PLATE |
| RD-1520UK ASSY BASE BOX |
| RD-1530UK ASSY SUB BASE BOX |
| RD-1535UK ASSY BASE LID R |
| RD-1540UK AC UNIT |
| RD-1500UK ASSY MAIN BASE |
| RD-1550UK ASSY BASE BOX LIGHT REAR L |
| RD-1555UK ASSY BASE BOX LIGHT REAR R |
| RD-1600UK ASSY ADJUSTABLE SEAT |
| RD-1650UK ASSY SEAT |
| RD-1670UK ASSY WOOFER |
| RD-1680UK ASSY WOOFER LED |
| RD-4500UK ASSY MAIN BD |
| RD-4600UK ASSY ELEC BD |

ITEM NO	PART NUMBER	DESCRIPTION	QTY
*1	PD-0300XUK	ASSY COIN CHUTE TOWER	1
*3	RD-1000ZUK	ASSY COCKPIT	2
*5	RD-0004UK	PLATE CCT BLANK	2
*6	421-7988-91UK	STICKER SERIAL NUMBER UK	2
*7	PD-1355UK	BRKT SPKR PNL LWR	2
*8	RD-0507XUK	CENTRE PNL SPKR LEADER	2
*10	PD-0053UK	WIRE COVER TW L	1
*11	PD-0054UK	WIRE COVER TW R	1
*12	421-7020UK	STICKER CAUTION FORK	2
*13	PD-0051UK	BOX SPACER CCT TW L	1
*14	PD-0052UK	BOX SPACER CCT TW R	1
*15	440-CS0186UK	STICKER C EPILEPSY MULTI	2
*17	LB1102	STICKER DANGEROUS VOLTAGE	6
*18	LB1046	LABEL TESTED FOR ELEC. SAFETY	2
*20	LB1130	LABEL WEEE WHEELIE BIN	2
*201	050-F00800	M8 NUT FLG SER PAS	8
*202	068-852216	M8 WSHR 22OD FLT PAS	16
*203	000-P00408-WB	M4X8 MSCR PAN W/FS BLK	2
*204	000-P00416-WB	M4X16 MSCR PAN W/FS BLK	10
*205	068-441616-0B	M4 WSHR 16OD FLT BLK	10
*206	000-P00412-W	M4X12 MSCR PAN W/FS PAS	1
*207	060-F00400	M4 WSHR FORM A FLT PAS	7
*211	050-U00800	M8 NUT NYLOK PAS	8
*212	OS1019	SELF SEAL BAG 9X12.3/4	1
*213	000-T00416-0B	M4X16 MSCR TH BLK	16
*214	030-000620-SB	M6X20 BLT W/S BLK	2
*215	060-F00600-OB	M6 WSHR FORM A FLT BLK	2
*301	600-7269-0200UK	LAN CABLE 200CM	1
*403	LM1227	UK MAINS LEAD 10A WITH PLUG	2
*404	LM1246	EUROLEAD 10A EUROPEAN SOCKET	2
*405		MANUAL KO DRIVE TW	2
*406	SAECE-xxx	DECLARATION OF CONFORMITY	2
*407	PK0485	PALLET PD TW	2
*408	PK0486	SHRINK WRAP PD TW	2
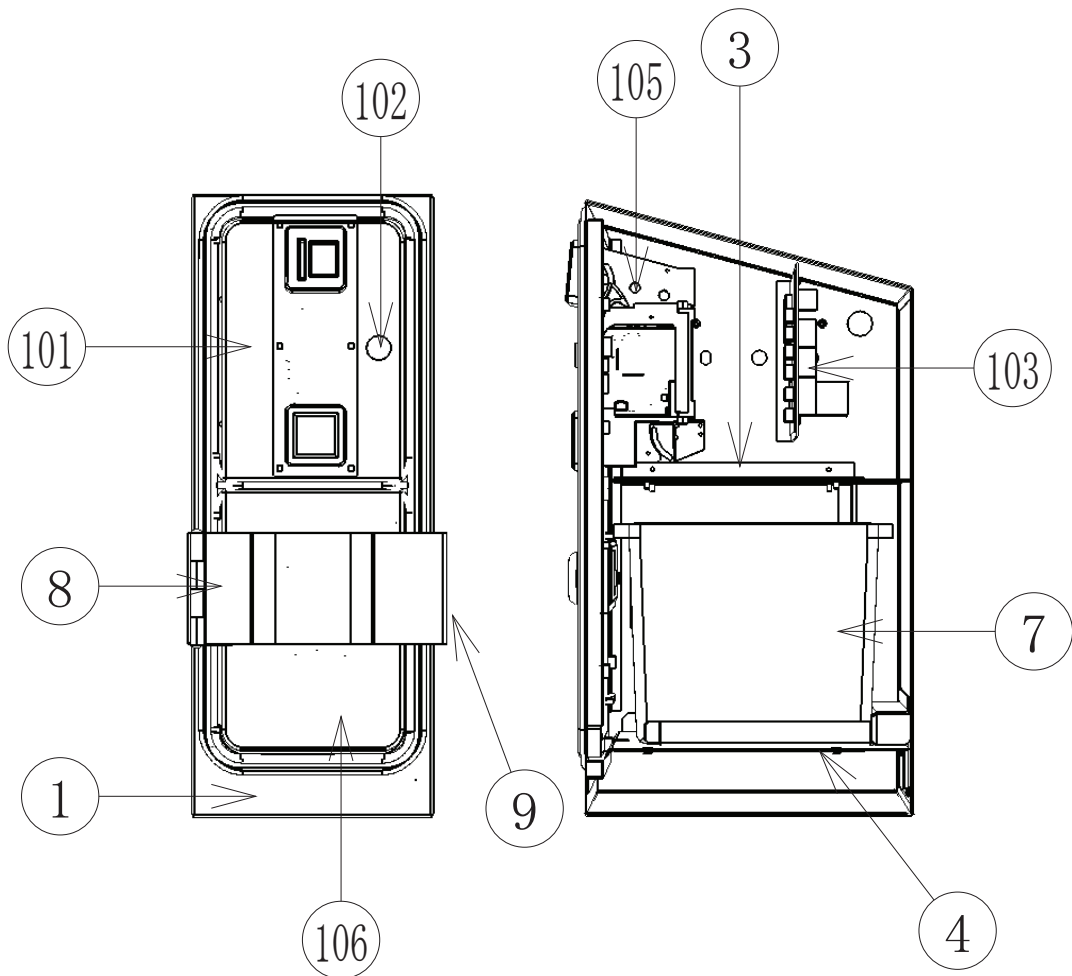
ITEM NO	PART NUMBER	DESCRIPTION	QTY
**1	RD-0301XUK	COIN CHUTE TOWER	1
**3	RD-0352UK	COIN PATH PLATE	1
**4	RD-0353UK	CCT FLOOR	1
**6		STICKER COIN METER	1
**7	PP1087	BOX CASH FOR MINI DOOR	1
**8	TFF-0304UK	LOCKING HASP	1
**9	TFF-0305UK	BRKT PADLOCK	1
**101	220-5374-01	DOOR DFMD W/FR&LOCK C120 UNIV	1
**102	220-5575UK	LOCK (J9117) KEY TO LIKE 22MM W CAM	1
**103	VTS-FRI-T-R	VTS BOARD FRI TWIN	1
**104	OS1247	ALUMINIUM STICKY CLIP ASK-3	3
**105	220-5610-01	SR3 STD BODYBSR3INGB	1
**106	220-5727-01B	DOOR CASH H.S. STS	1
**201	000-P00410-W	M4X10 MSCR PAN W/FS PAS	14
**203	050-U00800	M8 NUT NYLOK PAS	4
**204	068-852216	M8 WSHR 22OD FLT PAS	4
**301	PD-60027UK	WH VTS TWIN	1
**302	LM1006LOR	LOOM COIN MECH LAMP	1
**303	600-9020-44K	WH EARTH 20CM M4M4	1

③ ASSY COCKPIT (RD-1000ZUK)   (D-1/1)
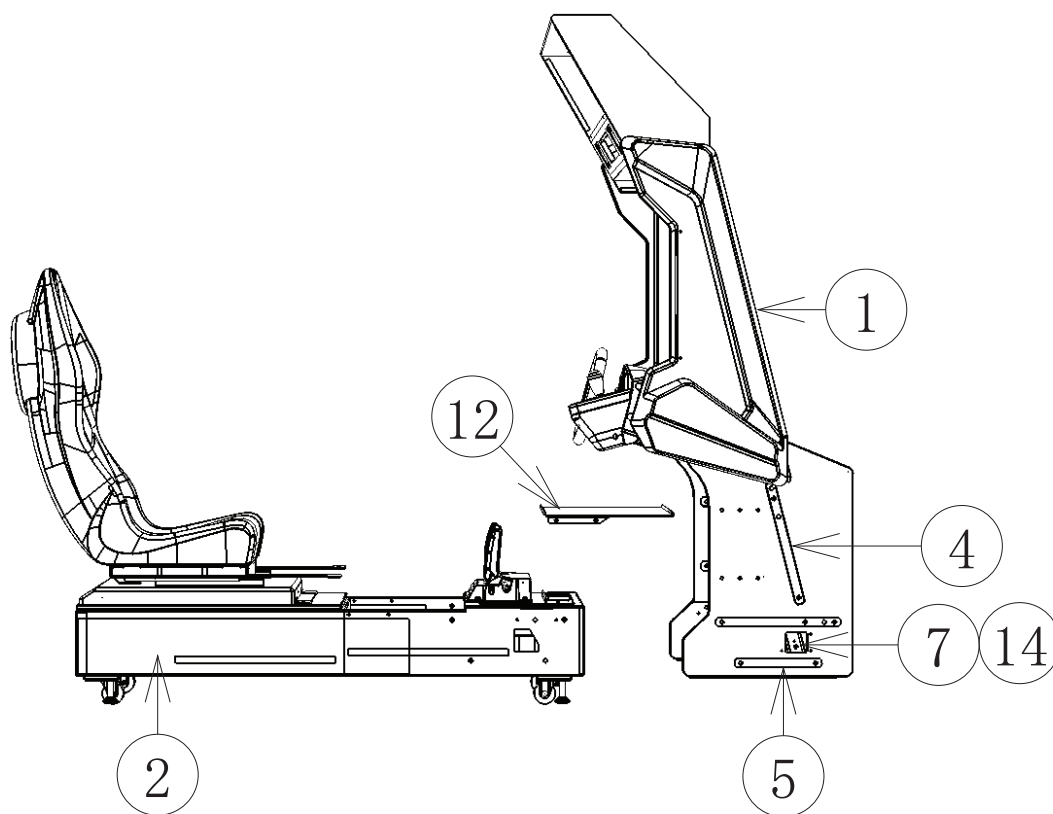
ITEM NO	PART NUMBER	DESCRIPTION	QTY
**1	PD-1200XUK	ASSY MONITOR CABI	1
**2	RD-1500ZUK	ASSY MAIN BASE	1
**4	RD-1001UK	MON CABI PLATE UPPER	4
**5	RD-1002UK	MON CABI PLATE LOWER	2
**7	RD-1004UK	STRUT CABINET SUPPORT	2
**8	RD-1005UK	BRKT OUTER CABI SUPP	2
**12	PD-1502UK	BASE LID F	1
**14	RD-1011UK	PLATE CONN BASE BOX	1
**201	030-000840-SB	M8X40 BLT W/S BLK	14
**202	068-852216-0B	M8 WSHR 22OD FLT BLK	18
**205	050-F00400	M4 NUT FLG SER PAS	3
**207	060-F00400	M4 WSHR FORM A FLT PAS	3
**209	000-T00512-0C	M5X12 MSCR TH CRM	4
**210	030-000635-S	M6X35 BLT W/S PAS	6
**211	031-000640-0B	M6X40 CRG BLT BLK	8
**212	068-652016	M6 WSHR 20OD FLT PAS	14
**213	050-F00600	M6 NUT FLG SER PAS	8
**301	600-9010-44K	WH EARTH 10CM M4M4	3
**302	600-9020-44K	WH EARTH 20CM M4M4	4
**303	600-9040-44K	WH EARTH 40CM M4M4	1
**304	600-9050-44K	WH EARTH 50CM M4M4	1
**305	600-9060-44K	WH EARTH 60CM M4M4	1
**306	600-9120-44K	WH EARTH 120CM M4M4	1
**307	600-7009-1800UK	ASSY RGB CA D-SUB 15	1
**308	RD-60042UK	WH COIN HANDLING B	1

