

SERVICE MANUAL

SEGA®

VIRTUA COP 3

DELUXE TYPE



IMPORTANT!

Before using this product, read this SERVICE MANUAL carefully to understand the contents stated herein. After reading this manual, be sure to keep it available nearby the product or somewhere convenient in order to be able to refer to it whenever necessary.

Manufactured in the UK by

SEGA®



CONTENTS

1.	BEFORE USING THIS PRODUCT	1
1.1.	INSPECTIONS IMMEDIATELY AFTER TRANSPORTING THE PRODUCT TO THE LOCATION	2
2.	INTRODUCTION TO THIS SERVICE MANUAL	4
3.	INSTALLATION AND SERVICE INSTRUCTIONS	5
3.1.	HANDLING AND INSTALLATION PRECAUTIONS	5
3.2.	COIN HANDLING	5
3.3.	NAME OF PARTS	6
3.4.	ACCESSORIES	7
3.5.	SHIPPING THE GAME BOARD	8
3.6.	SHIPPING THE MEDIA BOARD	10
3.7.	SHIPPING THE GD-ROM DRIVE	11
3.8.	ASSEMBLY INSTRUCTIONS	12
3.8.1.	ASSEMBLE THE MACHINE	13
3.8.1.1.	ASSEMBLE THE PTV	13
3.8.1.2.	FITTING THE BILLBOARD	14
3.8.1.3.	INSTALLING THE FOOT PEDAL	17
3.8.1.4.	ATTACH THE GUN CABINET	21
3.8.2.	LEG-LEVELLING PROCEDURE	22
3.8.3.	COIN HANDLING INSTALLATION	23
3.8.3.1.	WIRING CONNECTIONS	24
3.8.4.	CONNECTION TO THE POWER SUPPLY	25
3.8.5.	ADJACENT CONTROL INTERFERENCE PREVENTION	26
3.9.	ASSEMBLY CHECK	27
3.9.1.	MEMORY TEST	27
3.9.2.	C.R.T. TEST	28
3.9.3.	INPUT TEST	29
3.9.4.	OUTPUT TEST	29
3.9.5.	GUN ADJUSTMENT	30
3.10.	MOVING THE MACHINE	31
3.11.	FUSES	32
3.12.	REPLACEMENT OF FLUORESCENT LAMP AND OTHER LAMPS	33
3.12.1.	FLUORESCENT LAMP REPLACEMENT	33
3.12.2.	LAMP REPLACEMENT	34
3.13.	TROUBLESHOOTING	35
3.14.	CONTROLLER UNIT	36
3.14.1.	OPERATION	36
3.14.2.	CONTROL UNIT (GUN CONTROLLER)	37
3.14.2.1.	REPLACING THE MICROSWITCH	37
3.14.2.2.	REPLACING THE SENSOR UNIT	41
3.15.	GAMEBOARD	42
3.15.1.	REMOVING THE BOARD	42
3.15.2.	REMOVING THE GD-ROM DRIVE	44
3.16.	COMPOSITION OF THE GAME BOARD	45
3.17.	PERIODIC CHECK AND INSPECTION	46
4.	HOW TO PLAY	47
4.1.	GAME CONTENTS	48
4.1.1.	The Main Characters	49
4.1.1.1.	1P Character: RAGE	49
4.1.1.2.	2P Character: SMARTY	49
4.1.2.	Playing Virtua Cop 3	49
4.1.2.1.	Start a New Game	49
4.1.2.2.	Calibrating at the Start of the Game	49
4.1.2.3.	Mission Select	49
4.1.2.4.	Game Screen	50
4.1.2.5.	ES Gauge	51
4.1.3.	Game Over	52
4.1.4.	Continue	52
5.	MAINTENANCE INSTRUCTIONS	53
5.1.	EXPLANATION OF TEST AND DATA DISPLAY	53
5.1.1.	VTS ASSEMBLY	55
5.2.	SYSTEM TEST MENU MODE	56
5.2.1.	MEDIA BOARD TEST	57

5.2.2.	SYSTEM INFORMATION	58
5.2.3.	JVS TEST	59
5.2.4.	INPUT TEST Screen.....	60
5.2.5.	SOUND TEST	61
5.2.6.	C.R.T. TEST	62
5.2.7.	COIN ASSIGNMENTS	63
5.2.8.	CLOCK SETTING	66
5.2.9.	NETWORK SETTING (CORE).....	67
5.2.10.	NETWORK SETTING (MEDIA)	68
5.3.	GAME TEST MODE.....	69
5.3.1.	INPUT TEST	70
5.3.2.	OUTPUT TEST	71
5.3.3.	GAME ASSIGNMENTS	72
5.3.4.	GUN ADJUSTMENT	73
5.3.5.	BOOKKEEPING.....	74
5.3.6.	BACKUP DATA CLEAR.....	76
6.	COIN MECH INSTALLATION AND CREDIT BOARD SET UP.....	77
6.1.	INTRODUCTION.....	77
6.1.1.	PRICE OF PLAY SETTINGS UK	79
6.1.2.	PRICE OF PLAY SETTINGS EURO	80
6.1.3.	PRICE OF PLAY SETTINGS Austria-Czech-Denmark-Norway-Israel-France2	81
7.	DESIGN RELATED PARTS.....	82
8.	PARTS LIST	83
8.1.	VCT-0000UK - TOP ASSY VIRTUA COP 3 DX.....	83
8.2.	VCT-0500UK - ASSY PTV	84
8.3.	VCT-0520UK - ASSY BILLBOARD DX	85
8.4.	SPX-0530UK ASSY MASK	87
8.5.	VCT-1000UK ASSY PTV CABI DX.....	88
8.6.	HOD-1020UK ASSY AC UNIT	90
8.7.	VCT-1060UK ASSY LID UPPER	91
8.8.	VCT-1070UK ASSY LID LOWER	92
8.9.	HOD-1070UK ASSY SPEAKER.....	93
8.10.	VCT-1100UK ASSY CONTROLLER CABINET	94
8.11.	VCT-1150UK ASSY FENCE L.....	96
8.12.	VCT-1160UK ASSY FENCE R	97
8.13.	VCT-1200 ASSY FOOT PEDAL DX.....	98
8.14.	VCT-1300UK ASSY FOOT BASE L	99
8.15.	VCT-1310UK ASSY FOOT BASE R.....	100
8.16.	HDT-1530UK ASSY FAN UNIT DC UK.....	101
8.17.	VCT-2000UK ASSY CTRL PANEL DX.....	102
8.18.	SENSOR UNIT (JPT-2030).....	103
8.19.	VCT-2100-01 CONTROL UNIT EXP.....	104
8.20.	VCT-4000UK ASSY MAIN BD DX.....	105
8.21.	VCT-4200UK ASSY PWR SPLY.....	107
8.22.	VCT-INST-DX ASSY INST KIT HDT DX.....	108
9.	APPENDIX A - ELECTRICAL SCHEMATIC.....	109
9.1.	WIRE COLOURS	109
9.2.	ELECTRICAL SCHEMATIC	109

1. BEFORE USING THIS PRODUCT

To ensure the safe usage, be sure to read the following before using the product. The following instructions are intended for the use of QUALIFIED SERVICE PERSONNEL ONLY.

If any activity is carried out on the product, this should be done only after carefully reading and sufficiently understanding the instructions.

Only qualified service personnel should carry out maintenance on the product.

Depending on the potential risk, terms such as "WARNING!" "CAUTION" and "IMPORTANT!" are used where an explanation is given that requires special attention. SEGA is not responsible for injury or damage caused by use in a manner contrary to the instructions given in this document.

In order to prevent accidents warning stickers and printed instructions are applied in the places where a potentially hazardous situation relating to the product could arise. Be sure to comply with these warnings.



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



Indicates that mishandling the product by disregarding this caution will cause a potentially hazardous situation that can result in personal injury and or material damage.



This is cautionary information that should be complied with when handling the product. Indicates that mishandling the product by disregarding this will cause a potentially hazardous situation that may not result in personal injury but could damage the product.

Be sure to turn off the power and disconnect from the mains supply before working on the machine.

Ensure that the correct fuses are fitted to the machine. Details of these are enclosed in the Service Manual.

Ensure that only qualified Service Engineers perform any maintenance work on the machine.

Specification changes, removal of equipment, conversion and/or additions not designated by SEGA are not permitted and will invalidate this product's CE conformity.

Warning labels or safety covers for personal protection etc, are component parts of the product. A potential hazard will be created if the machine is operated while any parts have been removed. Do not operate the product if any doors, lids or protective covers become damaged or lost. SEGA is not liable in any whatsoever for any injury and/or damage caused by specification changes not designated by SEGA.

Before installing the product, check for the Electrical Specification Sticker, SEGA products have a sticker on which the electrical specifications are detailed. Ensure that the product is compatible with the power supply voltage and frequency requirements of the location in which the machine is to be installed.

Install and operate the machine only in places where appropriate lighting is available, allowing warning stickers to be clearly read.

To ensure maximum safety for customers and operators, stickers and printed instructions describing potentially hazardous situations are applied to potentially hazardous locations. Ensure that the product's operating location has sufficient lighting to allow any warnings to be read. If any sticker or printed warning is removed or defaced, do not operate the machine until an identical item has replaced it.

Exercise great care when handling the monitor (applies only to product with monitor). Some of the monitor (TV) parts are subject to high-tension voltage. Even after turning the power off some components are liable to high-tension voltage. Only qualified service engineers should perform monitor repair and replacement.

In cases where commercially available monitors and printers are used, only the items relating to this product are contained in this manual. Some commercially available equipment will have functions and reactions not referred to in this manual. This manual should be read in conjunction with the specific manufacturer's manual for such equipment.

Descriptions contained herein may be subject to change without prior notification.

The contents described herein are fully prepared with due care. However, should any question arise or errors be found please contact **SEGA AMUSEMENTS EUROPE LTD**.

Descriptions contained herein may be subject to change without prior notification.

The contents described herein are fully prepared with due care. However, should any question arise or errors be found please contact SEGA.

1.1. **INSPECTIONS IMMEDIATELY AFTER TRANSPORTING THE PRODUCT TO THE LOCATION**



- Only QUALIFIED SERVICE PERSONNEL should carry out inspection.

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

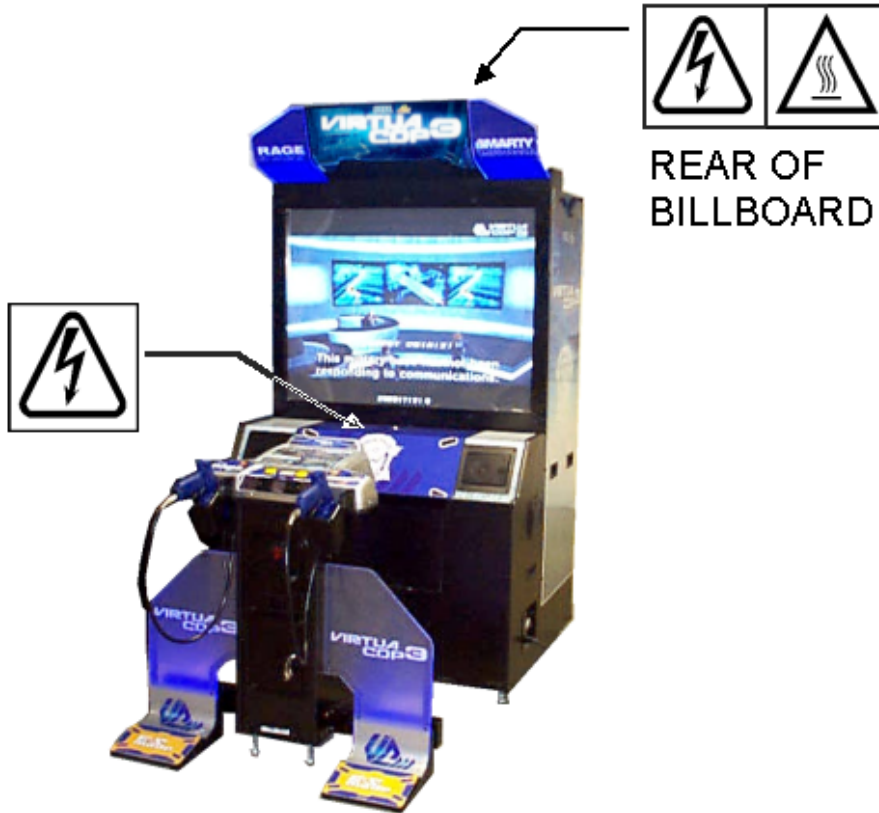
- Are then any dented parts or defects (cuts, etc.) on the external surfaces of the product?
- Are castors and leg adjusters present and undamaged?
- Do the power supply voltage and frequency requirements meet with the local supply?
- Are all wiring connectors correctly and securely connected? Unless connected in the correct direction, connector connections cannot be made successfully. Do not insert connectors forcibly.
- Are all IC's of each IC BD firmly inserted?
- Does the power cord have any cuts or dents?
- Do fuses meet the specified rating?
- Are such units such as monitors, control equipment, IC BD, etc. firmly secured?
- Are all earth wires connected?
- Are all accessories available?
- Can all doors and lids be opened with the accessory keys and/or tools?

CONCERNING THE STICKER DISPLAY

SEGA product has stickers describing the product manufacture number (Serial Number) and electrical specification. If you require service assistance you will require the Serial Number. Identical machines may have different parts fitted internally. Only by quoting the Serial Number will the correct parts be identified.

CONCERNING WARNING STICKERS

SEGA product has warning displays on stickers, labels or printed instructions adhered/attached to or incorporated in the places where hazardous situations can arise. The warning displays are intended for the accident prevention of customers and service personnel.



SPECIFICATIONS

Installation Space (cm): 114 x 190

Height (cm): 215

Weight (kg): 247

Rated Voltage (V.AC): 230/50Hz

Rated Current: 2A

Operating Temperature Range: 5-30°C

Note: Descriptions in this manual are subject to change without prior notice.

2. INTRODUCTION TO THIS SERVICE MANUAL

SEGA ENTERPRISES LTD. supported by its experience in electronic high technology of VLSI's, microprocessors etc. and with a wealth of experience, has for more than 30 years been supplying various innovative and popular games to the world market. This Service Manual is intended to provide detailed descriptions together with all the necessary information covering the general operation of electronic assemblies, electro-mechanicals, servicing controls, spare parts, etc. as regards this new SEGA product. This manual is intended for those who have knowledge of electricity and technical expertise especially in IC's, CRT's, microprocessors etc. Carefully read this manual to acquire sufficient knowledge before working on the machine. Should there be any malfunction, non-technical personnel should under no circumstances touch the internal systems. Should such a situation arise contact our head office.

SEGA AMUSEMENTS EUROPE LTD./ SEGA SERVICE CENTRE

Suite 3a
Oaks House
12 - 22 West Street
Epsom
Surrey
United Kingdom
KT18 7RG

3. INSTALLATION AND SERVICE INSTRUCTIONS



- Only QUALIFIED SERVICE PERSONNEL should carry out installation and commissioning.

3.1. HANDLING AND INSTALLATION 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.

The game must NOT be installed under the following conditions:

- Outside, the game is designed for indoor use only.
- In areas directly exposed to sunlight, high humidity, dust, excessive heat, or extreme cold.
- In locations that would present an obstacle in the case of an emergency i.e. near fire equipment or emergency exits.
- On unstable surfaces or surfaces subject to vibration.
- Where liquids, other than routine cleaning, may come into contact with the game.

Important:

- Only Qualified Service Personnel should install this machine.
- Be sure to switch the supply power OFF and remove the mains supply plug from the machine before any work is carried out on the machine.
- Do not attempt to repair the PCB's (Printed Circuit Boards) yourself. This will void the warranty. The PCB's contain static sensitive devices that could be damaged.
- Always return a faulty part to your distributor with adequate packaging and protection.
- When removing the plug from the mains always grasp the plug not the cable.
- Do not use a fuse that does not meet the specified rating.
- Make sure all connections are secure before applying power.



- Ensure that the mains lead is not damaged. If the mains lead is damaged in any way there could be a danger of electric shock or a fire hazard.
- Ensure that the power supply is fitted with circuit protection. Using the power supply without circuit protection is a fire hazard.

3.2. COIN HANDLING

Standard Sega machines are fitted with a SR3 coin mechanism, however, as a service to our customers Sega machines can be supplied with no coin mechanism or door allowing the customer to fit a coin handling option from the approved list. Fit only the coin handling arrangements detailed below and follow the instructions provided in section 3.8. Failure to fit the coin handling options detailed or failure to follow the installation instructions will render the machine, under the CE marking directive, void.

Approved coin handling options:

- Coin controls SR3
- Generic mechanical
- Mars (MS111B1 and ME115)
- SECI RM4-G20

3.3. NAME OF PARTS




	Width (cm)	Length (cm)	Height (cm)	Weight (kg) [Approx]
PTV	114	53	158	91
BILLBOARD	114	43	30	22
MAIN CABI DX	114	97	94	87
GUN CABI	99	106	99	55
When Assembled	114	165	215	255

3.4. ACCESSORIES

The machine is supplied with an installation kit. Please ensure the following parts are supplied:

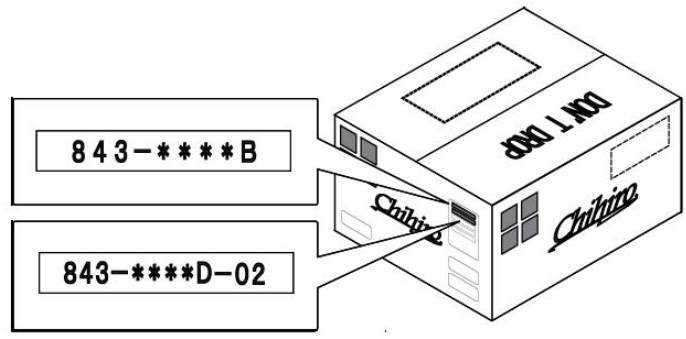
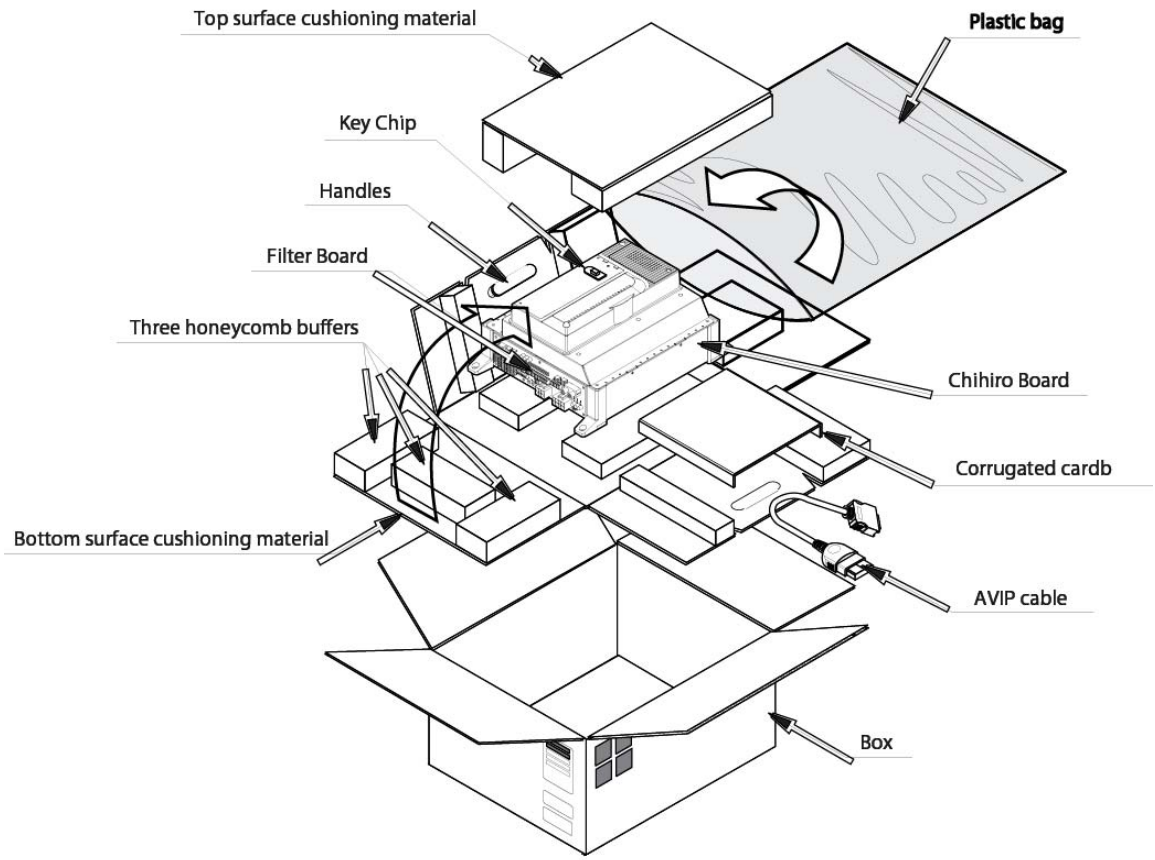
Item	Part No.	Qty	Description	Component Reference
1	VCT-0520UK	1	ASSY BILLBOARD DX	
2	HOD-0006	2	L BRKT	
4	440-CS0186UK	1	STICKER C EPILEPSY MULTI	
18	VCT-0502UK	1	WIRE COVER R	
19	VCT-0501UK	1	WIRE COVER L	
211	000-T00412-0B	5	M4X12 MSCR TH BLK	(18)-2, (19)-3
212	068-441616-0B	5	M4 WSHR 160D FLT BLK	(18)-2, (19)-3
23	SAECE-113	1	DECLARATION OF CONFORMITY	DECLARATION OF CONFORMITY VCT
24	VCT-2002UK	1	INST PLATE VCT DX	
101	290094	3M	WRAP BUBBLE (SM)	(1)-1
201	030-000850-SB	4	M8X50 BLT W/S BLK	FENCE L+R-2EA
202	030-000830-SB	16	M8X30 BLT W/S BLK	FENCE L+R-8EA
207	030-000840-SB	8	M8X40 BLT W/S BLK	(2)-8
208	068-852216-0B	32	M8 WSHR 220D FLT BLK	(2)-8,FENCE L+R-8EA, (CABI)-4
209	030-000860-0B	4	M8X60 BLT BLK	(CABI)-4
210	000-T00525-0B	2	M5X25 MSCR TH BLK	(1)-2
211	068-552016-0B	2	M5 WSHR 200D FLT BLK	(1)-2
401	420-6620UK	1	SERVICE MANUAL GD ROM SYS	
402	OS1019	2	SELF SEAL BAG 9X12.3/4	
403	420-6759-01UK	1	OWNERS MANUAL VCT DX	
405	390-5160	1	LAMP WG B TYPE 6V 3W (C2R)	
406	509-5080	2	SW MICRO TYPE (SS-5GL2)	
413	514-5078-5000	1	FUSE 5X20 CERAMIC SB 5000mA	

3.5. SHIPPING THE GAME BOARD

 <p>STOP IMPORTANT</p>	<p>Replacement or repair of the Game Board (Chihiro) for this product should be undertaken at the appropriate repair centre. Be sure to follow the specifications below when requesting repairs/sending the board to the repair centre. Not following the specifications may result in the board not being accepted or in extra charges being made.</p> <ul style="list-style-type: none">• Put the game board in the carton box as is. Do not carry out any disassembly or part removal other than that specified.• Follow the procedure and instructions regarding direction below when placing the Game Board in the carton box.• When packing the game board with the Media Board attached, do not remove the Key Chip.• When packing the game board with the Media Board detached, be sure to include the AVIP Cable.• When packing, attach the accessory stickers in the specified places on the Game Board and carton box.
---	---

INSTRUCTIONS

1. Wrap the Chihiro Board in a plastic bag.
2. Place it on top of the bottom surface cushioning material. Turn the Filter Board to face the side with the three honeycomb buffers. Packing it in the opposite direction may cause damage to the Filter Board.
3. Insert corrugated cardboard into the space between the lateral honeycomb buffers of the bottom surface cushioning material and stow the AVIP cable inside.
4. Place the Chihiro Board wrapped in the bottom surface cushioning material into the carton box. Use the handles on the bottom surface cushioning material.
5. Place the upper surface cushioning material on top of the Chihiro Board. Be sure to align it in the right direction, as it will not fit otherwise.
6. Close the top of the carton box and seal it tightly with adhesive tape.



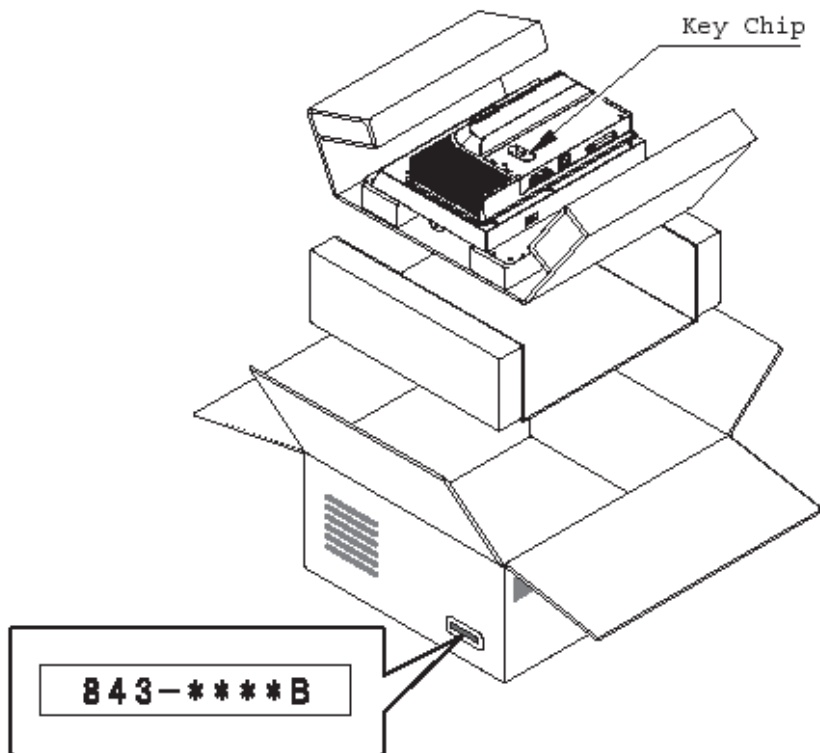
3.6. SHIPPING THE MEDIA BOARD



When sending the Media Board for repairs, follow the specifications below and request repairs or send the Board to your retailer/the repair centre.

Not following the specifications may result in the board not being accepted or in extra charges being made. Also, mistaken handling can damage or result in loss of parts.

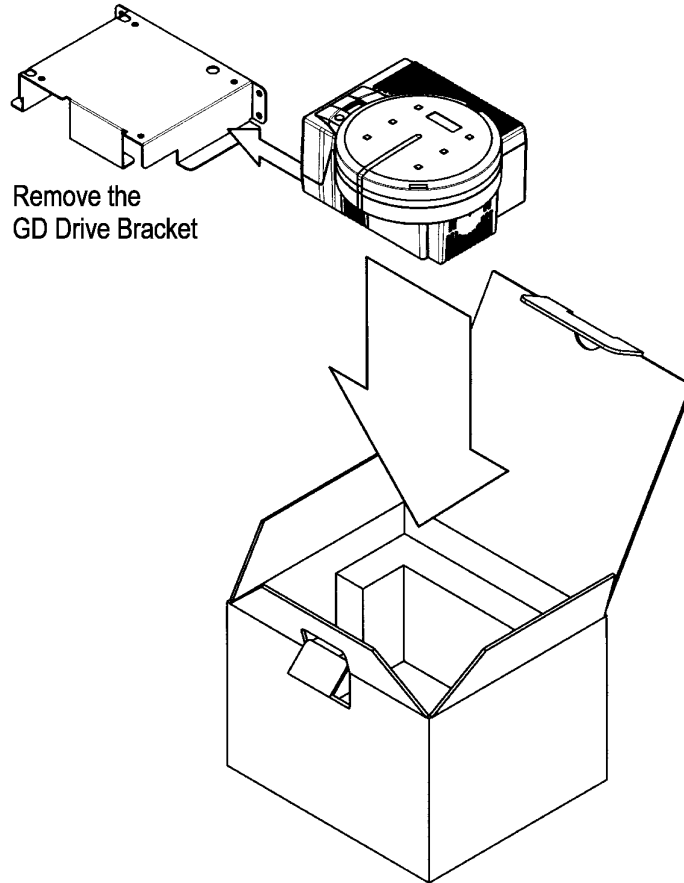
- Be sure to use the special purpose carton box included with this product.
- Do not remove the Key Chip. Send the board with the Key Chip attached.
- Undo the 10 screws holding the Media Board to the Main Board and pack the Media Board. Do not carry out any disassembly or part removal other than that specified in this manual.
- Pack the Media Board in the special purpose carton box as shown in the explanatory diagram.
- The packing material in the carton box has a shock absorbing function. Be sure to use it when packing. Do not bend or fold the material in a direction other than that shown on the diagram.
- Do not pack any wires, cables, or screws together with the Board.
- Be sure to attach the special purpose carton box accessory sticker "843-****B."



3.7. SHIPPING THE GD-ROM DRIVE



- When returning the GD-ROM DRIVE for repair or replacement, be sure to package it in the original card transit box - THERE ARE NO USER-SERVICEABLE PARTS INSIDE.
- Ensure the GD-ROM Disk is removed and the GD-ROM Drive Lid is replaced on the unit, with fixing screw, before packaging. Also, remove the GD-ROM Drive Bracket and store with the four screws for reuse.
- Failure to return the GD-ROM DRIVE in this manner may invalidate the warranty.



Remove the
GD Drive Bracket

3.8. ASSEMBLY INSTRUCTIONS



- Perform the assembly by following the procedure herein stated. Failure to comply with the instructions, for example, inserting the plug into an outlet at a stage not mentioned in this manual can cause an electric shock
- Assembling should be performed as per this manual. Since this is a complex machine, erroneous assembling can cause damage to the machine, or malfunction to occur.
- Do not attempt to complete this work alone, a minimum of 2 people are required.



- Only QUALIFIED SERVICE PERSONNEL should carry out assembly.

When carrying out the assembly work, follow the procedure in the following sequence:

STEP 1: ASSEMBLE THE MACHINE

STEP 2: LEG-LEVELLING PROCEDURE

STEP 3: COIN HANDLING INSTALLATION.

STEP 4: CONNECTION TO THE POWER SUPPLY

STEP 5: ASSEMBLY CHECK

Note that the parts contained within the installation kit are required for the assembly work.



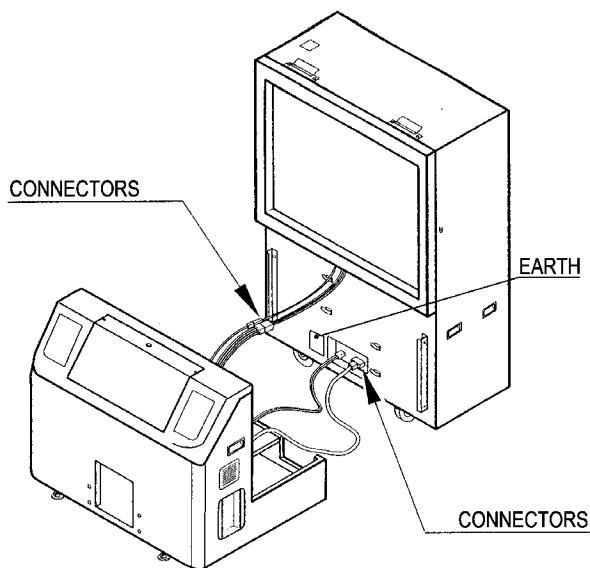
- Fit all fixings loosely first as detailed in step 1, then position all components before finally tightening fixings at step 4.

3.8.1. ASSEMBLE THE MACHINE

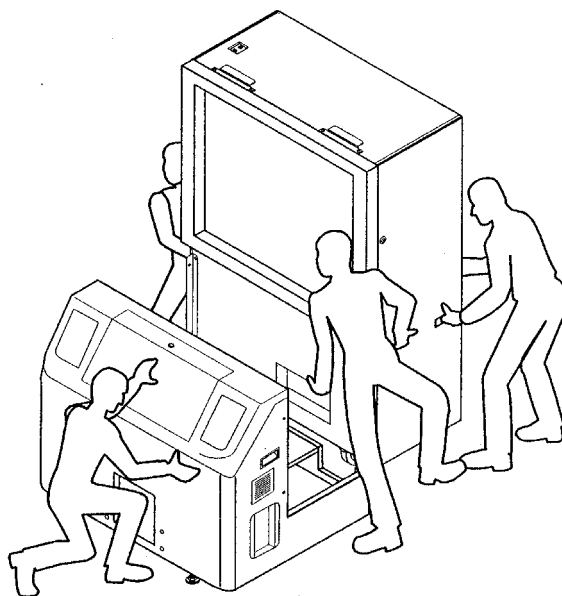
3.8.1.1. ASSEMBLE THE PTV

1. Place the PTV and PTV Cabinet in roughly their final position, in close enough proximity to make the connections shown.