PARTS LIST

④ ASSY COCKPIT (RD-1000UK) (D-2/2)

ITEM NO	PART NUMBER	DESCRIPTION	QTY
**1	RD-1200UK	ASSY MONITOR CABI	1
**2	RD-1500UK	ASSY MAIN BASE	1
**4	RD-1001UK	MON CABI PLATE UPPER	4
**5	RD-1002UK	MON CABI PLATE LOWER	2
**7	RD-1004UK	STRUT CABINET SUPPORT	2
**8	RD-1005UK	BRKT OUTER CABI SUPP	2
**9	RD-1007UK	BRKT TOP CABI SUPP	2
**10	RD-1009UK	BRKT STRUT BASE L	1
**11	RD-1010UK	BRKT STRUT BASE R	1
**12	RD-1502UK	BASE LID F	1
**201	030-000835-SB	M8X35 BLT W/S BLK	14
**202	068-852216-0B	M8 WSHR 22OD FLT BLK	18
**205	050-F00400	M4 NUT FLG SER PAS	3
**207	060-F00400	M4 WSHR FORM A FLT PAS	3
**209	000-T00512-0C	M5X12 MSCR TH CRM	4
**210	030-000635-S	M6X35 BLT W/S PAS	6
**211	031-000640-0B	M6X40 CRG BLT BLK	8
**212	068-652016	M6 WSHR 20OD FLT PAS	14
**213	050-F00600	M6 NUT FLG SER PAS	8
**214	030-000830-S	M8X30 BLT W/S PAS	4
**215	030-000630-SB	M6X30 BLT W/S BLK	2
**216	030-000616-SB	M6X16 BLT W/S BLK	2
**301	600-9010-44K	WH EARTH 10CM M4M4	1
**302	600-9020-44K	WH EARTH 20CM M4M4	2
**303	600-9030-44K	WH EARTH 30CM M4M4	1
**304	600-9050-44K	WH EARTH 50CM M4M4	1
**305	600-9060-44K	WH EARTH 60CM M4M4	2
**306	600-9120-44K	WH EARTH 120CM M4M4	2
**307	600-7009-2500UK	ASSY RGB CA D-SUB 15	1

⑤ ASSY MONITOR CABI (RD-1200UK)   (D-2/2)

ITEM NO	PART NUMBER	DESCRIPTION	QTY
***1	PD-1250XUK	ASSY SUB MONITOR CABI	1
***3	PD-1290UK	ASSY 42" LCD MONITOR	1
***4	130-5284	SPEAKER 8OHM F01612HO NJS	2
***5	PD-1300XUK	ASSY MONITOR MASK	1
***7	RD-2000ZUK	ASSY CONTROL PANEL	1
***10	RD-1203UK	SIDE PANEL HOLDER	2
***12	GST-1340UK	ASSY 12V DC FAN	1
***14	RD-1207UK	MONITOR CABI SPACER L	1
***15	RD-1208UK	MONITOR CABI SPACER R	1
***17	RD-1214UK	CHUTE TOWER HOLDER	4
***19	RD-1209-AUK	SIDE PANEL L BLANK	1
***20	RD-1210-AUK	SIDE PANEL R BLANK	1
***21	PD-1209-BUK	STICKER SIDE PANEL L	1
***22	RD-1210-BUK	STICKER SIDE PANEL R	1
***101	253-5460-01	AIR VENT BLACK	3
***102	FR-838-001UK	MOTOR CONT ISO HAPP 50-2000-03	1
***103	400-050-024-01	PSU 24VDC 50W MW LPS-50-24	1
***104	400-075-024-01	PSU 24VDC 75W MW LPS-75-24	1
***105	838-0005UK	I/O BOARD SAE	1
***106	838-14988	2 CH 30W AUDIO AMP ST	1
***107	400-065-0512-01	PSU 5V-12V DC 65W MW RPD-65C	1
***108	OS1011	PCB FEET RICHCO LCBS-L-5-01	12
***112	838-14551-02UK	AC DISTRIBUTION BOARD	1
***113	CFB-4003-01UK	EARTH TERMINAL PLATE	1
***201	000-P00416-WB	M4X16 MSCR PAN W/FS BLK	6
***202	050-F00600	M6 NUT FLG SER PAS	8
***203	012-P03506-F	N6X1/4" S/TAP FLG PAS	12
***204	068-652016	M6 WSHR 20OD FLT PAS	8
***205	012-P03512-F	N6X1/2" S/TAP FLG PAS	10
***206	068-441616-0B	M4 WSHR 16OD FLT BLK	24
***207	029-B00870-OB	M8X70 SKT BH BLK	6
***208	060-F00800-0B	M8 WSHR FORM A FLT BLK	6
***209	068-852216-0B	M8 WSHR 22OD FLT BLK	2
***210	000-T00412-0B	M4X12 MSCR TH BLK	18
***211	012-F03512	N6X1/2" S/TAP CSK PAS	12
***212	000-T00416-0B	M4X16 MSCR TH BLK	12
***213	050-F00400	M4 NUT FLG SER PAS	3
***214	060-F00400	M4 WSHR FORM A FLT PAS	6
***216	000-P00420-WB	M4X20 MSCR PAN W/FS BLK	4
***217	000-P00410-W	M4X10 MSCR PAN W/FS PAS	4
***218	012-P00325	N4X1" S/TAP PAN PAS	12
***301	RD-60001UK	WH AC TO DIST	1
***303	RD-60006UK	WH DC I/O	1
***304	RD-60007UK	WH DC AMP	1
***301	RD-60004UK	WH LED FRONT CABI	1
***302	RD-60011UK	WH SPEAKER B	1
***303	RD-60017UK	WH CNTL PNL EXTN	1
***304	RD-60029UK	WH AC BB LCD	1
***306	RD-60038UK	WH LED FLEXI LINK	1
***307	RD-60020UK	WH SPEAKER D	2
***308	RD-60018UK	WH RACE LEADER	1
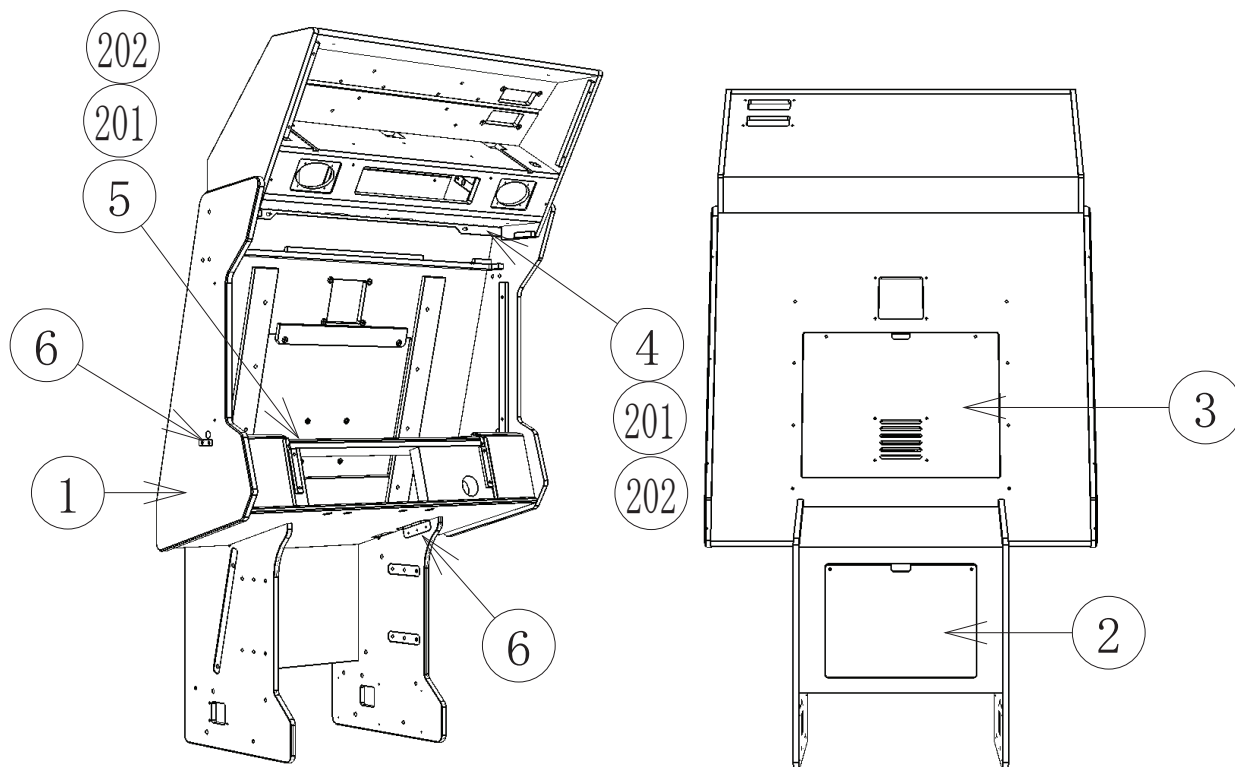
ITEM NO	PART NUMBER	DESCRIPTION	QTY
****1	PD-1251UK	MONITOR CABINET	1
*****2	RD-1021UK	WOODEN LOWER DOOR	1
*****3	RD-1003UK	UPPER DOOR	1
****4	PD-1257UK	BRKT 42 MONITOR UPPER SUPPORT	1
****5	PD-1255UK	MONITOR SUPPORT	1
****6	RD-1256UK	MONITOR SUPPORT PLATE	4
****201	030-000630-SB	M6X30 BLT W/S BLK	9
****202	068-652016	M6 WSHR 20OD FLT PAS	6