It is imperative that the earth eyes are connected to the plate at the bottom of the PTV.



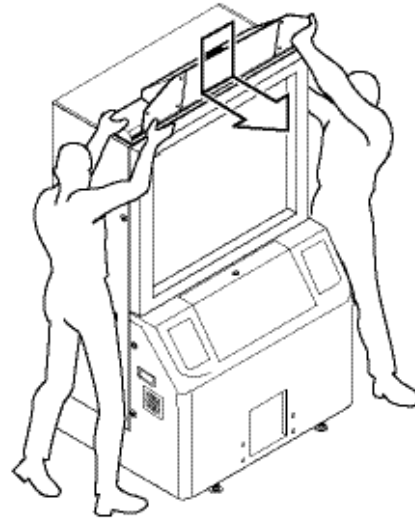
2. Lift the PTV forwards onto the PTV Cabinet, using a minimum of four workers to lift the PTV, plus a further worker to steady the PTV Cabinet. Use care during this exercise, as the PTV weighs in excess of 100kg.
3. Ensure the PTV is correctly seated on the PTV Cabinet.



(Actual machine may differ slightly from the illustration)

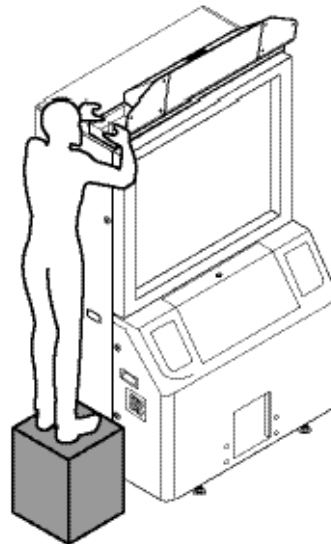
3.8.1.2.FITTING THE BILLBOARD

1. Have two people lift the Billboard and place it on top of the PTV. Place the Billboard so that the two Mask Bracket Uppers attached in Step 1 fit into the rectangular holes in the Billboard base plate, then slide the Billboard toward the PTV screen. Once set, the Mask Bracket Uppers hold and secure the Billboard base plate.



Perform the following with the aid of a step.

2. Remove the Billboard Lids on the upper right and left of the Billboard. Remove the 2 truss screws holding each Billboard Lid, pull up on the side of the Billboard lid secured by the screws, and remove.

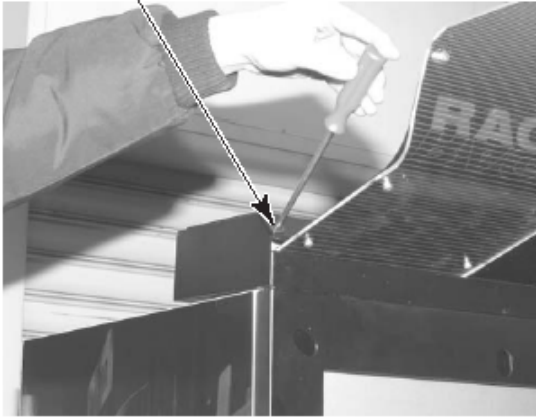


Perform with two people

Be sure to use a step

TRUSS SCREW (x2) BLACK M4x8,
FLAT WASHER

BILLBOARD LID



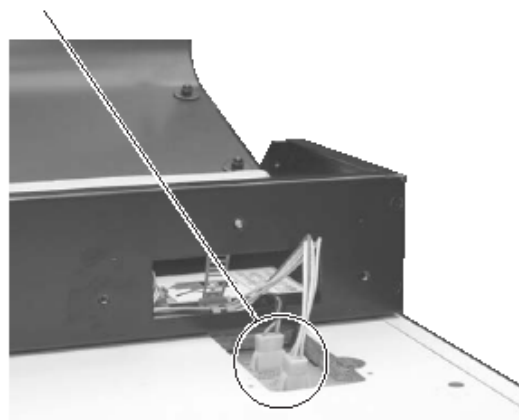
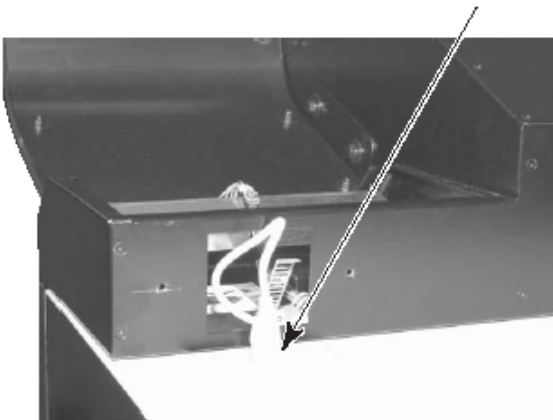
3. Having removed the Billboard Lids from both sides, attach the base plate with 2 screws



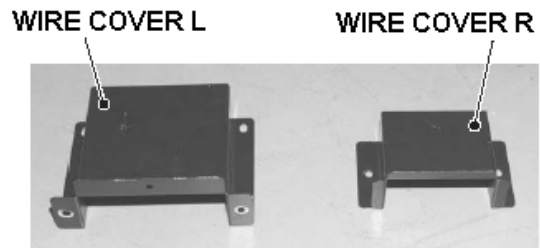
SCREW M5 x 16, W/FLAT & SPRING
WASHERS

4. Pull the wires through the rectangular holes on either side of the Billboard and connect them to the connectors on the roof of the PTV. There are 2 connectors on the left side.

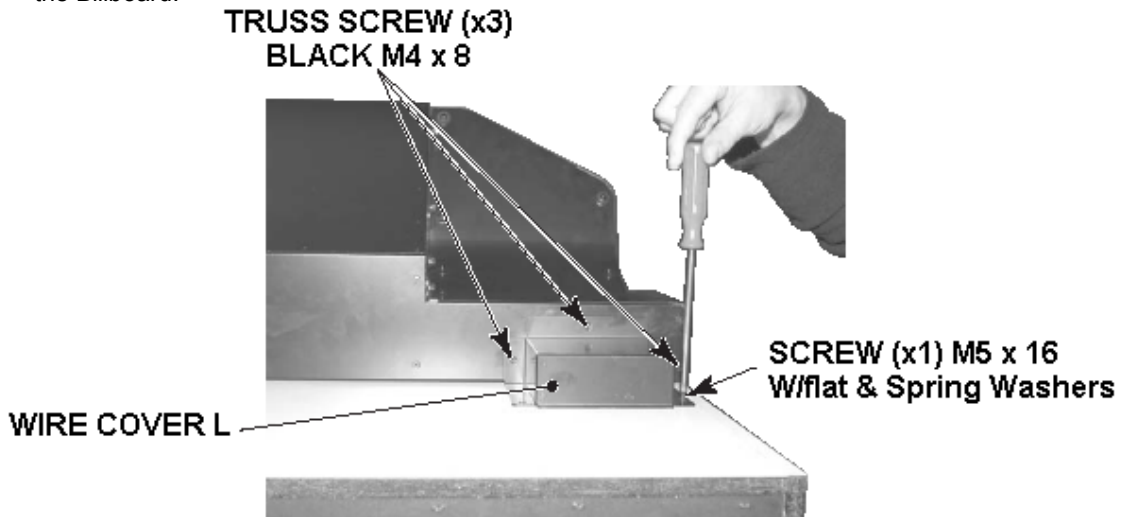
JVS CONNECTOR CONNECTOR x2



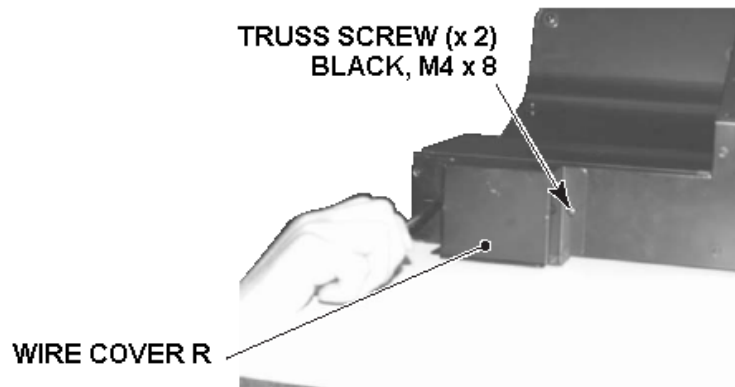
5. Attach Wire Covers L (left) and R (right) to protect the connectors on the right and left sides of the roof of the PTV. The larger wire cover is Wire Cover L and should be attached to the 2 connectors.



6. Attach Wire Cover L with 4 screws. The screw for the PTV roof is different from the 3 truss screws for the Billboard.



7. Attach Wire Cover R with 2 truss screws.

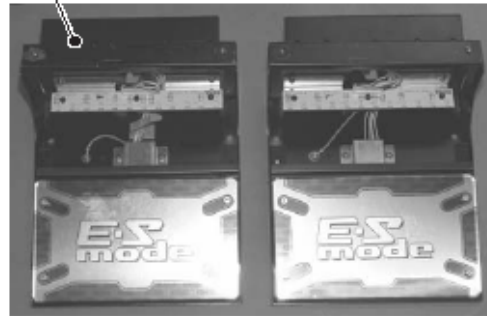


8. Re-attach the Billboard Lids on either side of the Billboard as they were before.

3.8.1.3. INSTALLING THE FOOT PEDAL

1. Attach the pedal and fence to the left and right of the controller cabinet. The foot base and fence have right and left versions; make sure they are aligned correctly before attaching.

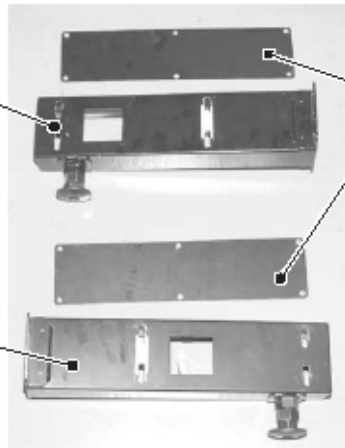
PEDAL (works for both right and left)



FOOT BASE L

BASE HOLE LID (works for both right and left)

FOOT BASE R



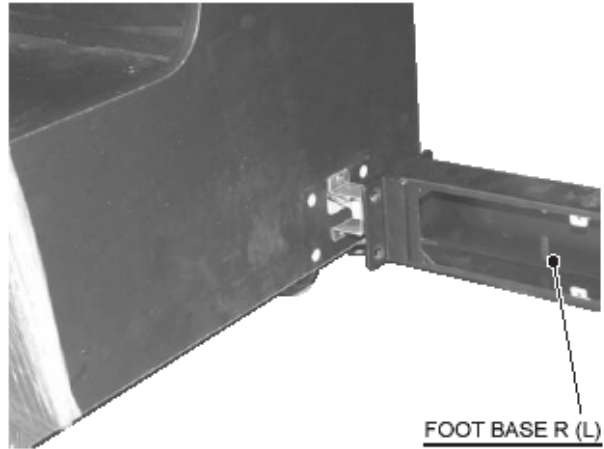
FENCE L

FENCE R

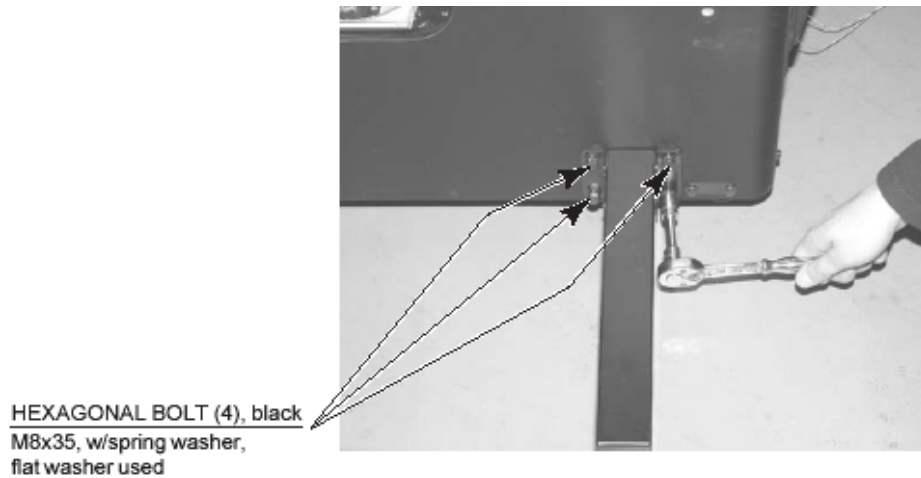


Instructions for attaching the R (right) side are included in this manual. The procedure for attaching the L (left) side is the same.

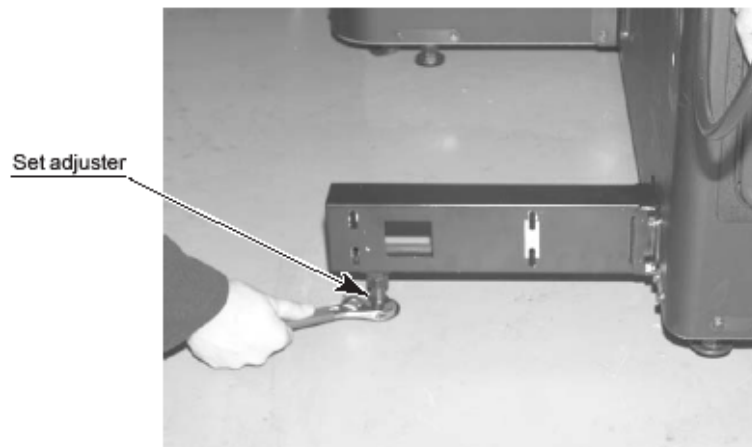
2. Attach the foot base to the U-shaped bracket sticking out from the side of the controller cabinet by inserting it from the side.



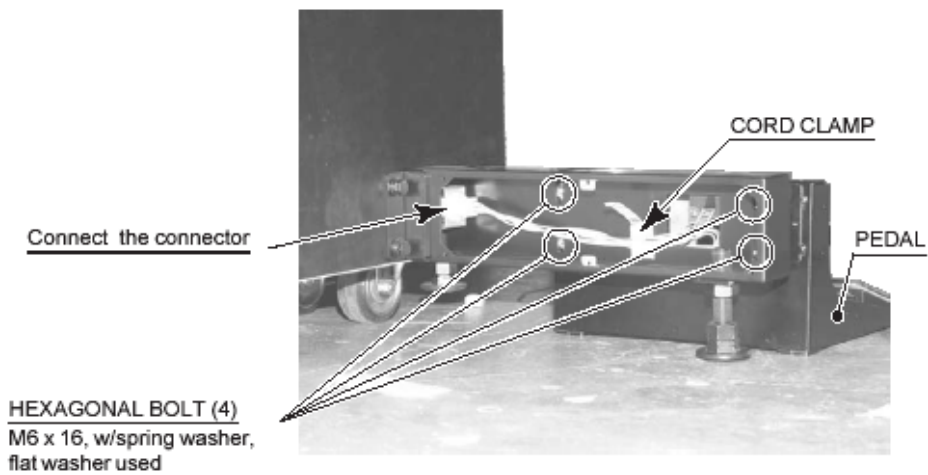
3. Secure the foot base with 4 hexagonal bolts.



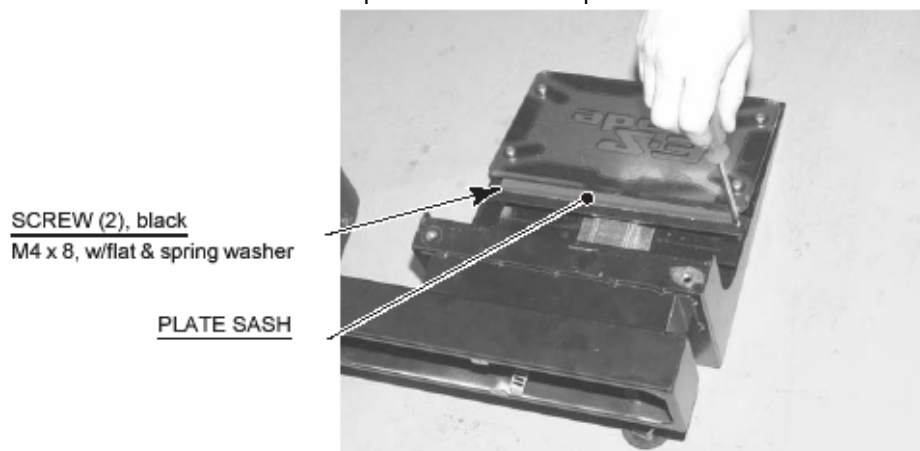
4. Set foot base adjuster.



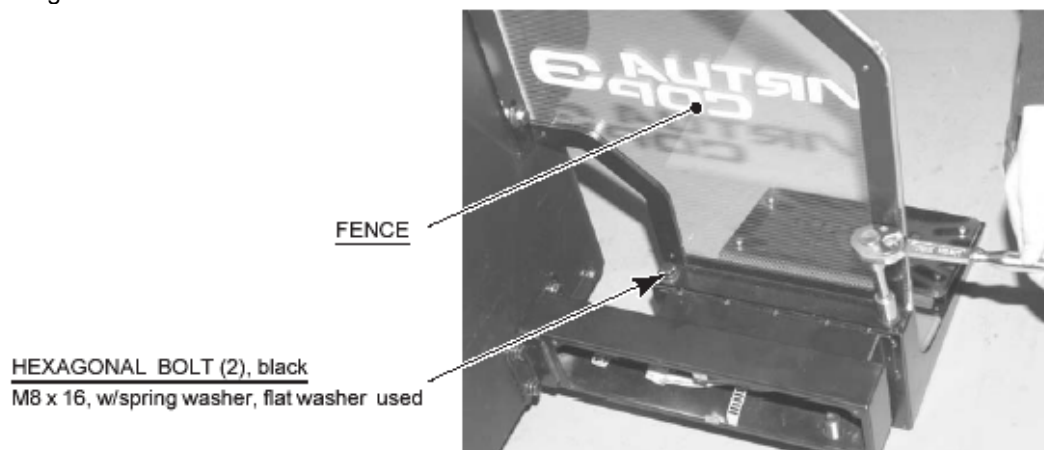
5. Attach the pedal to the foot base using 4 hexagonal bolts. Be sure not to tighten the hexagonal bolts completely.
6. Pull wire from the pedal to the foot base and connect the connector on the end of the wire to the connector on the U-shaped bracket. Use the cord clamp in the foot base to secure the wire.



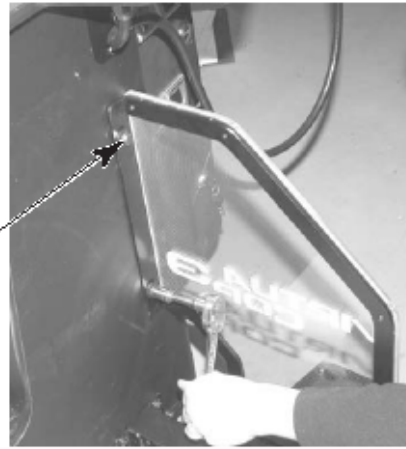
7. Remove the 2 screws and remove the plate sash from the pedal.



8. Insert the fence into the pedal and attach with 4 hexagonal bolts. Use the large flat washers with the hexagonal bolts used on the cabinet.

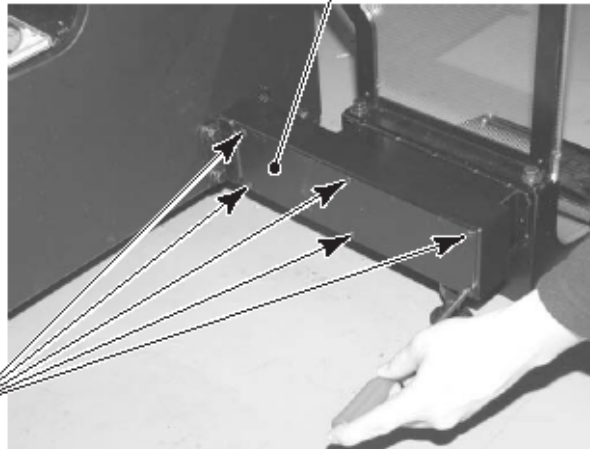


HEXAGONAL BOLT (2), black M8 x 35,
w/spring washer, large flat washer used



9. Reattach the plate sash as it was before.
10. Securely tighten the 4 hexagonal bolts on the pedal.
11. Attach the base hole lid to the foot base and attach 6 screws.

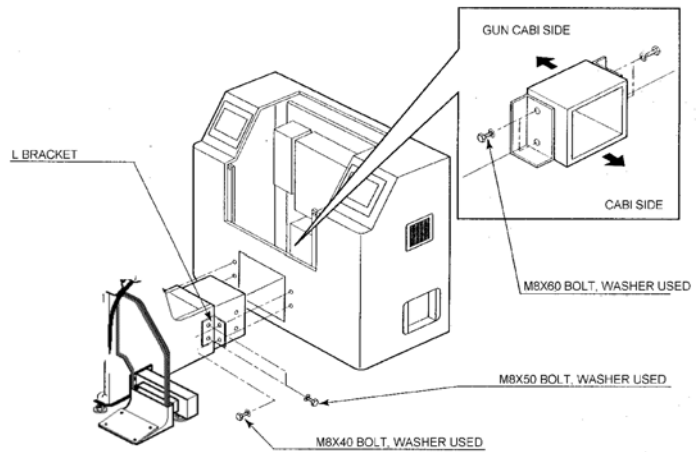
BASE HOLE LID



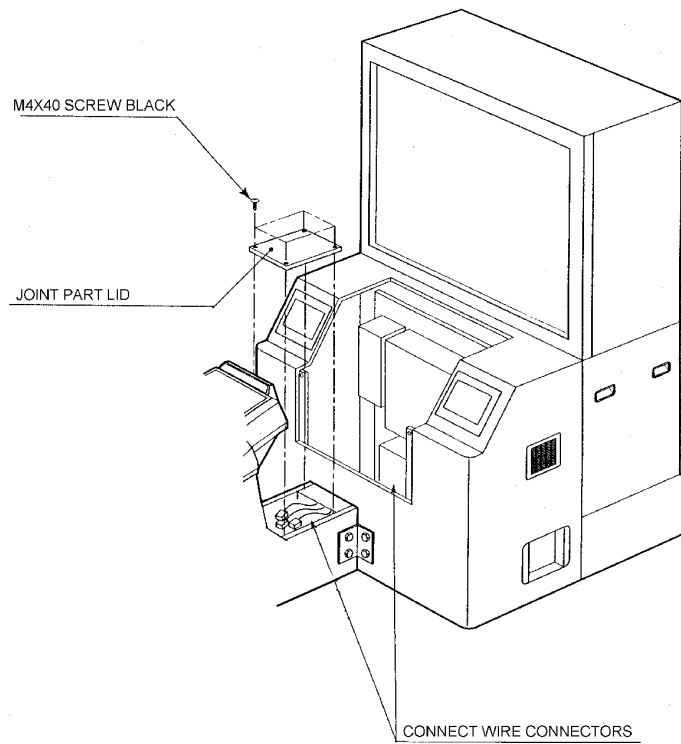
SCREW (6), black
M4 x 8, w/flat & spring washers

3.8.1.4. ATTACH THE GUN CABINET

1. After fitting the guard rails to the gun cabinet fit the gun cabinet to the main cabinet.
2. Slide the gun cabinet into the hole in the main cabinet as shown.
3. Fix the gun cabinet in position using the joint brackets and M8 bolts provided.



4. Once the cabinet is secure connect the connectors as shown.
5. Fit the cover in place using the M4x30 screws provided.



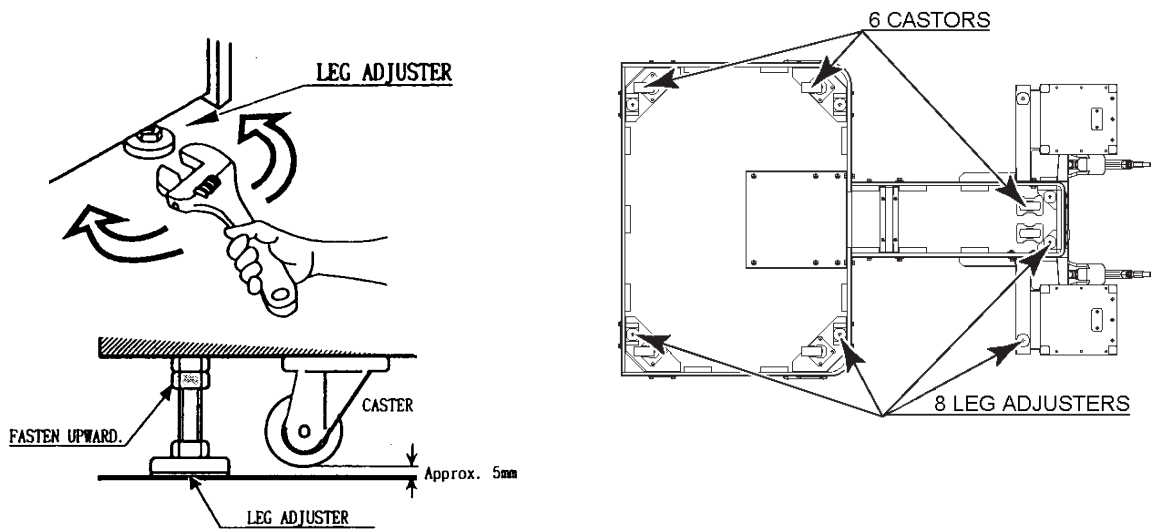
3.8.2. LEG-LEVELLING PROCEDURE



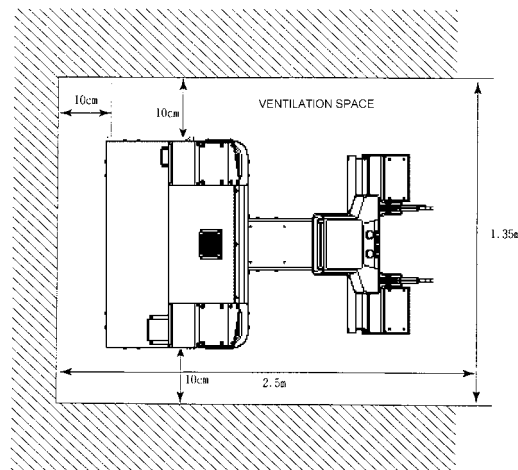
- This operation requires 2 people. Ensure that all leg adjusters are in contact with the floor otherwise the machine may move and cause injury.
- Only QUALIFIED SERVICE PERSONNEL should carry out this operation.

This machine has 4 castors and 8 leg adjusters. When the installation position is decided, unscrew the leg adjusters so that they raise each castor a minimum of 5mm from the floor. Make sure the machine is level.

1. Move the machine to its final position.
2. Adjust the leg adjusters as shown until the castors are approximately 5mm off the floor and the machine is level.



Ensure adequate ventilation is maintained as detailed below

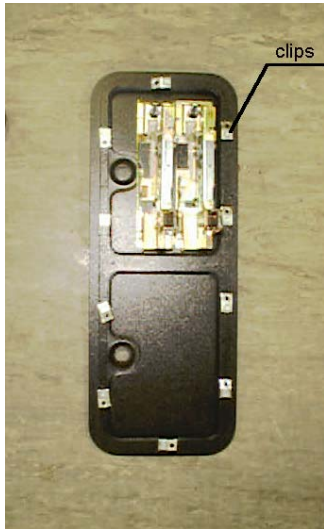


3.8.3. COIN HANDLING INSTALLATION.



- Only QUALIFIED SERVICE PERSONNEL should carry out this operation.

When fitting the coin mechanism to the door please refer to the specific manufacturers installation instructions for that coin mechanism. To fit the door to the machine, follow the procedure below.



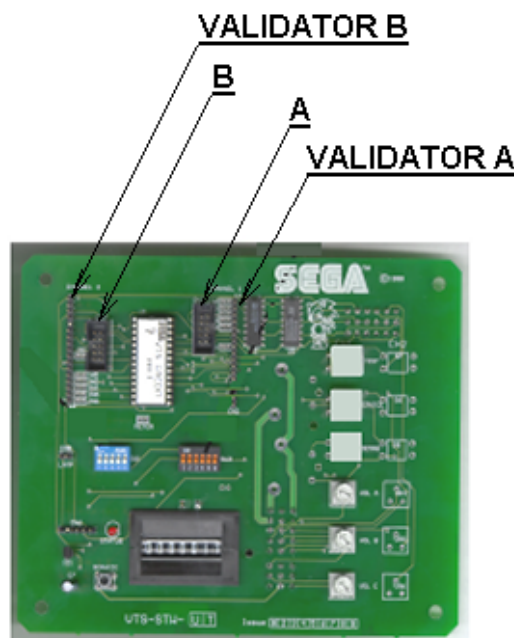
- Loosen all of the bolts on the frame that secure the clips.
- Turn all clips in towards the door.



- Position the door into the aperture in the machine.
- Turn the clips around so that they will hold the door in the machine.
- Tighten all of the bolts.

3.8.3.1.WIRING CONNECTIONS.

COIN MECH	LOOM	INSTALLATION
C220B	LM1006IDC LM1006LAMP-0.1	<ul style="list-style-type: none"> • Attach the lamp holder to the bracket on the coin return button. • Attach one 15-way connector to the C220 coin mech. • Attach the other 15-way connector to Validator A on the credit board. • Attach the 2-way connector to 'LAMP' on the VTS board.
GENERIC MECHANICALS	LM1008 LM1008-LAMP	<ul style="list-style-type: none"> • Fit the two lamp holders behind the coin return buttons. • Attach the blue cable and orange cable to one mech's microswitch switch. • Attach the blue/green cable and orange/green cable to the other mech's microswitch. • Attach the 2-way mate and lok plug to the 2-way mate and lok cap provided. • Attach one 15-way connector to Validator A and the other to Validator B on the credit board
MARS MS111B1 MARS ME115	LM1007 LM1008-LAMP	<ul style="list-style-type: none"> • Fit the lamp holder to the bracket behind the coin return button. • Fit one of the 13-way connectors to the coin mech. • Fit the other 13-way connector to Validator A on the credit board. Note the 13-way connector is keyed and this key must coincide with the key on the credit board.
SECI, C120, SR3	OWN LOOM AND LM1006LAMP-0.1	<ul style="list-style-type: none"> • Attach the lamp holder to the bracket on the coin return button. • Attach the 2- connector to 'LAMP' on the VTS board. • Attach the validator's own loom to position A on the credit board



VTS credit board assembly

3.8.4. CONNECTION TO THE POWER SUPPLY

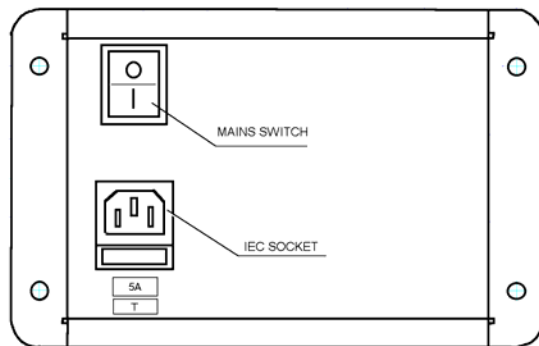


- This operation may only be carried out once the machine has been completely assembled.

- Only QUALIFIED SERVICE PERSONNEL should carry out this operation.

Once the machine has been fully assembled and fixed in position it is ready to be connected to the power supply

1. The socket outlet shall be installed near the equipment and shall be easily accessible.
2. Insert the IEC plug into the IEC socket on the cabinet.
3. Insert the mains cord into the wall outlet
4. Switch on the power at the wall outlet.
5. Switch on the mains switch on the AC unit of the machine.