⑦ ASSY LCD MONITOR (PD-1290UK)   (D-1/1)
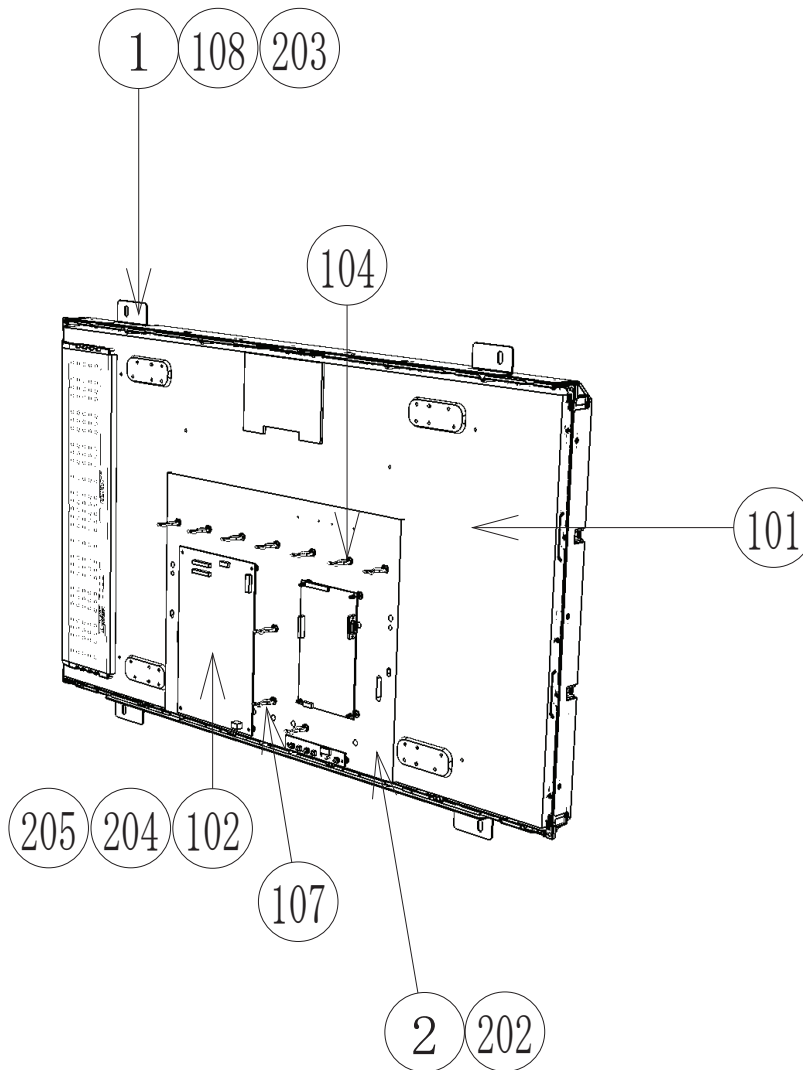
ITEM NO	PART NUMBER	DESCRIPTION	QTY
****1	PD-1281UK	LCD BRKT	2
****2	GST-1110UK	PANEL PRISMA BD MOUNT	1
****101	200-6042-01-AUO	DISPLAY 42" LCD T420HW09-V2	1
****102	400-242-024-01	PSU 42" LCD PVP-2420	1
****103	280-L00640-WX	STANDOFF 6MM WOOD XL	4
****104	280-A00748-PM	ROUTER TWIST D7 SO4.8 PANEL M	4
****107	280-A01264-WX	ROUTER TWIST D12 SO6.4 WOOD X	4
****108	OS1230	FOAM STRIP 2MM X 10MM	2.3m
****202	000-P00416-W	M4X16 MSCR PAN W/FS PAS	2
****203	000-P00410-W	M4X10 MSCR PAN W/FS PAS	6
****204	012-P00320	N4X3/4" S/TAP PAN PAS	7
****205	280-L00709-OS	STANDOFF 7OD 4ID 9L	7

(8) ASSY MONITOR MASK (PD-1300XUK)   (D-1/1)
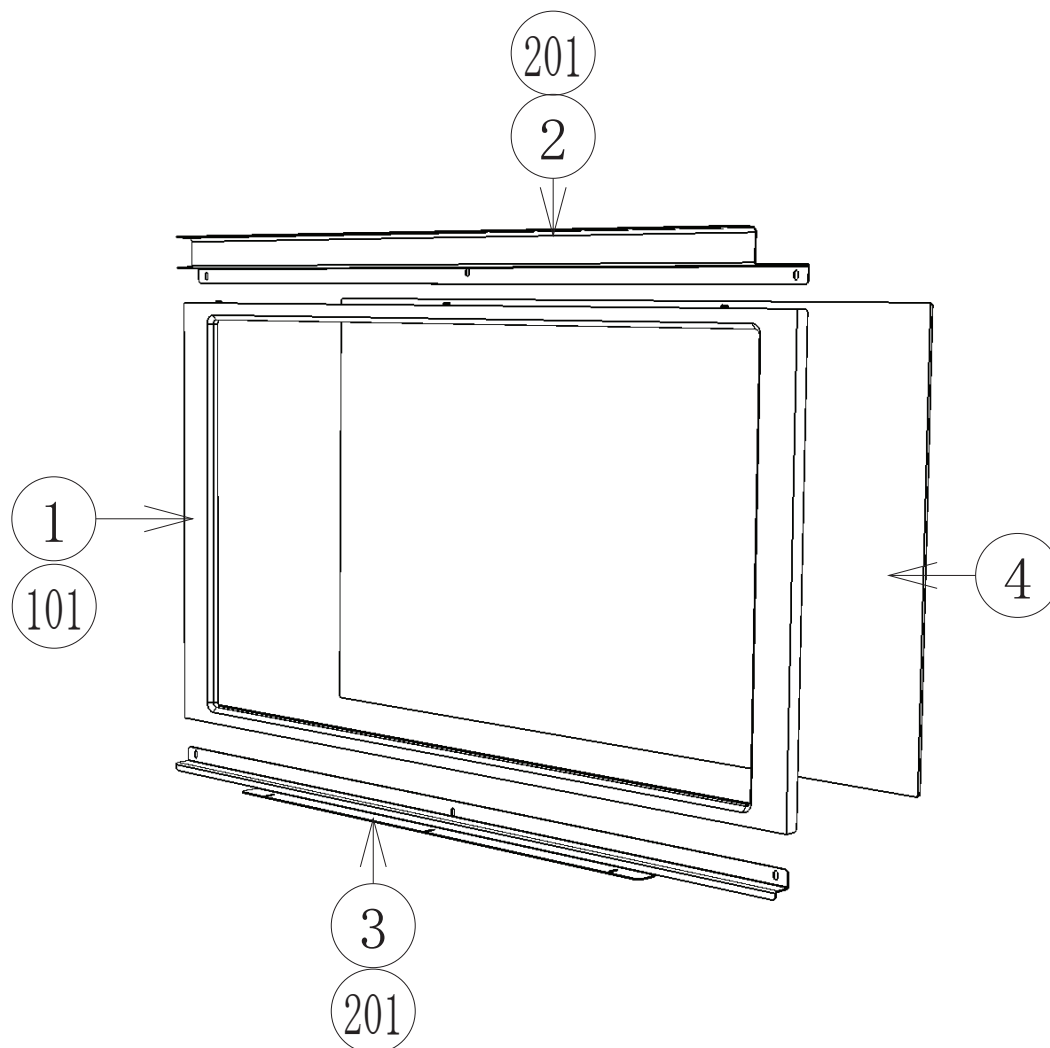
ITEM NO	PART NUMBER	DESCRIPTION	QTY
****1	PD-1301UK	MASK MONITOR	1
****2	PD-1304UK	BRKT MASK UPPER	1
****3	PD-1305UK	BRKT MASK LOWER	1
****4	PD-1308XUK	GLASS 42 LCD PROTECTIVE	1
****101	OS1230	FOAM STRIP 2MM X 10MM	2m
****201	000-P00410-W	M4X10 MSCR PAN W/FS PAS	5