3.8.5. ADJACENT CONTROL INTERFERENCE PREVENTION



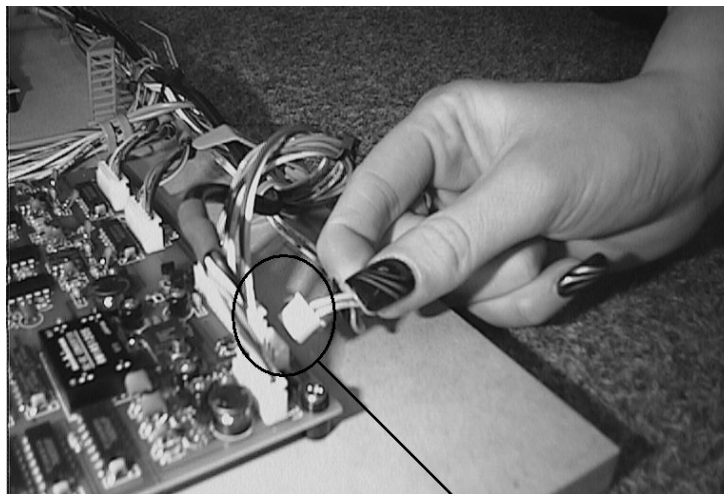
- Be sure that the machine is not connected to the mains supply before attempting this operation.
 - Be careful not to damage wiring.
 - The Game Board area should be accessed only if necessary.
-
- Only QUALIFIED SERVICE PERSONNEL should carry out this operation

When games with the same or similar infrared sensing system are installed side by side, interference may occur causing malfunction or inaccuracy of the sensing system in adjacent games.

A removable wire harness controls the operating frequency of the gun sense system. Removal of this harness switches from the default frequency to an alternate one.

Where game machines of the same or similar type are installed side by side, remove the jumper harness (SPY-60010UK) from every other machine in the line.

1. Turn off the power.
2. Remove the Game Board as detailed in section 3.13 of the Service Manual (the work can be completed with the Game Board in place but access is limited).
3. Locate the Sensor Board and remove SPY-60010UK WIRE HARNESS HIGH FREQUENCY JUMPER as required.



Disconnect

3.9. ASSEMBLY CHECK



- Only QUALIFIED SERVICE PERSONNEL should carry out this operation.

In the TEST MODE, ensure that the assembly has been made correctly and IC Board is satisfactory (refer to Section).

In the test mode, perform the following test:

3.9.1. MEMORY TEST

When "MEDIA BOARD TEST" is selected from the System Test Mode Menu Screen the Game Board memory is automatically tested. If the display beside each memory reads "GOOD", the Game Board is functioning correctly.

Also, when "SYSTEM INFORMATION" is selected, Main Board and Media Board data for the Game Board are displayed. If data is displayed correctly, the Game Board is functioning correctly.

```
MEDIA BOARD TEST

VERSION ****
STATUS GOOD
CHECKING 100%

SYSTEM TEST
DIMM0 - GOOD
DIMM1 - GOOD
IC34.35S - GOOD
IC10.11S - GOOD
GD DRIVE - GOOD
-- COMPLETED --

PRESS TEST BUTTON TO EXIT
```

MEDIA BOARD TEST screen

```
SYSTEM INFORMATION

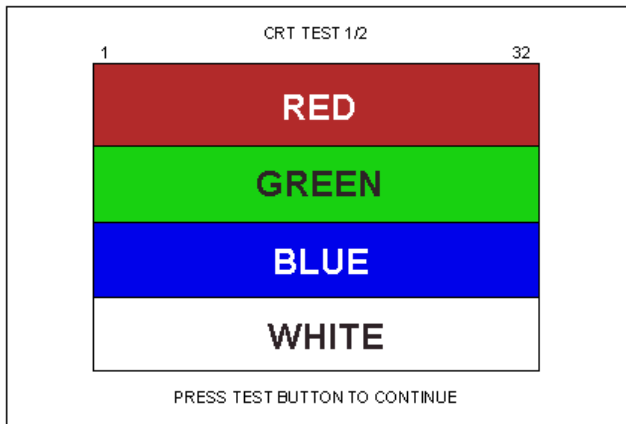
MAIN BOARD
REGION ****
BOOT VERSION ****
QC FIRM VERSION ****
SC FIRM VERSION ****
SERIAL NO. *****

MEDIA BOARD
DIMM BOARD + GDROM
MEMORY SIZE 512MB
FIRM VERSION ****
SERIAL NO. *****

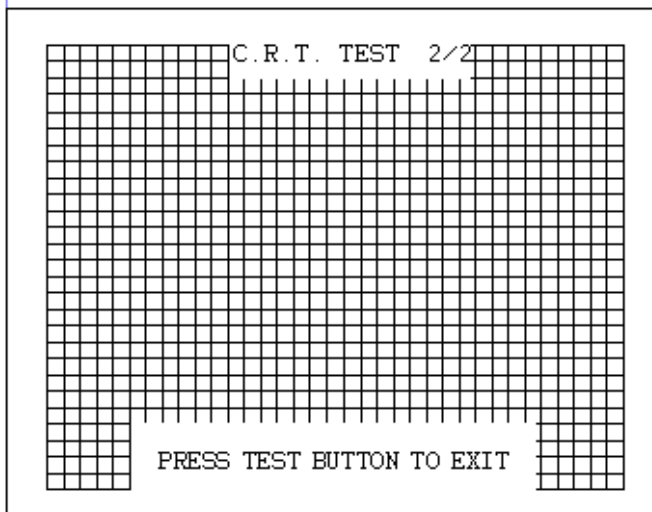
PRESS TEST BUTTON TO EXIT
```

SYSTEM INFORMATION screen

3.9.2. C.R.T. TEST



In the TEST mode menu, selecting C.R.T. TEST allows the screen (on which the monitor is tested) to be displayed. Although the monitor adjustments have been made at the time of shipment from the factory, make judgment as to whether an adjustment is needed by watching the test mode screen. If it is necessary, adjust the monitor by referring to Monitor manual.



3.9.3. INPUT TEST



Selecting the INPUT TEST on the game test mode menu screen causes the screen (on which each switch is tested) to be displayed. Press each switch. If the display beside each switch indicates "ON," the switch and wiring connections are satisfactory.

3.9.4. OUTPUT TEST

Select OUTPUT TEST from the menu in the test mode to cause the screen (on which each lamp and wiring connections are tested) to appear. Ensure that lamp light up satisfactorily.



3.9.5. GUN ADJUSTMENT

Before starting the operation, play the game by yourself and make sure that the gun readjustment is not needed and that you can play the game without a problem. Although completed at the factory, the gun adjustment may be necessary because, after the adjustment, the product has been disassembled for packing and shipping.



Perform the above inspections also at the time of monthly inspection.
As for the gun adjustment described in above, confirm weekly that the gun is properly adjusted.

3.10. MOVING THE MACHINE



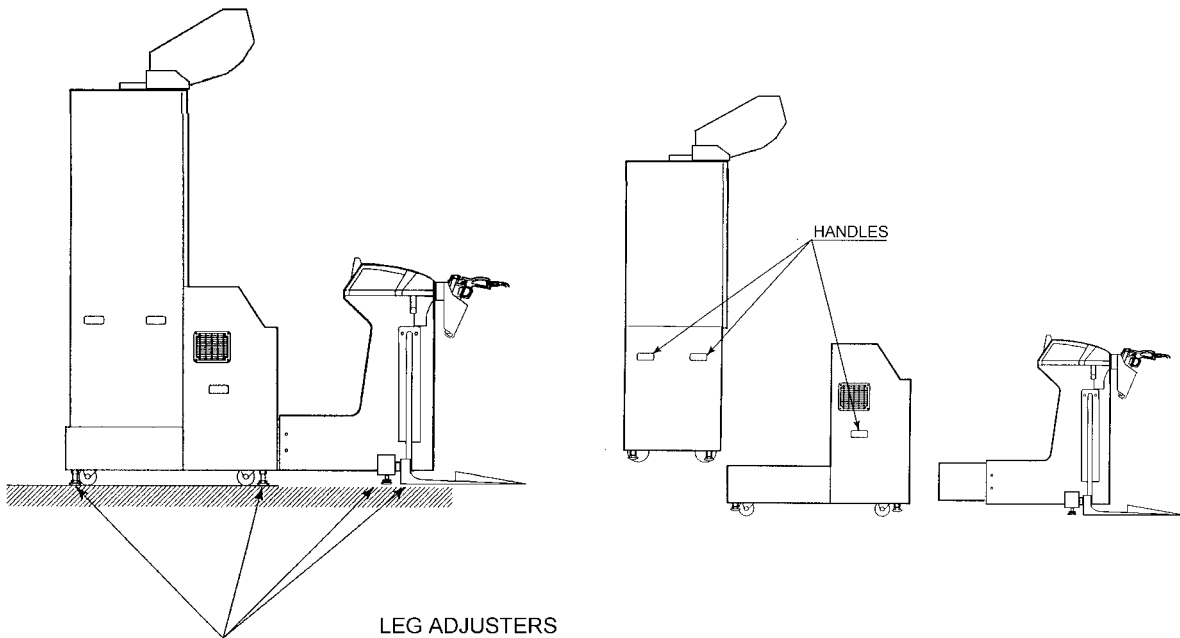
CAUTION

- When moving the machine, be sure to remove the plug from the power supply. Moving the machine with the plug inserted can cause the power cord to be damaged, resulting in a fire or electric shock.
- When moving the machine, retract the leg adjusters fully and ensure the casters make contact with the floor. During movement pay careful attention so that the casters or leg adjusters do not damage any other cabling laid on the floor. Such damage could result in a fire or electric shock.

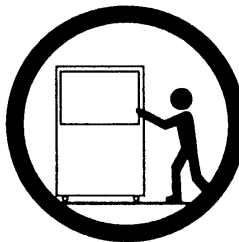


IMPORTANT

- Only QUALIFIED SERVICE PERSONNEL should carry out this operation.



- Do not handle the machine by its plastic parts as this may result in damage or injury.



3.11. FUSES



- Never touch places other than those specified. Touching places other than those specified can cause electric shock and short circuit. Disconnect the machine from the supply before attempting the replacement of any fuse.



- Only QUALIFIED SERVICE PERSONNEL should replace FUSES.
- Only replace fuses with ones of the same value and type.

There are a number of fuses used on this machine to protect the user and the machine from damage. Only replace the fuse once you have removed the cause of its failure. Detailed below is a list of the fuses used, their location and if relevant PCB reference:

PART NUMBER	LOCATION	TYPE & DETAILS	QTY PER COCKPIT
514-5078-6300	838-11856CE-02 (F1)	5x20 HRC SB 6300mA	1
514-5078-6300	838-13616 (F1)	5x20 HRC SB 6300mA	1
514-5078-5000	IEC INLET (EP1302)	5x20 HRC SB 5000mA	1

There are also fuses located on the Monitor PCB. Refer to the relevant Monitor manual supplied to reference these fuses.

3.12. REPLACEMENT OF FLUORESCENT LAMP AND OTHER LAMPS



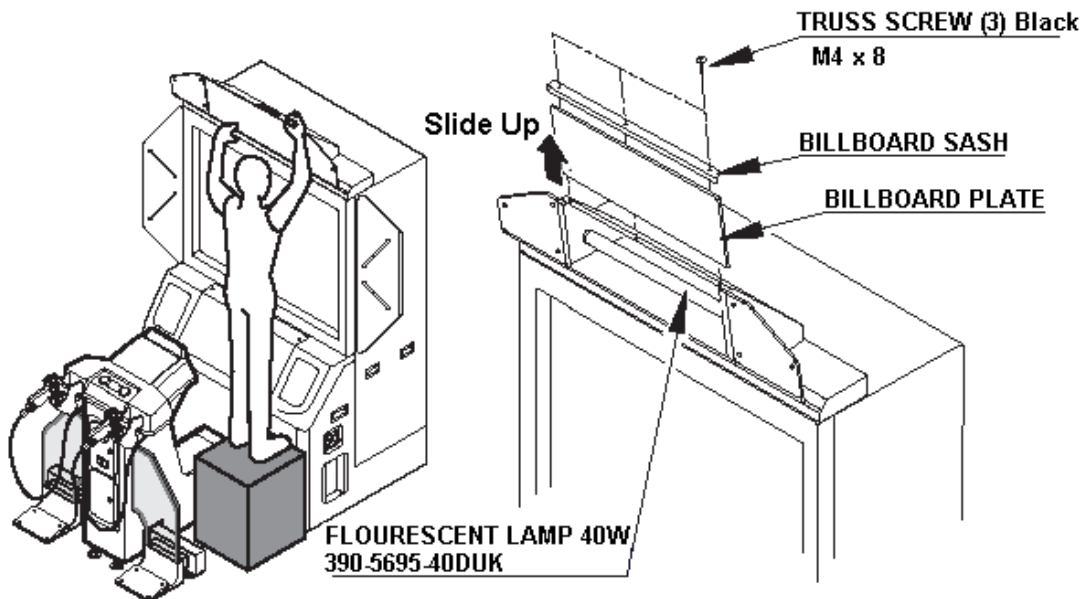
- Never touch places other than those specified. Touching places other than those specified can cause electric shock and short circuit. Disconnect the machine from the supply before attempting the replacement of any lamp.
- Use a step to perform work on the Billboard. Ensure the step is secure to avoid injury.
- The Fluorescent Lamp can get hot and cause burns. Allow the Lamp to cool before touching it.



- Only QUALIFIED SERVICE PERSONNEL should replace lamps.

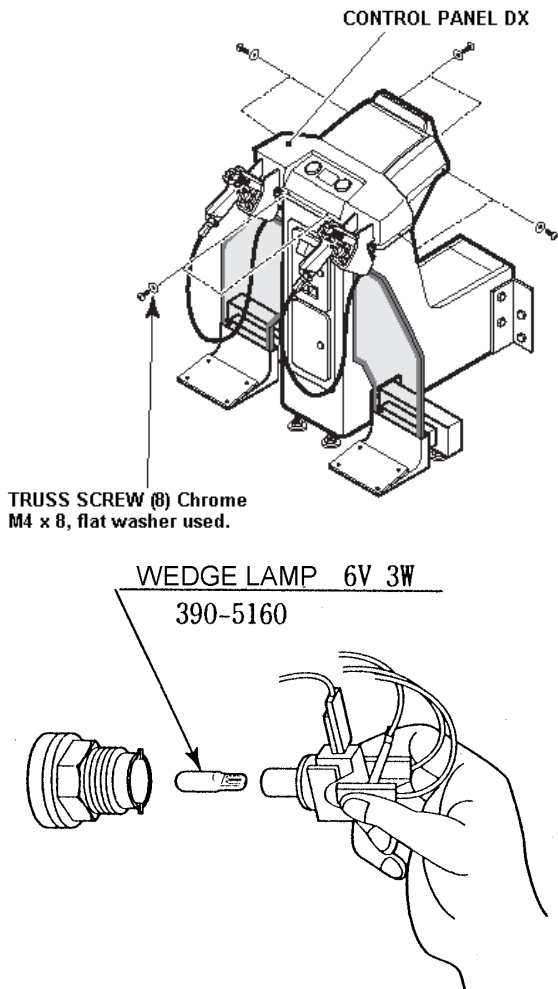
3.12.1. FLUORESCENT LAMP REPLACEMENT

1. Remove the M4 Truss Screws to remove the Sash. Withdraw the Billboard Plate upwards.
2. To remove the Fluorescent Lamp, first remove both end connectors. Then withdraw the Lamp from the two clips, using care to avoid breakage.
3. Replacement of Lamp is in reverse order of removal.



Use a step when performing work.

3.12.2.LAMP REPLACEMENT



1. Remove the control panel cover as shown by removing the 8 screws holding it in position.
2. Carefully lift the control panel cover up until it is possible to disconnect the wire harness plugs attaching the start switches to the cabinet.
3. Turn the control panel cover over and remove the micro switch from the start switch as shown below.

4. Remove and replace the wedge lamp.

Hold both sides of the switch portion with fingers and pull out from the button's base portion. At this time, be careful so as not to damage the wiring connected to the switch.

The lamp is positioned at the end of the switch portion. Pull out the lamp straight without turning it.

5. Reassemble the control panel cover to the gun cabinet.

3.13. TROUBLESHOOTING





- Only QUALIFIED SERVICE PERSONNEL should carry out these procedures.

If a problem occurs, first check the wiring connections.