⑨ ASSY MAIN BASE (PD-1500ZUK) (D-1/2)
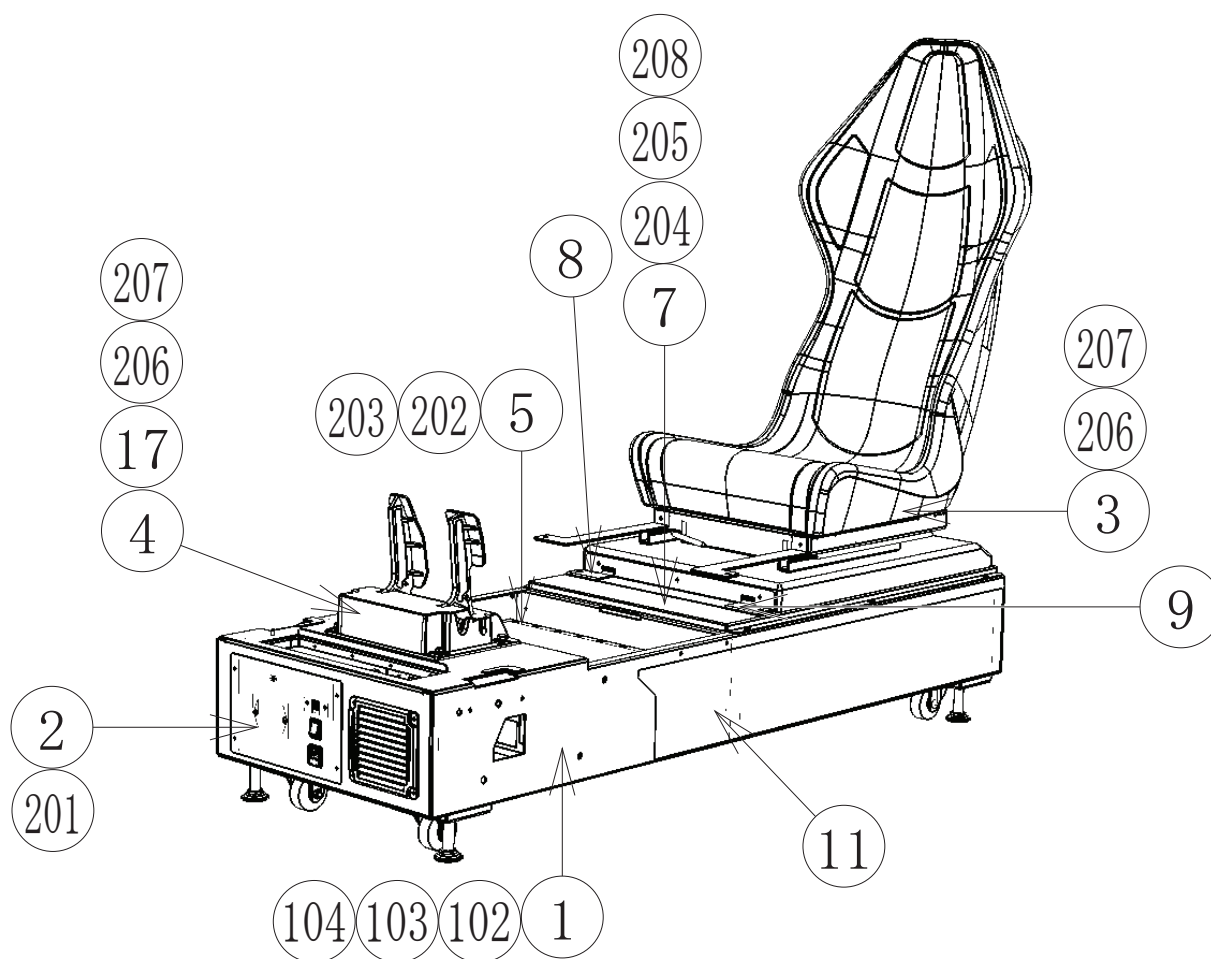
ITEM NO	PART NUMBER	DESCRIPTION	QTY
***1	PD-1520UK	ASSY BASE BOX	1
***2	PD-1540UK	AC UNIT	1
***3	RD-1600ZUK	ASSY ADJUSTABLE SEAT	1
***4	610-0874-01	ASSY ACCEL & BRAKE	1
***5	RD-4500ZUK	ASSY MAIN BD	1
***6			
***7	PD-1535UK	ASSY BASE LID R	1
***8	RAL-2007X	RUBBER HOLDER R TWIN	1
***9	RAL-2008X	RUBBER HOLDER L TWIN	1
***11	RD-9003XUK	STICKER MAIN BASE L	1
***12	RD-9004XUK	STICKER MAIN BASE R	1
***13	RD-1505UK	STICKER MAIN BASE REAR	1
***17	SPG-2224UK	PEDAL GASKET	1
***101	EP1392	15P-VGA GENDER CHANGER	1
***102	260-0012-01UK	FAN DC 12V ROHS	1
***103	FN1012	FAN GUARD METAL 120MM	2
***104	OS1195	RIVET SNAP MOSS SR1811	4