PROBLEMS	CAUSE	COUNTERMEASURES
When the main switch is turned ON, the machine is not activated	The power is not ON. Incorrect power source/voltage. AC Unit CIRCUIT PROTECTION DEVICE (i.e. fuse) was activated due to an instantaneous overcurrent.	Firmly insert the plug into the outlet. Make sure that the power supply/voltage are correct. First, remove the cause of overcurrent and reinstate the circuit protection device to its original status. Then identify the cause of the fault on the item that caused the overcurrent & fix.
The colour image on the screen is incorrect	Incorrect monitor adjustment.	Make appropriate adjustments. SEE SECTION 3.9.
The on-screen image of the monitor sways and/or shrinks	The power source and voltage are not correct.	Make sure that the power supply and voltage are correct.
Sound is not emitted	Sound volume adjustment is not correct. Malfunctioning BD and Amp. Connector connection is incorrect	Adjust the volume setting on the VTS bracket. SEE SECTION 5.1.1 Perform Sound Test to check it. SEE SECTION 5.2.5 Check connector connection from Base to Speaker
Controller operation is not satisfactory	Sighting is inaccurate due to environmental conditions, etc. Micro-switch malfunctioning Sensor BD is malfunctioning	Adjust the gun sighting alignment. SEE SECTION 3.14 Replace the micro-switch. SEE SECTION 3.14 Replace the Sensor BD. SEE SECTION 3.14
The fluorescent lamp does not light up	Fluorescent lamp needs replacement The connector is disconnected	Replace the fluorescent lamp. SEE SECTION 3.12 Check connector connections in the billboard case.

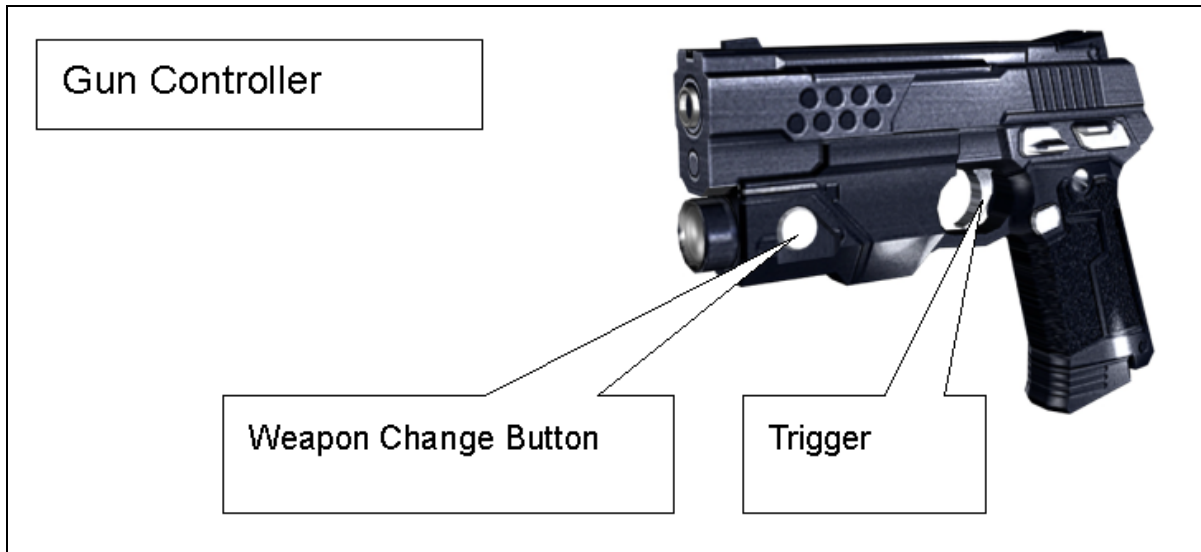
3.14. CONTROLLER UNIT

	<ul style="list-style-type: none">• Only QUALIFIED SERVICE PERSONNEL should carry out these procedures.• During daily cleaning and maintenance, check the surface of the control unit (Gun Controller) for cracks and other damage and ensure that screws are securely fastened. Loose screws, cracks, and other damage could cause harm to players and other customers if left un-repaired.
---	---

	<ul style="list-style-type: none">• In order to prevent an electric shock and short circuit, be sure to turn power off before performing work by touching the interior parts of the product.• Be careful not to damage the wires. Damaged wires may cause electric shock or short circuit or present a fire risk.• Be very careful when soldering. Handling a soldering iron carelessly may result in a fire or a burn.• When securing the plastic-made parts, do not excessively fasten screws and nuts. Failure to observe this may damage the parts and cause injury due to fragments resulting from damage.
---	--

In the cases where the gun's operation is not satisfactory or the gun sight deviates from the direction in which the control unit is pointed, the gun's interior parts may have been damaged. Replace the parts by disassembling the gun in the following procedure: Also, be sure to perform sighting check in the test mode when the gun parts are replaced.

3.14.1. OPERATION



3.14.2.CONTROL UNIT (GUN CONTROLLER)



IMPORTANT

- Follow these directions carefully to avoid damaging or losing small parts.

In the cases where the gun's operation is not satisfactory or the gun sight deviates from the direction in which the control unit is pointed, the gun's interior parts may have been damaged. Replace the parts by disassembling the gun using the following procedure.

Note: be sure to perform sighting check in the test mode when the gun parts are replaced.

3.14.2.1.REPLACING THE MICROSWITCH

To replace the Gun Controller's internal components, first separate the left shell (Cover L) and right shell (Cover R). The controller's internal components are mounted on the right shell, so work with the gun lying on its right side. To replace the Weapon Change Button microswitch, first remove the Weapon Change Button from the right shell.

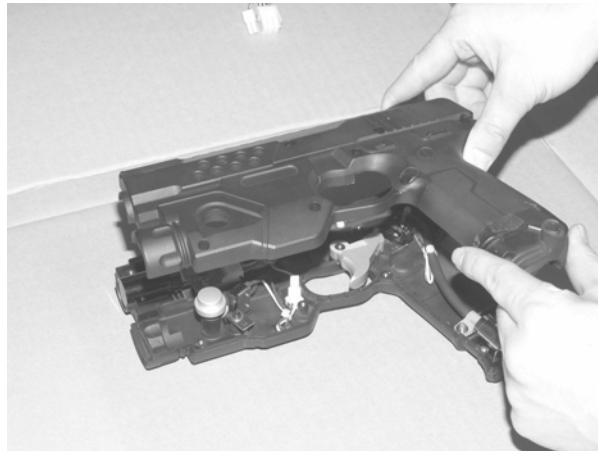
1. Turn power off.
2. Remove the 10 screws to separate the two shells.



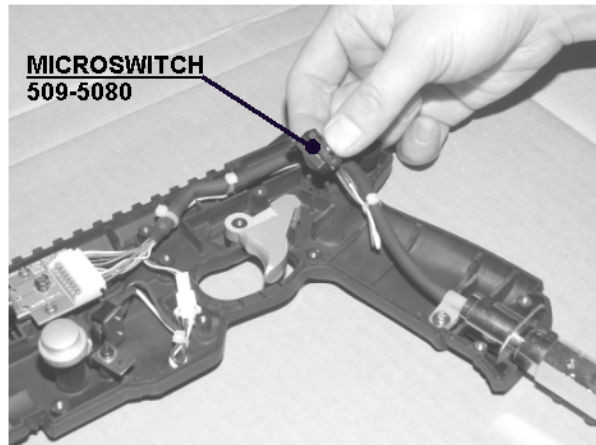
SCREW (10), black
M3 x10, w/small flat & spring washers

3. With the right shell lying flat, carefully lift the left shell from the right shell.

SCREW (10), black / M3 x 10, W/small flat & spring washers

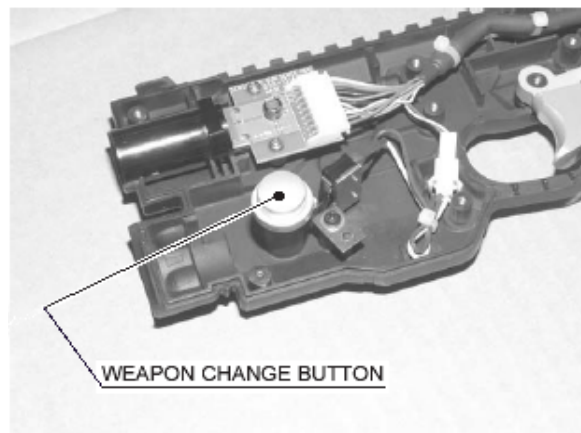


4. Remove the trigger microswitch from the right shell.
MICROSWITCH / 509-5080

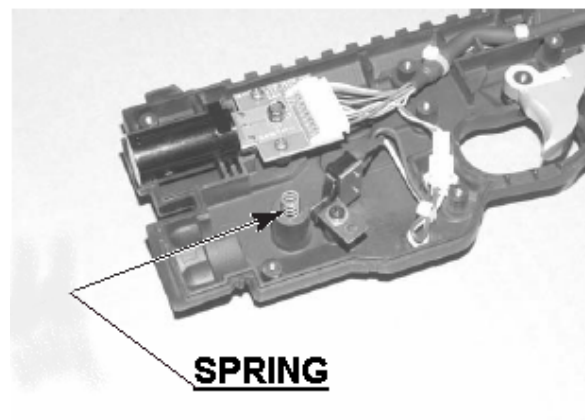


5. Remove the soldering and detach the microswitch.

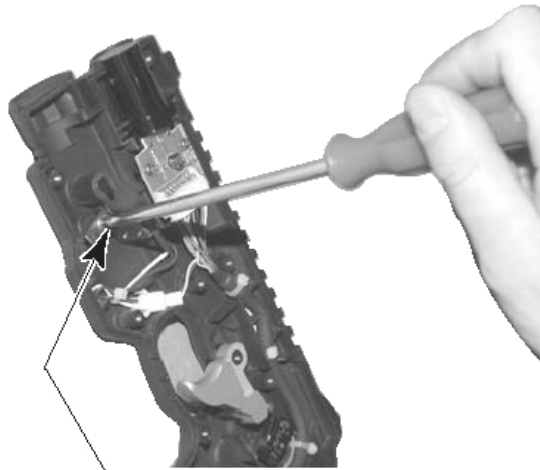
6. Remove the Change Button from the right shell.



7. Remove the spring from the right shell.

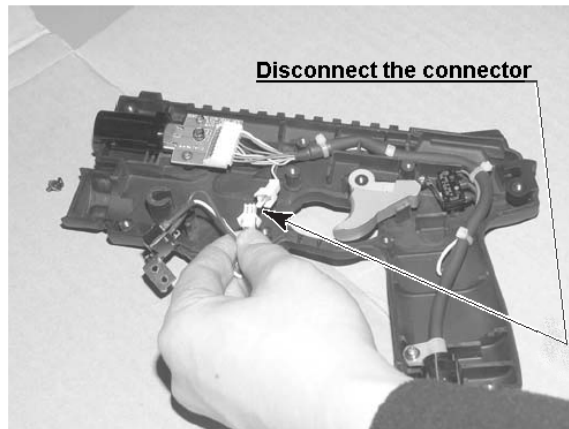


8. Remove 1 screw and detach the microswitch (with SW bracket attached) from the right shell.
SCREW (1) / M3 x 8, W/flat & spring washers



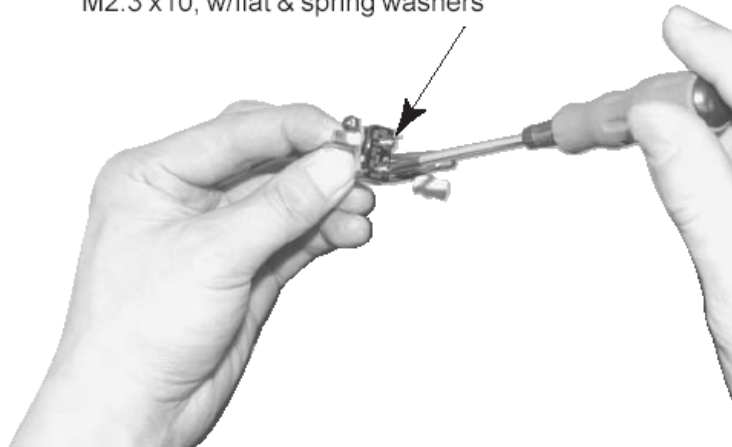
SCREW (1)
M3 x 8, w/flat & spring washers

9. Disconnect the microswitch wire connector.

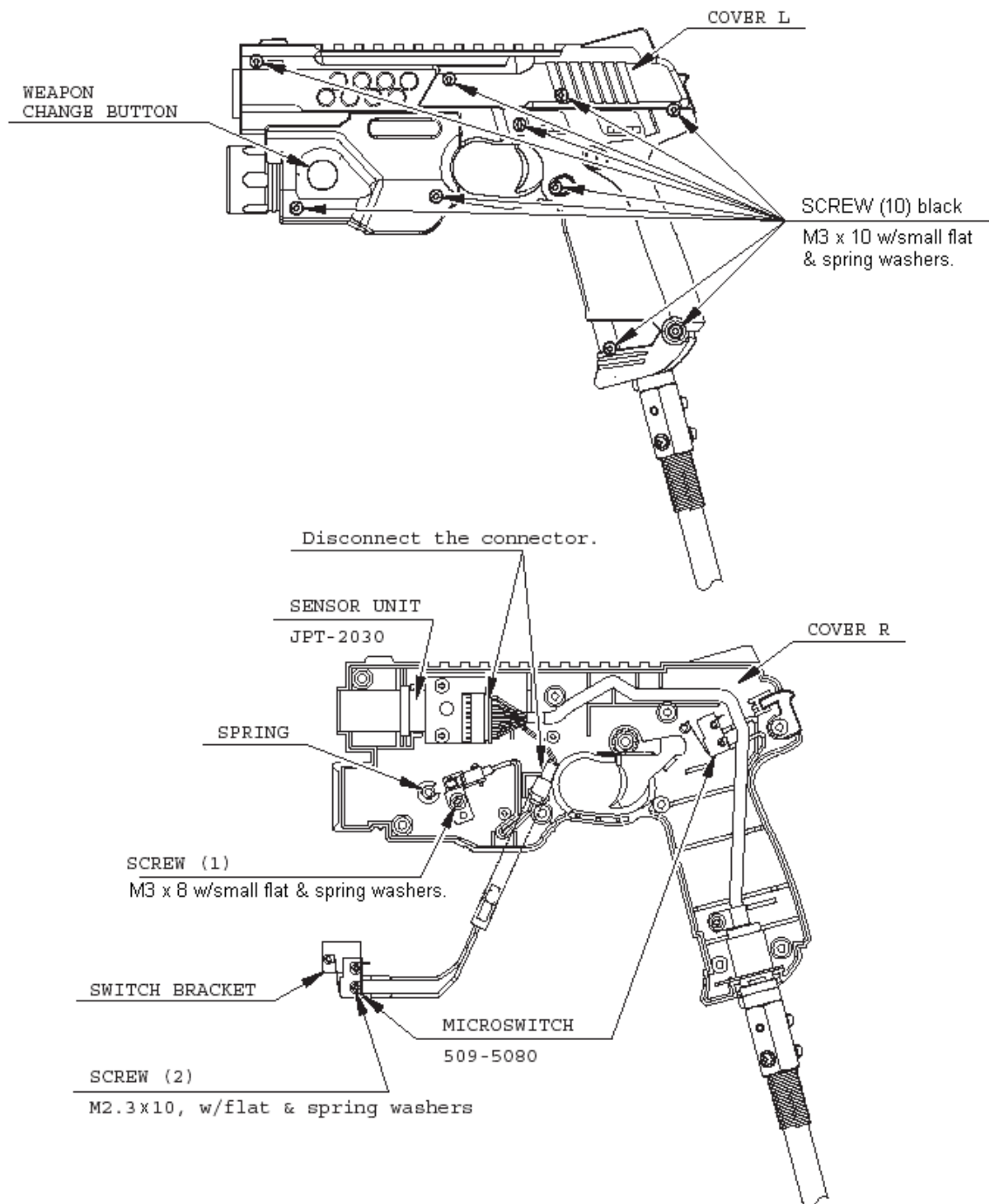


10. Remove the 2 screws and remove the SW bracket from the microswitch.
SCREW (2) / M2 x 10, W/flat & spring washers

SCREW (2)
M2.3 x10, w/flat & spring washers



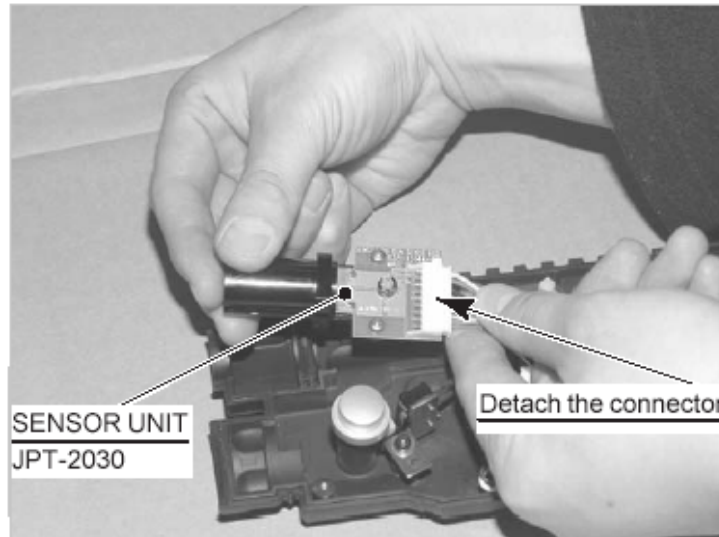
11. Remove the soldering and extract the microswitch.



12. Solder in the new microswitch and reassemble the Gun Controller. Be careful not to tighten the screws too tightly.
13. Test the trigger (or Weapon Change Button) to make sure that the new microswitch functions properly.

3.14.2.2.REPLACING THE SENSOR UNIT

1. Follow instructions (1) – (3) of “Replacing the Microswitch” to remove the left shell.
2. Detach the connector and pull out the sensor unit.
[SENSOR UNIT / JPT-2030](#)



3.15. GAMEBOARD



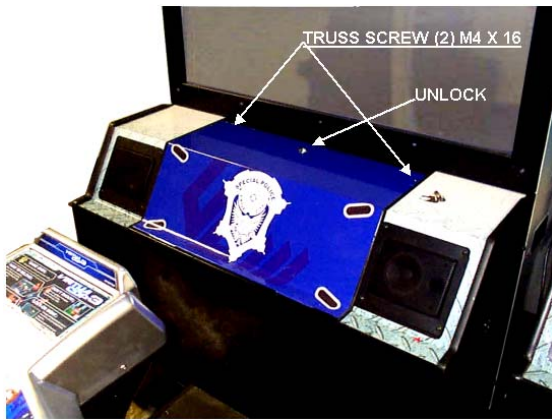
- Turn off the mains power and remove the power cord before opening the machine.
- To prevent risk of shock or fire, be careful not to damage any wiring.



- The GAME BOARD should not require any work to be carried out upon it. All settings and tests can be achieved without access to the GAME BOARD.
- Take anti-static precautions to avoid damaging the electronic parts.
- All work to be carried out by QUALIFIED SERVICE PERSONNEL.

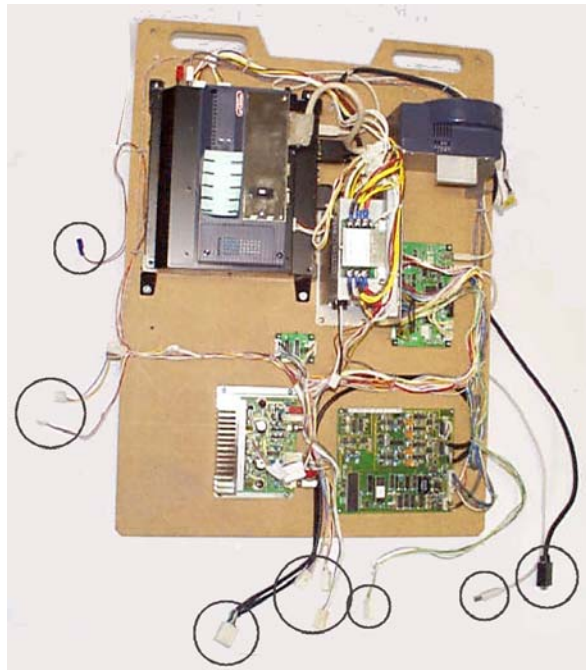
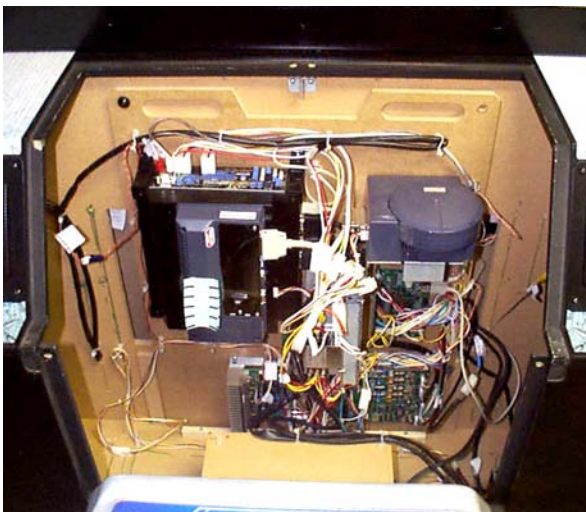
The GD-ROM Service Manual supplied with this product instructs you to remove the Key Chip when shipping the CHIHRO Board. However, this product employs a dedicated CHIHRO Board, therefore do not disassemble the CHIHRO Board or remove the Key Chip.

3.15.1.REMOVING THE BOARD



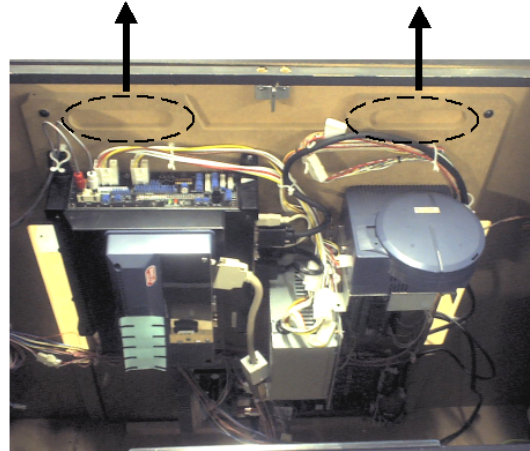
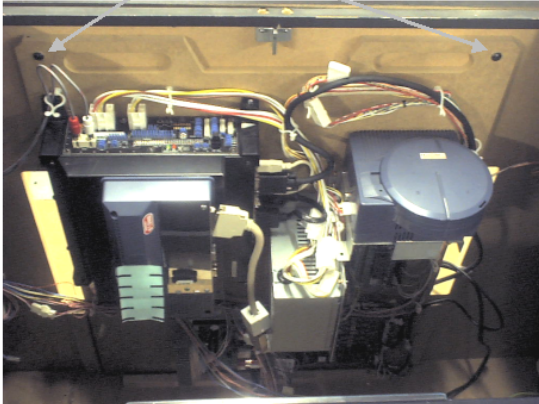
1. Turn off the power.
2. Remove the two screws and unlock the LID UPPER.

3. Disconnect all harnesses connected to the CHIHRO Main Board assembly as circled below.



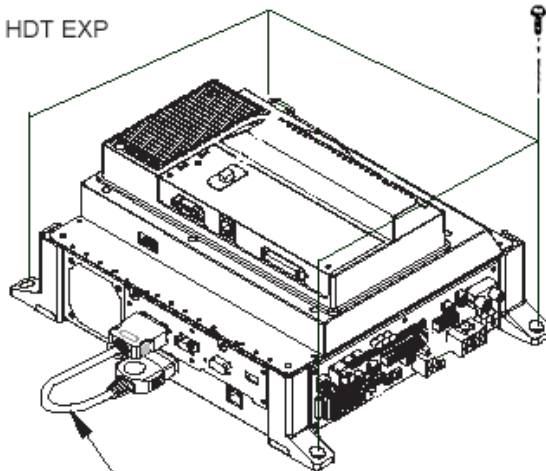
4. Remove the two screws securing the base to the cabinet and withdraw the main board assembly upwards out of the cabinet. using the 2 hand holds in the board.

FIXING SCREWS (2)



5. Pull the ASSY MAIN BD out of the Cabinet and set it on a level surface before continuing.
6. Unplug all connectors connected to the Chihiro Board.
7. Unplug the GD Cable connector on the side of the Media Board on the Chihiro Board.
8. Unplug the AVIP Cable connected to the Chihiro Board. This is because the AVIP Cable is packed with it when the Chihiro Board is transported.
9. Remove the 4 screws and remove the Chihiro Board from the Base.

ASSY CASE BOX HDT EXP
843-0001D-12



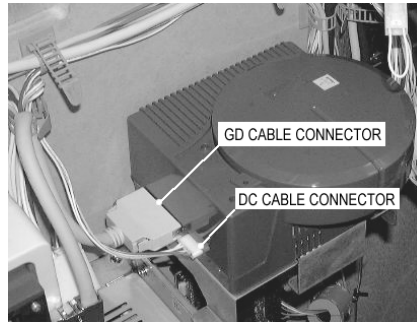
SCREW (4)
M4 x 16 W/Flat &
spring washers

UNPLUG THE
AVIP CABLE
600-7274-150

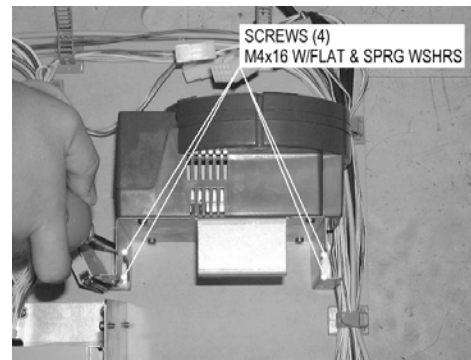
3.15.2.REMOVING THE GD-ROM DRIVE

Take out the ASSY MAIN BD from the PTV cabinet and remove the GD-ROM Drive from the ASSY MAIN BD as follows:

- i. Following the above procedure (steps 1 to 5), take out the ASSY MAIN BD.
2. Remove the GD cable connector and the power cord connector from the GD-ROM Drive.

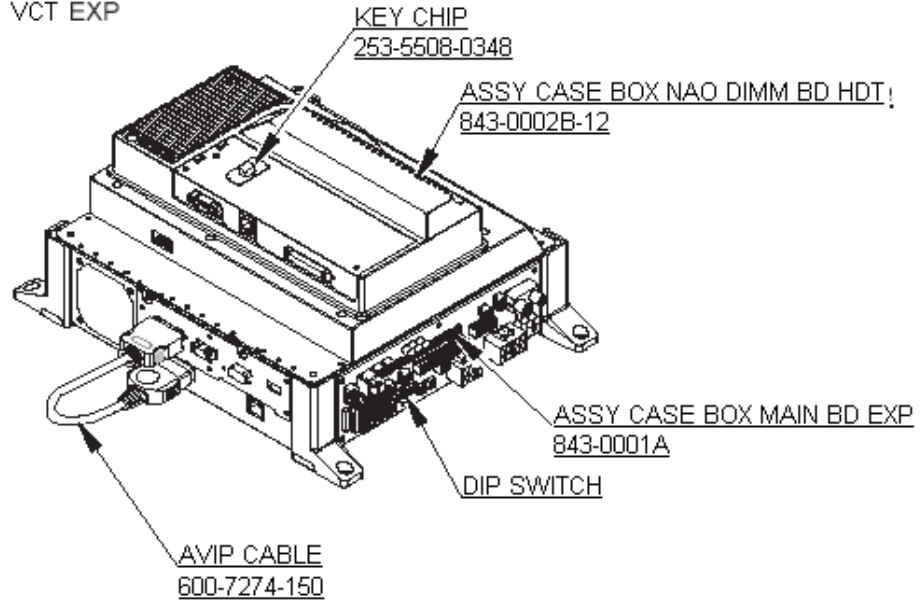


3. To remove the GD-ROM Drive, undo the four screws shown.



3.16. COMPOSITION OF THE GAME BOARD

ASSY CASE BOX VCT EXP
843-0001D-12



DIP SW SETTING

Use this product with the DIP SW settings shown in the figure below.



3.17. PERIODIC CHECK AND INSPECTION

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



- Be sure to check annually to see if the power cords are damaged. The plug is securely inserted and that there is no dust in the interior of the machine or between the socket and the power cord. Using the product in an unclean condition may cause a fire or electric shock.

- Only QUALIFIED SERVICE PERSONNEL should carry out periodic checks.

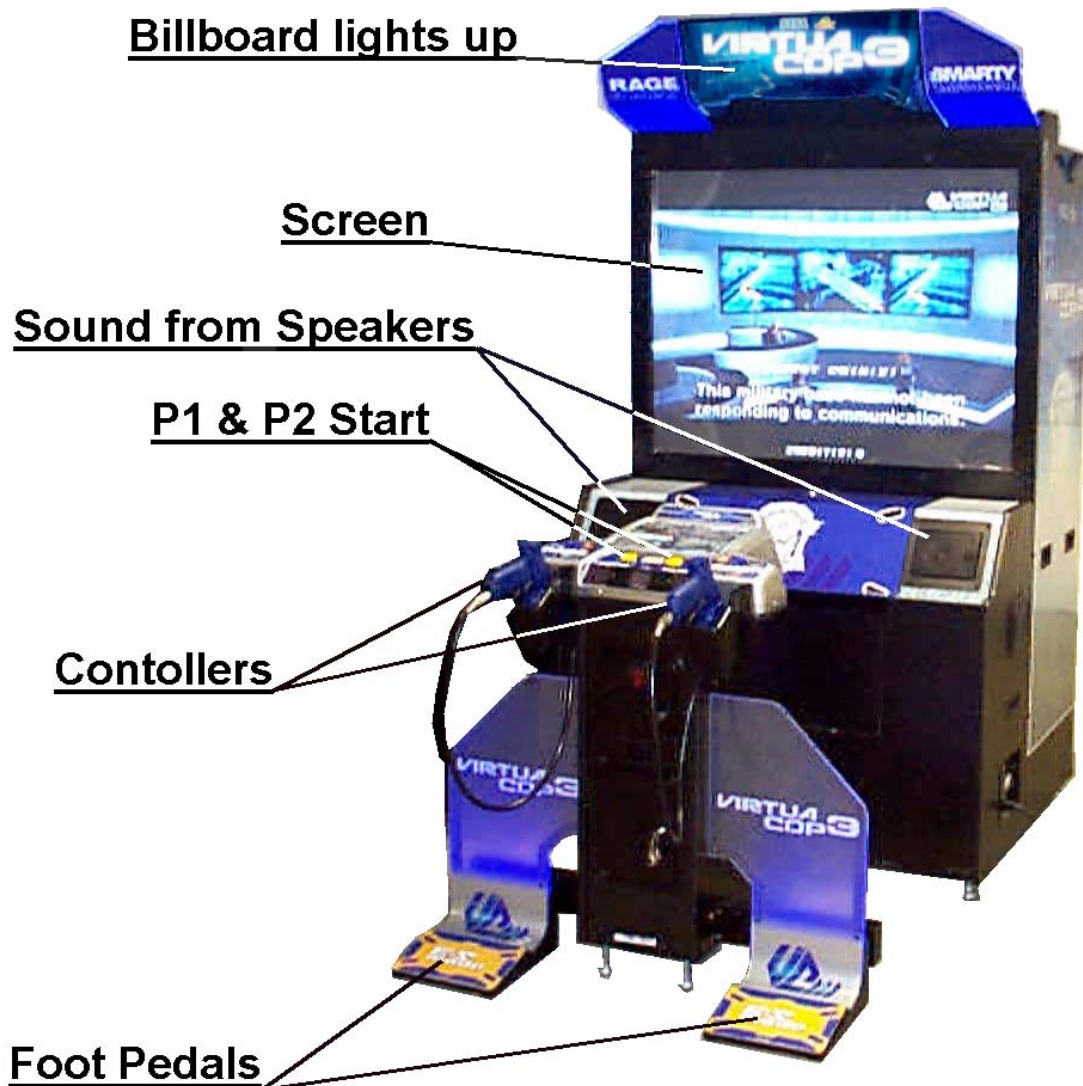
DESCRIPTION	WHAT TO CHECK	INTERVAL
MONITOR / PROJECTOR	Clean screen	Weekly
	Check adjustment	Monthly
GAME BD	Memory Test	Monthly
	Game Assignments	Monthly
INTERIOR	Clean (Do Not use water jet)	Annually
POWER SUPPLY CORD	Check condition	Annually
CABINET SURFACE	Clean (Do Not use water jet)	As required
CONTROL PANEL	Lamp operation	Monthly
	Check switch operation	Monthly
CONTROLLER (GUN)	Clean	As required
	Check sighting	Weekly
	Check switch operation	Monthly
COIN MECHANISM	Check SW (If Fitted)	Monthly

4. HOW TO PLAY

Use this section to confirm the machine is operating correctly; if the machine doesn't operate as described there may be a fault.