***201	000-P00408-WB	M4X8 MSCR PAN W/FS BLK	4
***202	032-000425	M4X25 W/BLT PAS	2
***203	068-441616	M4 WSHR 16OD FLT PAS	2
***204	030-000620-SB	M6X20 BLT W/S BLK	2
***205	060-F00600-SB	M6 WSHR FORM A FLT BLK	2
***206	030-000825-SB	M8X25 BLT W/S BLK	10
***207	060-F00800-0B	M8 WSHR FORM A FLT BLK	10
***208	008-T00512-0B	M5X12 TMP PRF TH BLK	4
***301	600-9010-44K	WH EARTH 10CM M4M4	1
***302	600-9020-44K	WH EARTH 20CM M4M4	1
***303	RD-60023UK	WH PEDALS EXTN	1
***304	RD-60015UK	WH AUDIO LED EXT	1
***305	RD-60048UK	WH AC GAMEBOARD	1
***306	RD-60050UK	WH BASE FAN	1
****222	000-T00425-0B	M4X25 MSCR TH BLK	4
****223	068-852515-OB	M8 WSHR 25OD FLT BNP	3
****301	SRS-60022UK	WH SHIFTER EXTN	1
****302	RD-60034UK	WH LED DIALS	1
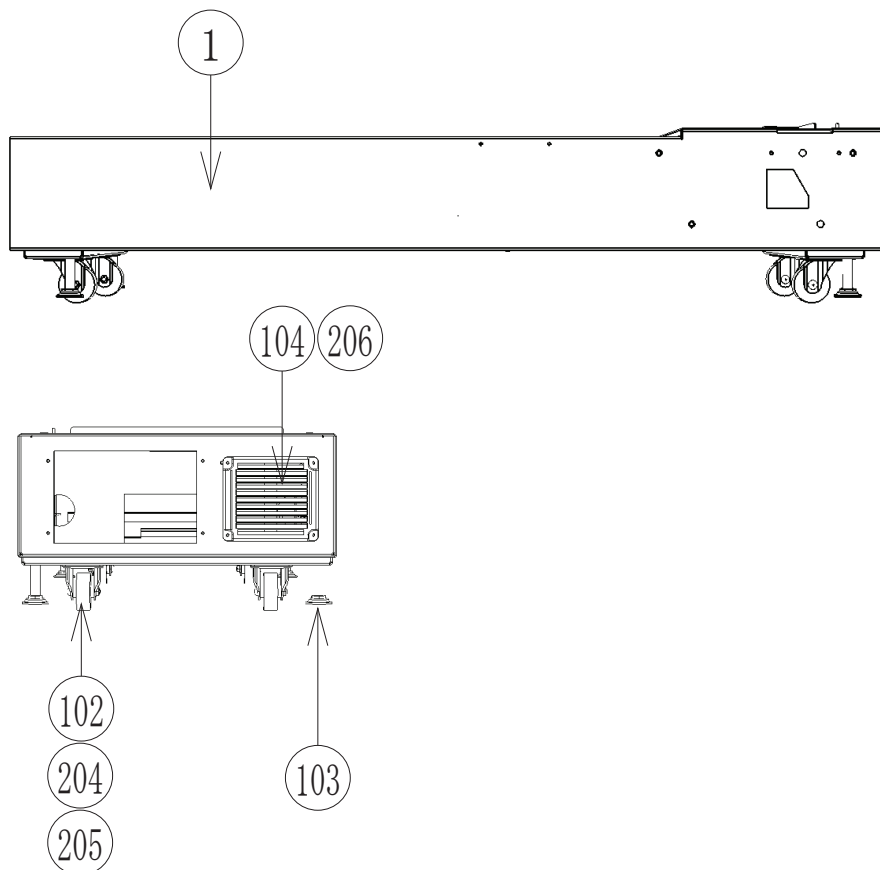
ITEM NO	PAT NUMBER	DESCRIPTION	QTY
****1	PD-1531UK	MAIN BASE BLANK	1
****102	MA1007	CASTOR SWIVEL 63mm NYLON	4
****103	601-5699UK-01	LEG ADJ M16X100 1L/NUT	4
****104	253-5460-01	AIR VENT BLACK	1
****204	030-000816	M8X16 BLT PAS	16
****205	060-S00800	M8 WSHR SPR PAS	16
****206	000-T00416-0B	M4X16 MSCR TH BLK	4
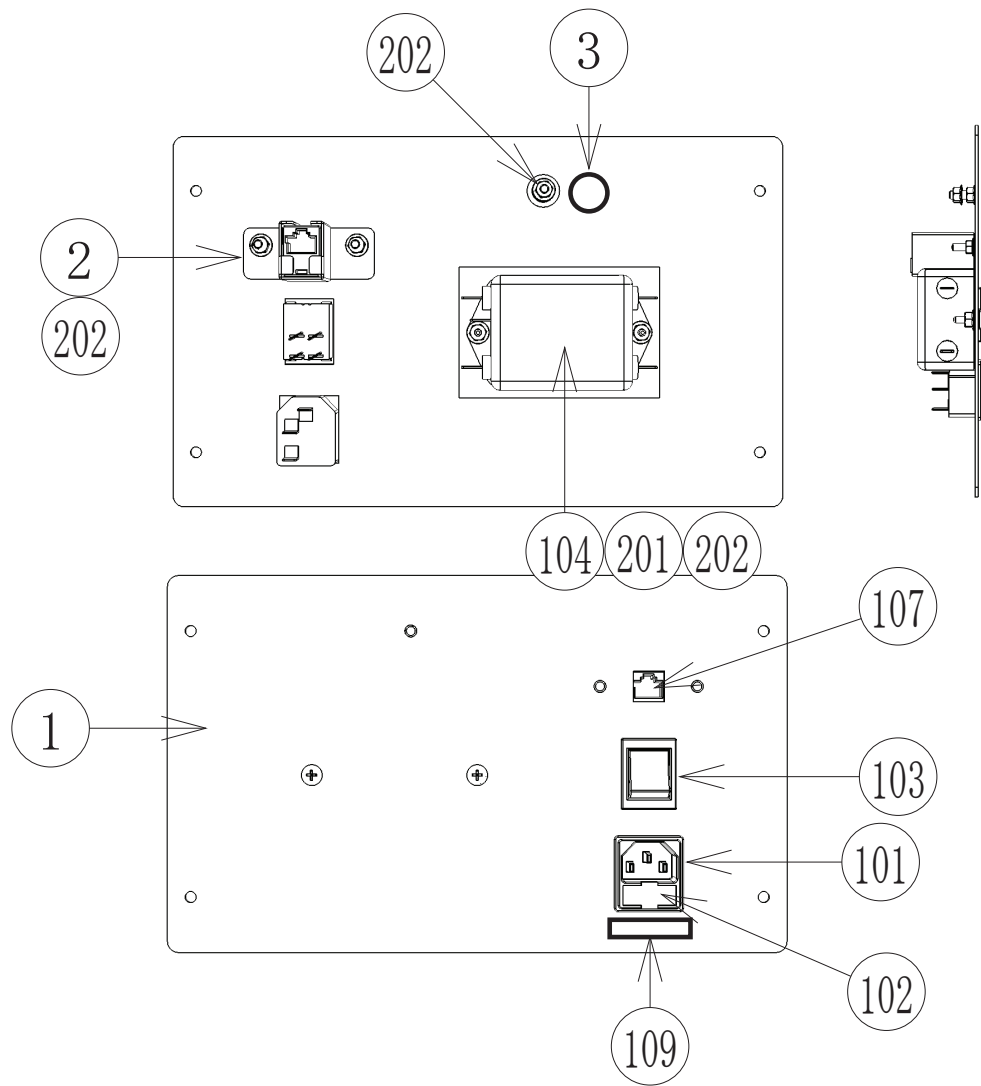
ITEM NO	PAT NUMBER	DESCRIPTION	QTY
****1	PD-1541UK	AC BRKT	1
****2	TFF-0402UK	CONN COVER	1
****3	LB1096	STICKER PROTECTIVE EARTH	1
			1
****101	EP1302	EUROSOCKET FUSED 10A 250VAC	1
****102	514-5078-5000	FUSE 5X20 CERAMIC SB 5000mA	2
****103	SW1109	SWITCH ROCKER 250V AC	1
****104	EP1419	FILTER SCHAFFNER 2030-16-06	1
****107	EP1391	COUPLER INLINE LAN RJ45	1
****108	310-5029-D508	HEAT SHRINK SLEEVING 50.8DIA	4
****109	LB1126-5-250	FUSE LABEL 5A 250V	1
****201	000-P00410-W	M4X10 MSCR PAN W/FS PAS	2
****202	050-F00400	M4 NUT FLG SER PAS	6
			2
****301	TFF-60001UK	WH AC IN	1
****302	600-9020-44K	WH EARTH 20CM M4M4	1
****303	RD-60037UK	WH AC BASE EXTN	1
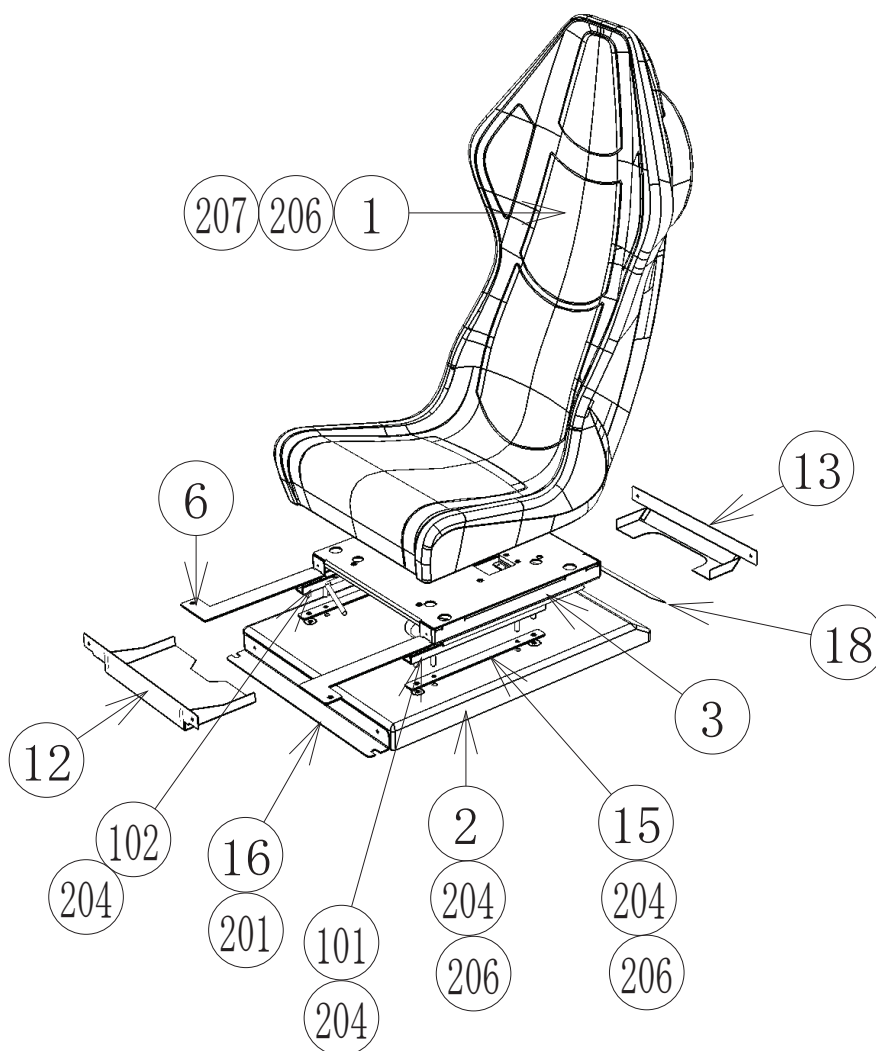
ITEM NO	PAT NUMBER	DESCRIPTION	QTY
****1	RD-1650UK	ASSY SEAT	1
****2	PD-1601UK	SEAT BASE	1
****3	RD-1602UK	SEAT TRAY	1
****6	RD-1605UK	PROTECT RUBBER	2
****12	RD-1611UK	TRAY COVER FRONT	1
****13	RD-1612UK	TRAY COVER REAR	1
****15	PD-1614UK	PLATE SLIDER	2
****16	PD-1615UK	BRKT SEAT BASE FIX	1
****17	RD-1608XUK	DESIGN PLATE BACK	1
****18	RD-1613UK	STICKER SEAT BASE REAR	1
****101	601-9059-91	SEAT RAIL L	1
****102	601-9060-91	SEAT RAIL R	1
****201	000-T00408-0B	M4X8 MSCR TH BLK	
****204	050-U00800	M8 NUT NYLOK PAS	10
****206	068-852216	M8 WSHR 22OD FLT PAS	16
****207	030-000820-S	M8X20 BLT W/S PAS	6
****301	RD-60055UK	WH SEAT	1
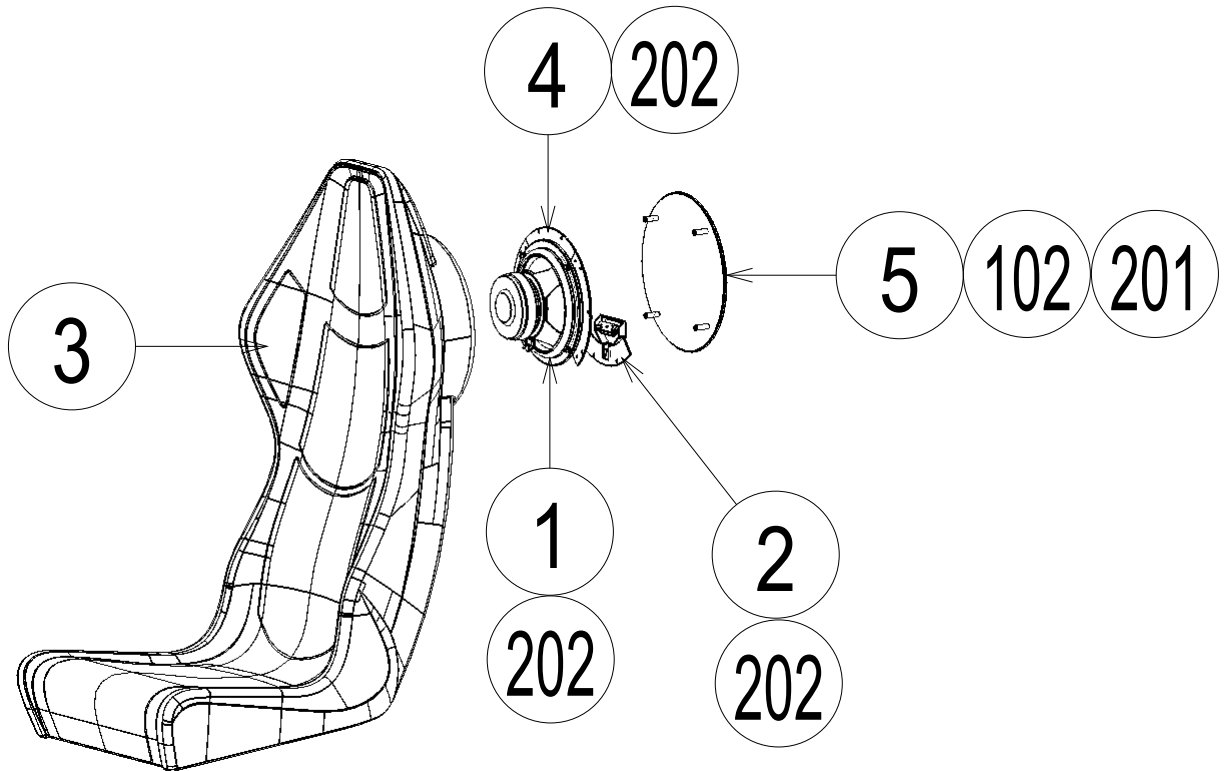
ITEM NO	PART NUMBER	DESCRIPTION	QTY
*****1	RD-1670UK	ASSY WOOFER	1
*****2	RD-1680UK	ASSY WOOFER LED	1
*****3	SRC-1651-01-A	SEAT	1
*****4	RD-1652UK	WOOFER BRKT B	1
*****5	RD-1654UK	WOOFER DESIGN PLATE	1
*****6	RD-1651-BUK	STICKER SEAT UPPER	1
*****7	RD-1651-CUK	STICKER SEAT LOWER	1
*****102	280-6686-01UK	4.5X16X4 SP WSHR	4
*****201	FAS-290042	M4X12 HEX SKT LH CAP SCR STN	4
*****202	012-P00416-FZ	N8X5/8'' S/TAP FLG 0Z	10

⑭ ASSY WOOFER (RD-1670UK)

(D-1/1)
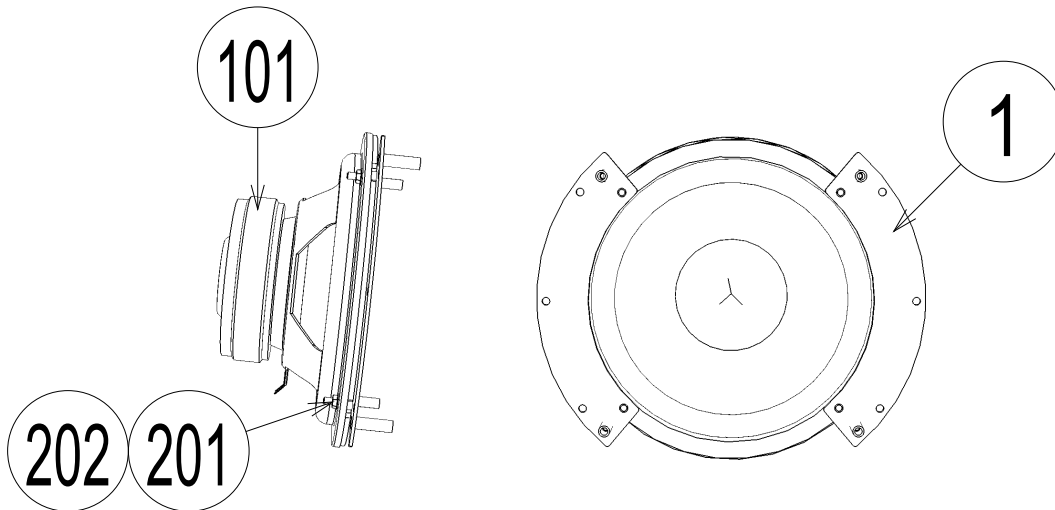
ITEM NO	PART NUMBER	DESCRIPTION	QTY
******1	RD-1671UK	WOOFER BRKT A	2
******3	280-L00808-OS	STANDOFF 7.94OD 4.93ID 7.94L	4
******101	130-5280	WOOFER 4OHM 80W SILVER RNE	1
******201	060-F00400	M4 WSHR FORM A FLT PAS	4
******202	050-U00400	M4 NUT NYLOK PAS	4

⑮ ASSY WOOFER LED (RD-1680UK)

(D-1/1)
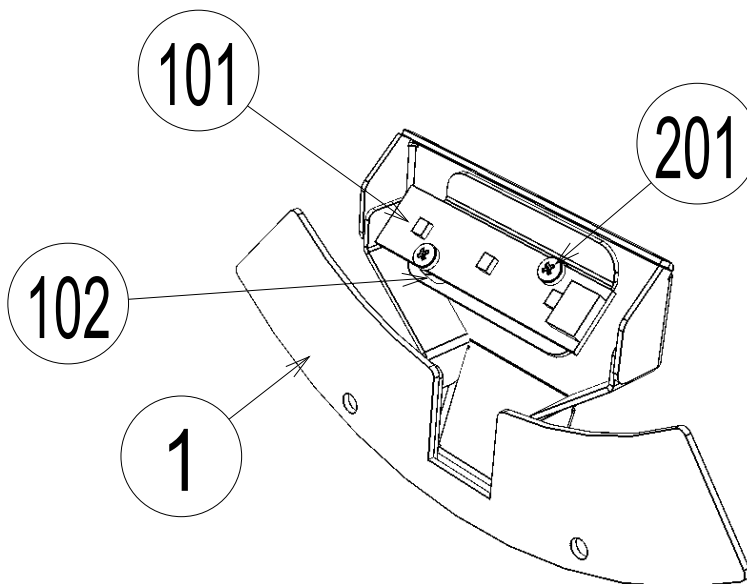
ITEM NO	PART NUMBER	DESCRIPTION	QTY
******1	RD-1681UK	WOOFER BRKT C	1
******101	838-14973-01	LED BD RGB 3X1BLOCK	1
******102	280-L00605-OS	STANDOFF 6.35OD 3.56ID 4.76L	2
******201	000-P00312-PN	M3X12 MSCR PAN NYLON NAT	2
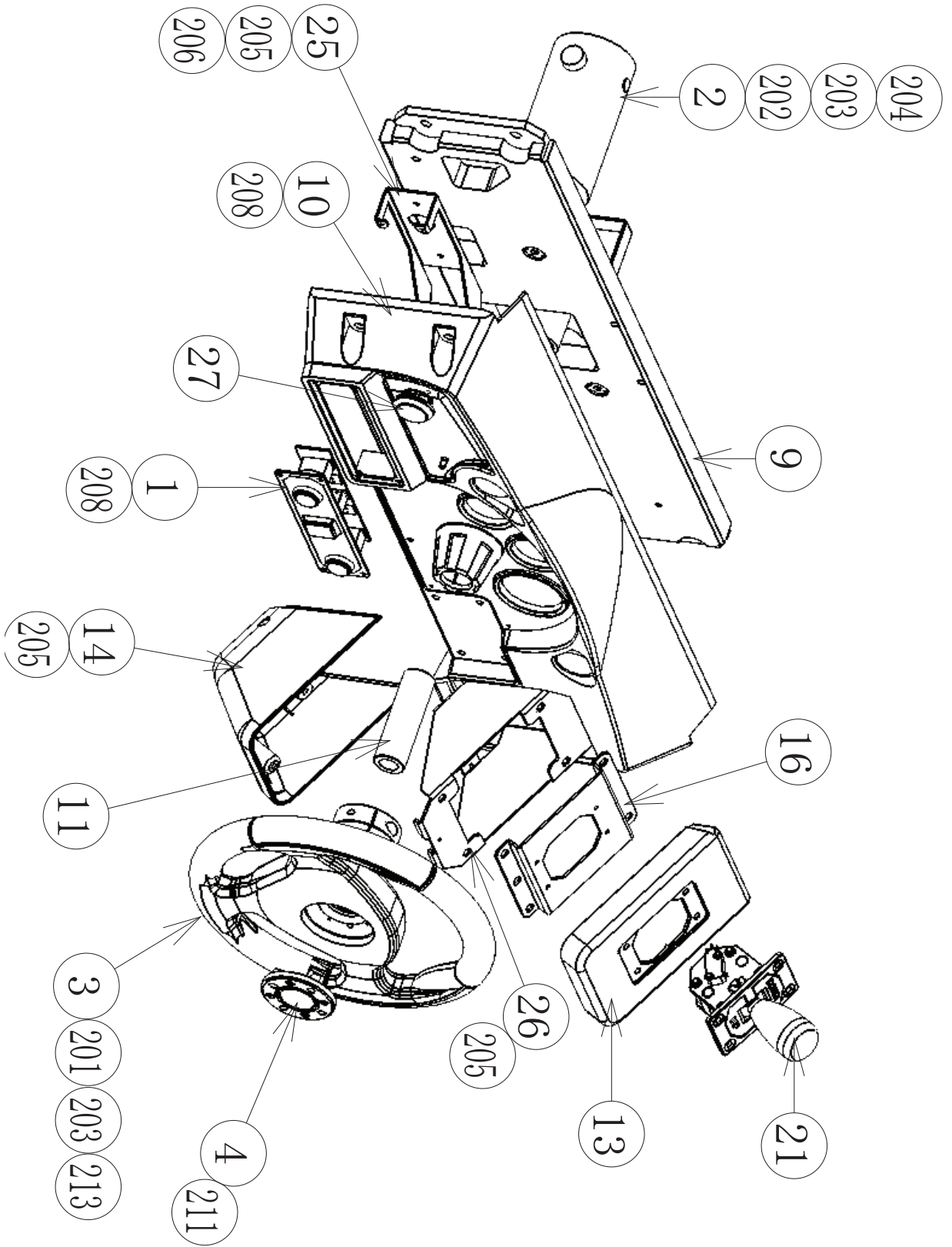
ITEM NO	PART NUMBER	DESCRIPTION	QTY
****1	RD-2200UK	ASSY SW PLATE CREDIT	1
****2	RD-2500UK	MECHA 50-0102-07PT W/SEGA SHAF	1
****3	SPG-2001X	STEERING WHEEL	1
****4	SPG-2002	STEERING EMBLEM	1
****9	RD-2007UK	PANEL HANDLE MECHA	1
****10	RD-2001UK	CTRL PANEL COVER	1
****11	RD-2009UK	HANDLE COLLAR	1
****13	INY-1204	SHIFT COVER INY	1
****14	DYN-1223X	SHIFT COVER B	1
****16	LMN-1202	SHIFT BASE	1
****17	DYN-0010UK	DENOMI PLATE	1
****21	610-0873-01	UP/DOWN SHIFTER	1
****23	RD-0002UK	STICKER SUB INSTR	1
****25	PD-2006UK	BRKT CONTROL BUTTON	1
****26	PD-2003UK	BRKT SHIFTER	1
****27	509-6006-G	BTN CHROME GRN HALO	1
****102	280-A01200-A	ROUTER TWIST D12 ADH	4
****103	280-A02000-A	ROUTER TWIST D20 ADH	1
****201	020-000820	M8X20 BLT PAS	1
****202	060-F00800	M8 WSHR FORM A FLT PAS	4
****203	060-S00800	M8 WSHR SPR PAS	5
****204	050-U00800	M8 NUT NYLOK PAS	4
****205	000-P00412-W	M4X12 MSCR PAN W/FS PAS	8
****206	030-000820-S	M8X20 BLT W/S PAS	4
****208	008-T00416-0B	M4X16 TMP PRF TH BLK	7
****209	000-P00308-W	M3X8 MSCR PAN W/FS PAS	3
****210	000-P00310-W	M3X10 MSCR PAN W/FS PAS	6
****211	FAS-290082	M3X16 SKT CAP BLK	4
****213	060-F01600	M16 WSHR FORM A FLT PAS	2
****214	000-T00416-0B	M4X16 MSCR TH BLK	6
****215	050-F00600	M6 NUT FLG SER PAS	4
****216	060-F00600	M6 WSHR FORM A FLT PAS	4
****217	008-T00420-0B	M4X20 TMP PRF TH BLK	4
****301	SRS-60022UK	WH SHIFTER EXT	1
****302	600-9120-44K	WH EARTH 120CM M4M4	1
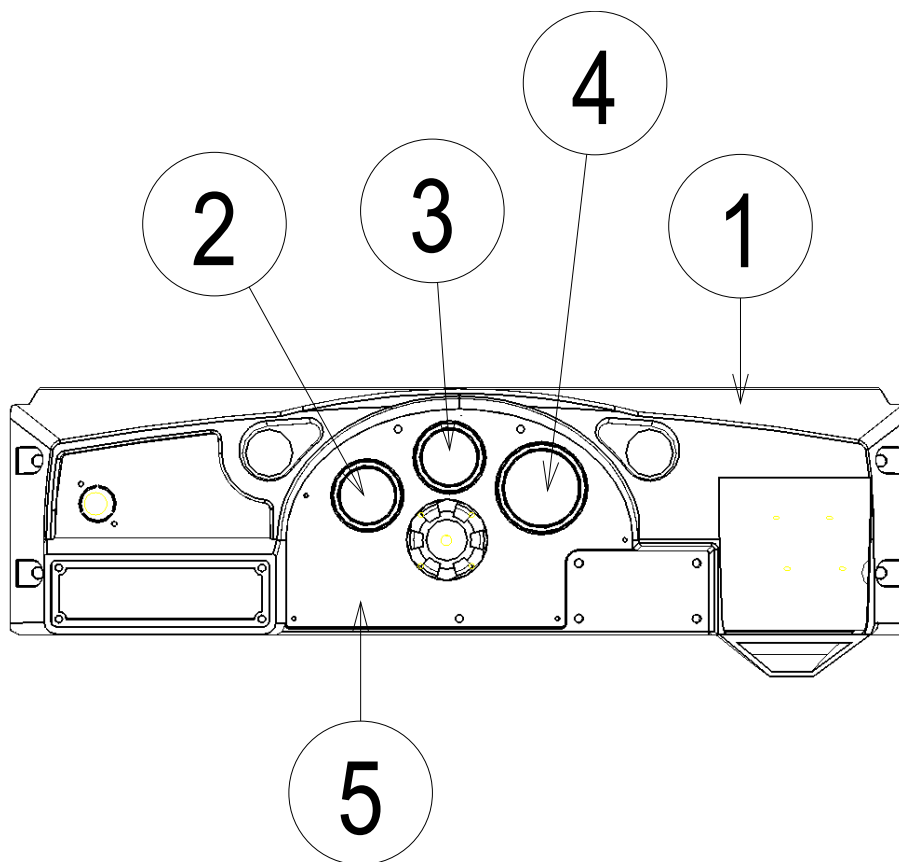
ITEM NO	PAT NUMBER	DESCRIPTION	QTY
****1	SPG-1201X-D	PANEL COVER BLANK	1
****2	RD-2001-CUK	DESIGN PLATE L	1
****3	RD-2001-DUK	DESIGN PLATE M	1
****4	RD-2001-EUK	DESIGN PLATE R	1
****5	RD-2001-BUK	METER PANEL	1

⑱ ASSY SW PLATE CREDIT (RD-2200UK)　　　　(D-1/1)
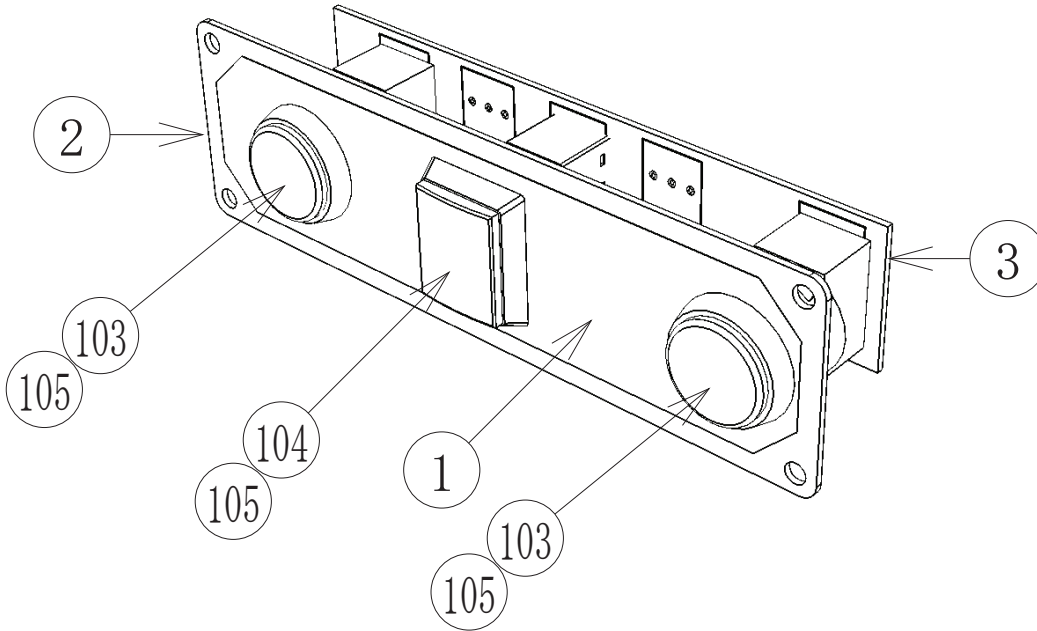
ITEM NO	PAT NUMBER	DESCRIPTION	QTY
*****1	RD-2201UK	STICKER START/VIEW/CREDIT	1
*****2	RD-2202UK	BUTTON PLATE	1
*****3	610-2100-RD-T	ASSY BUTTON PCB	1
******101	171-6478B	PC BD LIGHTING SWX5	1
******102	212-5205-12	CONN JST M 12P RTA	1
******103	509-5560-Y-91	PB SW W/L 6V 1L Y ROHS	2
******104	509-5561-S	PB SW W/L 6V 5L LW5L-15VS	1
*****105	LT1060	BULB 12V BA9S RS-577-465	3
*****301	RD-60021UK	WH BTN PLATE	1
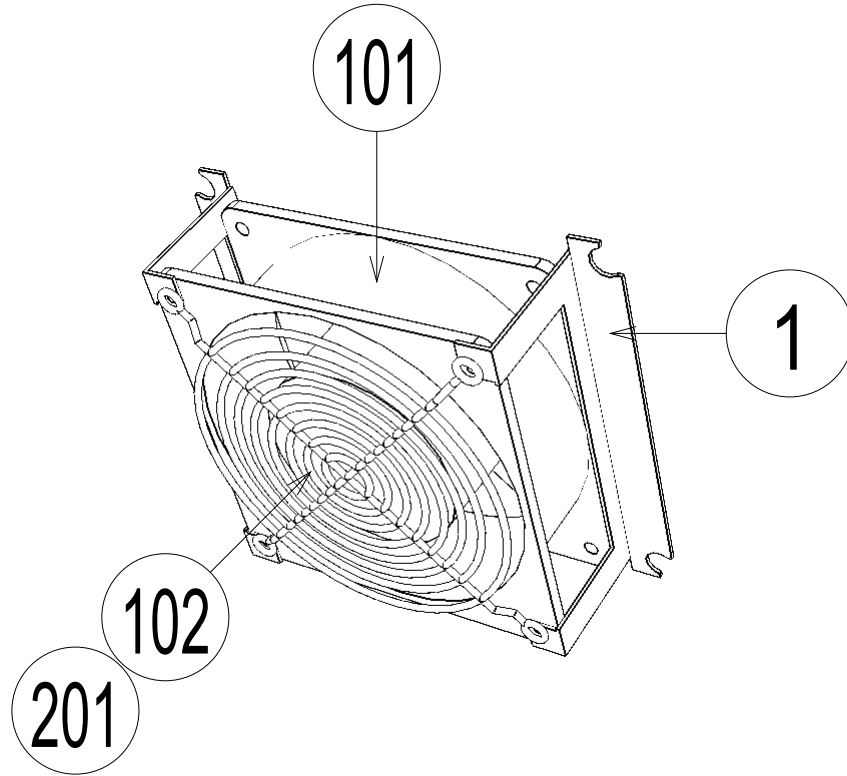
ITEM NO	PART NUMBER	DESCRIPTION	QTY
****1	105-5340-01	FAN BRKT LONG	2
****101	260-0012-01UK	FAN DC 12V RoHs	1
****102	FN1012	FAN GUARD METAL 120MM (FG-12)	1
****201	000-P00312-W	M3X12 MSCR PAN W/FS PAS	4

20 WIRE COLOR CODE TABLE

⚠ WARNING

The DC power wire color for this product is different from previous SEGA titles. Working from the previous wire colors will create a high risk of fire.

The color codes for the wires used in the diagrams in the following chapter are as follows.

A	PINK
B	SKY BLUE
C	BROWN
D	PURPLE
E	LIGHT GREEN

Wires other than those of any of the above 5 single colors will be displayed by 2 alphanumeric characters.

1	RED
2	BLUE
3	YELLOW
4	GREEN
5	WHITE
7	ORANGE
8	BLACK
9	GRAY

If the right-hand side numeral of the code is 0, then the wire will be of a single color shown by the left-hand side numeral (see the above).

Note 1:   If the right-hand side numeral is not 0, that particular wire has a spiral color code. The left-hand side character shows the base color and the right-hand side one, the spiral color.

<Example> 51·········WHITE/RED

RED   WHITE
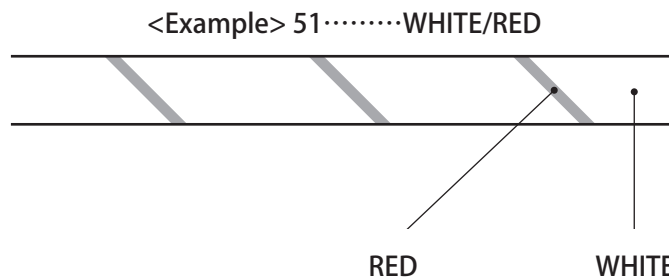
Note 2:   The character following the wire color code indicates the size of the wire.

U :	AWG16
K :	AWG18
L :	AWG20
None :	AWG22

RD-1540UK ASSY AC UNIT

EP1302 IEC INLET
5A
514-5078-5000
SW1103 SWITCH
NOISE FILTER EP 1419
AC BRKT STUD
TFF-60001UK
RD-60001UK

NETWORK PORT (RJ45)
A1 1/3 S

260-0024-01 UK
260-0011-02 USA

RD-60050UK
RD-60051UK

390-2112-090WUK
LED STRIP RIGID WHT +
BE-60028UK

RD-4600UK ASSY ELEC
EARTH PLATE

838-14551-02UK AC DISTRIBUTION BD
RD-60049UK
RD-60037UK
H2 2/3

RD-1500UK ASSY MAIN BASE
FOR USA ONLY
A2 3/3
COIN TOWER PNL MNT DBA POWER

RD-60053UK
RD-60054UK
A2 2/3 F

RD-60049UK

RD-4500UK ASSY MAIN BRD
+3.3V +3.3V GND +5V +5V GND PWR_OK +5SB +12V +12V +3.3V +3.3V -12V GND PS_ON# GND GND GND +5V +5V +5V GND

RD-60048UK
POWER IEC

838-14515-A09 SOUND AMP ANALOG IN
AUDIO L RCA WHITE
AUDIO R RCA RED

SPEAKER L- SPEAKER L+ SPEAKER R- SPEAKER R+ WOOFER + WOOFER -

24V 24V 24V GND GND GND
RD-60007UK
400-050-024-01 SW REGU LPS-50-24

400-065-0512-01 PSU 5V/12V DC 65W MW RPD-65C

400-075-024-01 PSU 24VDC 75W MW LPS-75-24

FR-838-001UK MOTOR CONT HAPP 50-2000-03
MOTOR OUT
+24V 0V
AMP PNL
N/C GND KEY IN 0 IN1 IN2 IN3 DIR
AMP CBT
A5 1/3 G

RD-60052UK

RD-60056UK
RD-60006UK

838-0005UK I/O BD SAE

AVCC1 AVCC2 A1-STEERING AGND3 AVCC4 AVCC5 AGND6 AVCC7 AVCC8 A2 A3-BRAKE A4-ACCEL AVCC AVCC16 AGND17 AVCC18 AGND19 NC20 RA20

5V LED 12V LED I/O LED
RESET BTN

600-7141-100UK
JVS B
A2 1/3 P
CN5 B

ATX PSU
HARD WIRED FROM PSU

DVI + GENDER CHANGER
H1 2/3 P
USB 2
G3 1/3 O
LAN
A1 1/3 S
600-7269-0100

DATA 0 DATA 1 DATA 2 DATA 3 DATA 4
H2 1/3 G
RD-60014UK
P/PORT 25 PIN D TYPE

610-0006-01UK ASSY PC RD
FRONT

RD-60057UK
600-7158-0150UK

SPEAKERS
N H3 2/3

SEAT WOOFER & LEDS
A H4 2/3

VTS
B A3(A1) 3/3

PEDALS
L A5 2/3

CNTRL PNL
K A3 2/3

1	RED	8	BLACK	F LIGHT GREEN
2	BLUE	9	GREY	
3	YELLOW	A	PINK	U AWG 16 UL1015
4	GREEN	B	SKY BLUE	K AWG 18 UL1015
5	WHITE	C	BROWN	L AWG 20 UL1007
6		D	PURPLE	AWG 22 UL1007
7	ORANGE			

COLOUR CODE   WIRE TYPE

DRAWN: RA   CHKD   TOP LEVEL

SEGA AMUSEMENTS EUROPE, LTD.
GRID RACE DRIVER 42 (STD/TWN)
DESCRIPTION

ORIGINAL SIZE A3
RD STD/TWN 1.3
PART NO.

A B C D E F G H

1

RD-0500UK ASSY BILLBOARD

RACE LEADER	
390-2112-040WUK	−
LED STRIP RIGID WHT	+

80 BE-60028UK
30

200-6032-01DT
ASSY LCD 32 TYPE

600-7009-2500UK

RD-1280UK
ASSY LCD
MONITOR

Ⓟ A4
1/2

RD-60047UK

RD-1200UK ASSY MONITOR CABI

Ⓓ H1
1/3

RD-60046UK

Ⓕ P C
H2
1/3

RD-60059UK

MOTOR
M

FR-2500UK ASSY
HADLE MECHA (HAPP)

5K Ohm POT

Ⓒ H3
1/3

2

AMP
MTA
100

CST

RD-60058UK

Ⓚ P C
G5
2/3

RED or YEL depending on harness revision.

L

130-04030-E
4 Ohm 40W

RD-60020UK

RD-60057UK

Ⓝ D5
1/2

3

R

START
VIEW
CREDIT
START
VIEW
CREDIT

SRS-2100UK
ASSY SW PLATE

RD-60021UK

Ⓡ A5
3/3

N/U

509-6006-GUK
RECOVERY
BUTTON
0.250"

130-5280 WOOFER
4 Ohm 80W

RD-1680UK
ASSY SEAT

RD-60055UK

838-14973-01
LED BD RGB
3X1BLOCK

12V		30
RED		C1
GRN		C4
BLU		C2
P.H

RD-60015UK

Ⓐ D5
1/2

RD-1200UK ASSY
MONITOR CABI

UP
DOWN

SRS-60022UK

610-0408-01
UP/DOWN SHIFTER

RD-1500UK ASSY MAIN BASE

4

BLANK

CRIMPS

Ⓛ P C
F5
2/3

RD-60023UK

BRAKE

SPG-2200-01 ASSY
BRAKE & ACCELL

ACCEL

5

EARTH MAP

RD-0320UK
ASSY SW UNIT

RD-60003UK

TEST
SERVICE
GND
VOL1
VOL2
VOL3

TEST   SERVICE   VOL

838-14548-01AUK
SW & VOL CTL BD

AC BRKT

EARTH PLATE

X3 RD-60002UK

600-9020-44K

600-9040-44K

COIN TOWER

CONTROL PANEL

MONITOR FRAME

600-9050-44K

600-9120-44K

600-9060-44K

EP1380-01 EXCEL
CREDIT BOARD

+12V
0V
COIN SIGNAL
12V
METER OUT

COIN INSERT LAMP

RND-60055UK

MECHANICAL COIN MECH

COIN METER

WHMOLEX
3069

BASE BOX

600-9010-44K

BASE LID

600-9020-44K

SEAT BASE

BILLBOARD CONNECTOR BRKT

(RD-60029UK)

FOR DBA

USA STD CABINET

600-9020-44K

RD-1550UK
BASE BOX LIGHT

RD-60043UK

600-9040-44K

RD-1550UK
BASE BOX LIGHT

EU TWIN CABINET

VTS CREDIT BRD

SRS-60027UK

2P VOL MAX
1P VOL MAX
1P CREDIT O/P

2P VOL MIN
1P VOL MIN
1P TEST SW

2P VOL WIPER
1P VOL WIPER
1P SERVICE SW

1P CREDIT SW
2P CREDIT O/P

2P TEST/SERV COM

2P CREDIT SW
LAMP DRIVE
2P TEST SW

1P 0V
CREDIT SW COM
12V LAMP
2P SERVICE SW

1P 12V

VOLMIN
VOLMAX
VOLWIP
T&S COM
TEST
SERVICE
CREDIT O/P
0V
12V

PLAYER 1

RD-60042UK

GND   12V

PLAYER 2

RD-60042UK

CREDIT SW
CREDIT SW COM
LAMP DRIVE
12V (LAMP)

1	RED	8	BLACK	F	LIGHT GREEN
2	BLUE	9	GREY		
3	YELLOW	A	PINK		
4	GREEN	B	SKY BLUE		
5	WHITE	C	BROWN		
6					
7	ORANGE	D	PURPLE		

COLOUR CODE

U	AWG 16 UL1015
K	AWG 18 UL1015
L	AWG 20 UL1007
	AWG 22 UL1007

WIRE TYPE

DRAWN   CHKD   TOP LEVEL

RA

SEGA AMUSEMENTS EUROPE, LTD.

GRID RACE DRIVER 42 (STD/TWN)

DESCRIPTION

THIS DRAWING WILL IN NO WAY BE COPIED.
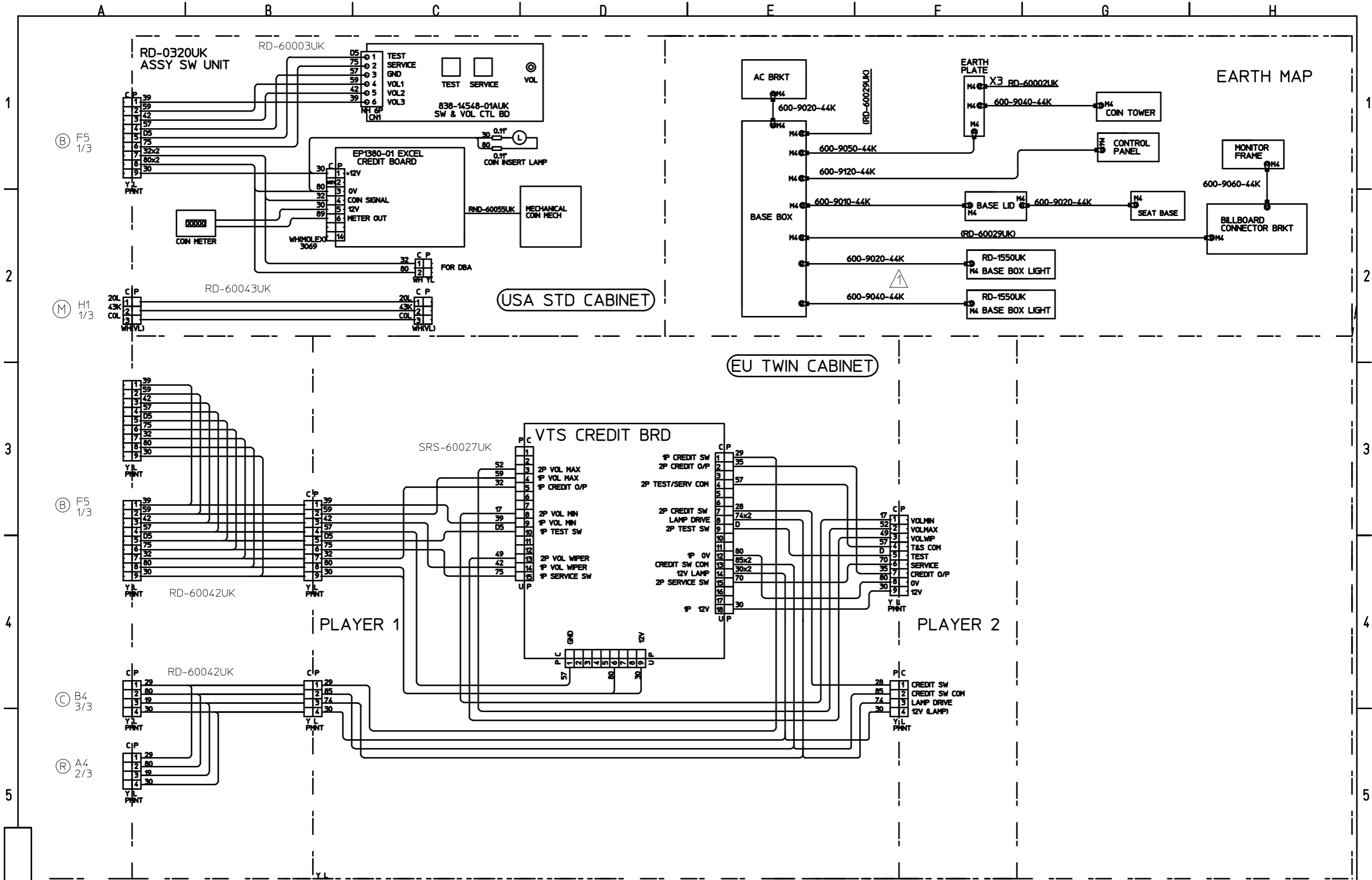TO BE RETURNED ON DEMAND.

ORIGINAL SIZE
A3

RD STD/
TWN 2.3

PART NO.

ALTERATIONS

21 WIRING DIAGRAMS