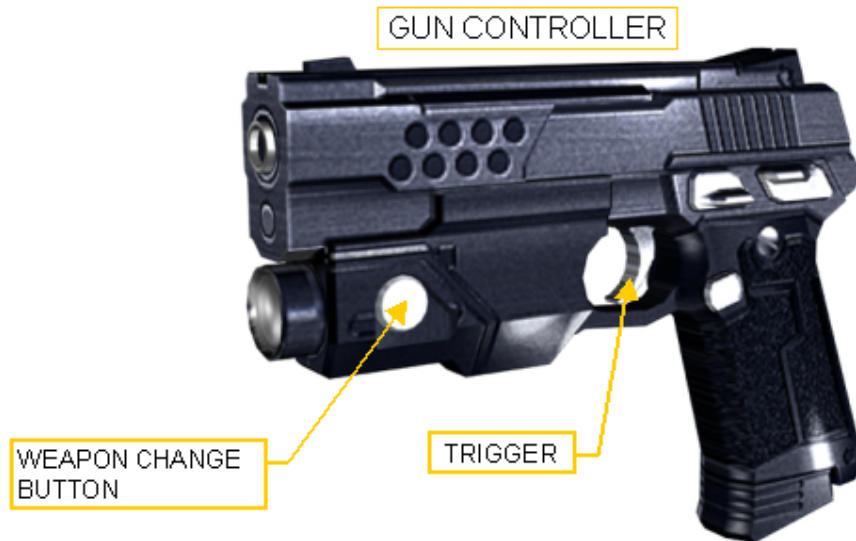
While power is connected, the billboard is continuously lit and demonstration footage and ranking data are displayed on the screen. This 'advertise' mode will be accompanied by sound from both speakers unless set otherwise in the TEST mode.

The 1P and 2P start buttons have integral lights that flash when a credit is inserted.



4.1. GAME CONTENTS

Press the appropriate START button to begin play as 1P or 2P. If enough credits for a game are remaining, the other player's START button will flash. Press the flashing START button to join a game.



4.1.1. The Main Characters

Virtua Cop 3 has two main characters, RAGE (1P) and SMARTY (2P). JANET appears as an allied character during the game but cannot be controlled.

4.1.1.1.P Character: RAGE

Strong as an ox and just as uncontrollable, this hothead tends to act before he thinks. That's made him something of a headache for the department.



4.1.1.2.2P Character: SMARTY

Rage's complete opposite, Smarty is a cautious, brainy type who never loses his cool. He's also the best marksman in the precinct.



4.1.2. Playing Virtua Cop 3

4.1.2.1.Start a New Game

Press the START button to begin a new game. Mission Select follows.

4.1.2.2.Calibrating at the Start of the Game

The availability of calibration at the start of each game may be set in Test Mode. The following applies when calibration on demand is enabled.

To enter the calibration screen, hold down the foot pedal, aim the gun controller at the screen, and press the START button when starting the game. Aim the gun at the centre target and pull the trigger. When calibration is complete, press the START button to exit to Mission Select.

4.1.2.3.Mission Select

Displays the three mission panels, Simple, Normal and Hard. Shoot the desired mission panel to start. Players are free to start any mission they like.

When a mission has been completed, the game returns to Mission Select. The mission panel for the completed mission reads "Complete" and cannot be selected. Select a different mission.

4.1.2.4. Game Screen



1. Points/Point Multiplier Meter

The eight-digit number indicates total points earned. After 3-point shots, Justice shots, and other special attacks the name of the attack and points earned are shown beneath the score display.

The more enemies you shoot, the more the gauge above the score display lengthens. When the gauge is completely filled, your level increases. The current level is shown inside the circle. A higher level means more points for killing enemies, but you'll lose a level if you take damage or shoot a civilian!

2. Lock-On Sight

The Lock-On Sight automatically detects armed enemies and tells you when you're being attacked. The Lock-On Sight can lock on multiple enemies simultaneously. When the sight appears, enemies are attacking. If you don't fight back, you're sure to take damage.

3. Bullets Left/Reload

Shows bullets remaining in current gun.

Shoot the gun away from the screen to reload your weapon.

4. Weapon Palette, Weapon Change

The player starts out with a Guardian II (10-round magazine, infinite reloads). Defeat special enemies and destroy background objects to get special weapons. Acquiring a special weapon will add a second weapon to the Weapon Palette. Use the Weapon Change button to switch between the special weapon and the Guardian II. The weapon currently in use is shown on top, above the weapon in stock. Special weapons can only be reloaded a limited number of times and cannot be reloaded once ammunition runs out. Get Ammo items to increase the number of times the weapon may be reloaded.

Special Weapons can be lost in three ways:

- When the reload count hits zero and all ammunition is used up
- When shot and hurt by an enemy
- By shooting a civilian

Knowing when to use which weapon is key.

5. Life

Shows life remaining. Getting shot by an enemy costs one life. Shooting a civilian also costs one life. When all lives have been used up, the game is over.

4.1.2.5.ES Gauge

Shows remaining energy in ES Mode. The ES Gauge falls during ES Mode and recovers when you defeat enemies.

4.1.2.5.1.ES Mode (Exceeding Sense Mode)

Hold down the foot pedal to activate ES Mode.

ES Mode enhances your character's senses, making time appear to move slower. In ES Mode you can even see your enemies' bullets and shoot them down before they reach you. Red bullets are especially damaging, so try to get them before they get you!



ES Mode consumes the ES Gauge. When the ES Gauge runs out of energy, you will be unable to use ES Mode.



Kill enemies to recover energy for the ES Gauge.



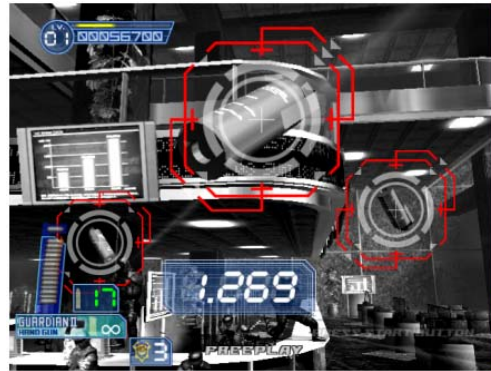
4.1.2.5.2.ES Attack (Exceeding Sense Attack)

ES Attack begins automatically in certain scenes.

ES Attack displays special targeting sights that show points of particular vulnerability for a limited time. Speed and accuracy are essential.

Hit all the targeted areas within the time given to clear the ES Attack. The outcome of an ES Attack affects the rest of the game's story.

When targets are shown with energy gauges, shoot until the energy gauge hits zero to clear the ES Attack.



4.1.3. Game Over

The game ends in one of three ways:

- When all lives have been lost
- When all three missions have been completed
- When the special "Extra Mission"* has been completed

[*]: When both the Simple and Normal missions have been completed successfully (in either order) and the player defeats the boss of the Hard mission, a special scene is shown and the Extra Mission is unlocked.

4.1.4. Continue

When you run out of lives, "Continue" appears on the screen and a countdown begins. To continue, insert sufficient coins and press the START button. If enough credits remain to continue, press the flashing START button.

5. MAINTENANCE INSTRUCTIONS

5.1. EXPLANATION OF TEST AND DATA DISPLAY

Perform the tests and data check periodically when installing the machine initially or collecting cash, or when the machine does not function correctly. Perform checks in accordance with the explanations given in this section.


The following shows tests and modes that should be utilized as applicable. This product's basic system consists of the Chihiro game board and the GD-ROM drive. The system enables you to play several games one after the other just by changing a GD-ROM disc that is to be set on the GD-ROM drive.

Therefore the product supports, the following 2 test modes:

(1) System test mode for an automatic self-diagnostic test (generally used by every product that contains the basic system) and a coin assignment (specifically used by this product)

and

(2) Game test mode for testing the input/output control devices and setting the difficulty level (specifically used by this product).

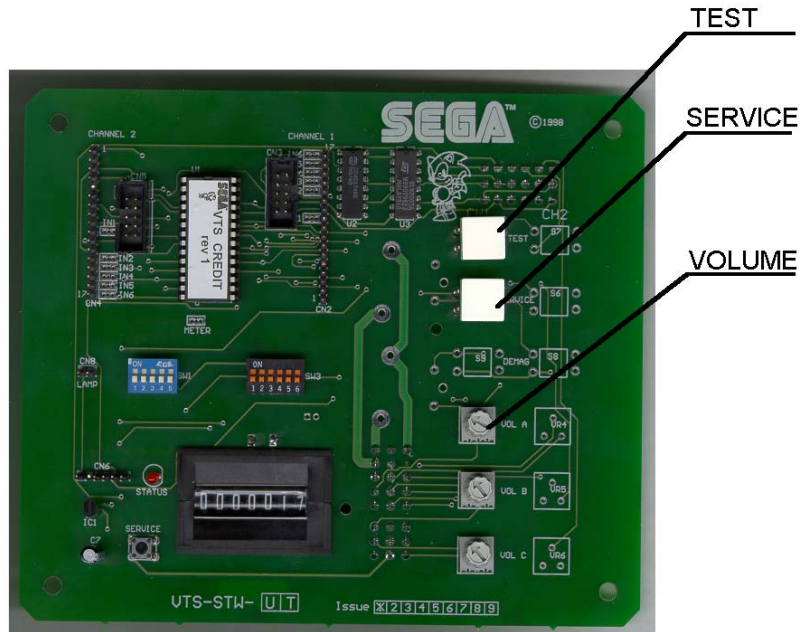
 <p>STOP IMPORTANT</p>	<ul style="list-style-type: none">• Any settings that are changed by users during TEST MODE are saved upon exiting TEST MODE with the EXIT command in the SYSTEM MENU. If the unit is powered off prior to exiting, changes to settings will not take effect.• You may not enter GAME TEST MODE while the unit is reading from or checking the GD-ROM. If error messages are displayed when exiting TEST MODE, you should power the unit off and on again.• In the manual for this product, "Media Board" and "DIMM" are one and the same.• Use with the specified settings. If settings other than those specified are used, inappropriate operations or malfunction may occur.
--	---

ITEM	DESCRIPTION / REFERENCES	INTERVAL
INSTALLATION OF THE MACHINE	When the machine is installed perform the following checks: <ul style="list-style-type: none"> • Check to see that each setting is as per the standard settings input at the time of shipment. 3.9 • In the INPUT TEST mode, check each switch. 3.9.3 • In the OUTPUT TEST mode, check each of the lamps. 3.9.4 • Test on-IC-Board IC's in the self-test mode. 5.2.1 	Monthly
MEMORY	<ul style="list-style-type: none"> • This test is automatically executed by selecting RAM TEST, or ROM BOARD TEST in the Menu mode. 5.2 	Monthly
PERIODIC CHECKS	Periodically perform the following <ul style="list-style-type: none"> • MEMORY TEST. 5.2 • Ascertain each setting. • In the INPUT TEST mode, test the control devices. 5.2.4 • In the OUTPUT TEST mode, check each of the lamps. 5.3.2 	Monthly
CONTROL SYSTEM	<ul style="list-style-type: none"> • In the INPUT TEST mode, check each switch and • Adjust or replace each switch and 	Monthly
MONITOR (Projector)	<ul style="list-style-type: none"> • In the CRT TEST mode, check to ensure the monitor (projector) is adjusted correctly. 5.2.6 • Clean screen - (switch off machine and remove the plug). Do not use a water jet. 	Monthly Weekly
IC BOARD	MEMORY TEST 5.2 <ul style="list-style-type: none"> • In the SOUND TEST mode, check the sound related ROMs. 5.2.5 	Monthly
DATA CHECK	<ul style="list-style-type: none"> • Check such data as held in the bookkeeping screens, relating to number and length of plays. 5.2 & 5.3.5 	Monthly
EXTERIOR MAINTENANCE	<ul style="list-style-type: none"> • Clean surfaces 	Monthly
COIN MECHANISM	<ul style="list-style-type: none"> • Check switch operation (if fitted) 	Monthly

5.1.1. VTS ASSEMBLY



- Do not touch places other than those specified. Touching places not specified could cause an electric shock or short circuit.



Opening the Coin Chute door will reveal the VTS Assembly shown above. The function of each switch is as follows.

TEST BUTTON
(TEST SW)

Used to enter TEST mode. Also has function during TEST mode. Refer to the later section detailing TEST mode.

SERVICE BUTTON
(SERVICE SW)

Gives credits without registering on the coin counter. Also used during TEST mode.

DEMAG

Eliminates colour unevenness from the monitor screen.

VOLUME CONTROL FRONT

Adjusts the volume of the sound emitted from the speakers.

The control panel switches can also be used in the place of the VTS switches:

Note: There are three volume controls on the VTS, only the top volume control is used, the other two are spares.

5.2. SYSTEM TEST MENU MODE

System Test Mode can be used to check that the main circuit operations are correct, adjust Monitor colour, and perform coin/credit settings.

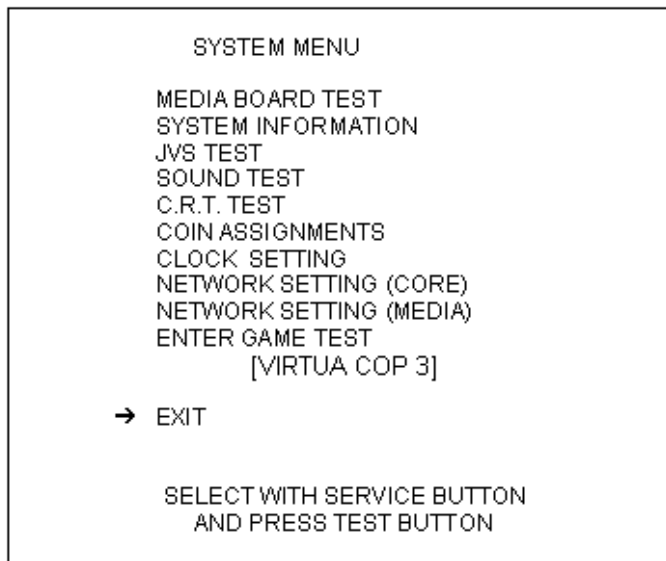
However, this product can only be used with the settings shown below.

SOUND TEST - OUTPUT TYPE: STEREO

COIN ASSIGNMENTS - COIN CHUTE TYPE: COMMON
- SERVICE TYPE: COMMON


NETWORK SETTING (MEDIA) - NETWORK TYPE: NONE

1. Press the TEST Button after powering on the unit to display the following SYSTEM MENU.

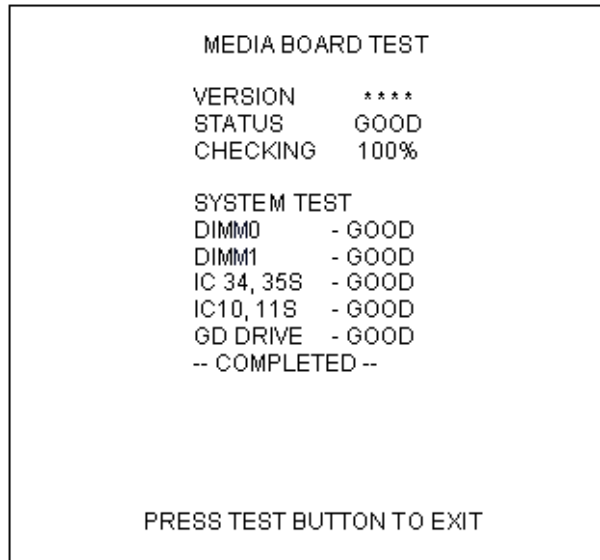


2. Press the SERVICE Button to move the cursor to the desired test item.
3. Move the cursor to the desired item and press the TEST Button to display each test screen.
4. Move the cursor to ENTER GAME TEST and press the TEST Button to enter the individual test menus for each game. Refer to "9-3 GAME TEST MODE".
5. When testing is complete, move the cursor to EXIT and press the TEST Button. The game advertisement screen should be displayed.

5.2.1. MEDIA BOARD TEST

 IMPORTANT	Powering off the system during the MEDIA BOARD TEST with a DIMM BOARD will erase the game programme data. It may be necessary to reload the data. Always wait for the test to complete before attempting to exit.
---	---

MEDIA BOARD TEST is used to check the memory and IC on the MEDIA BOARD connected to the Chihiro. Test screens and test times may differ depending on the type of MEDIA BOARD connected to the unit.
*The following is the MEDIA BOARD TEST screen for a unit with a DIMM BOARD.

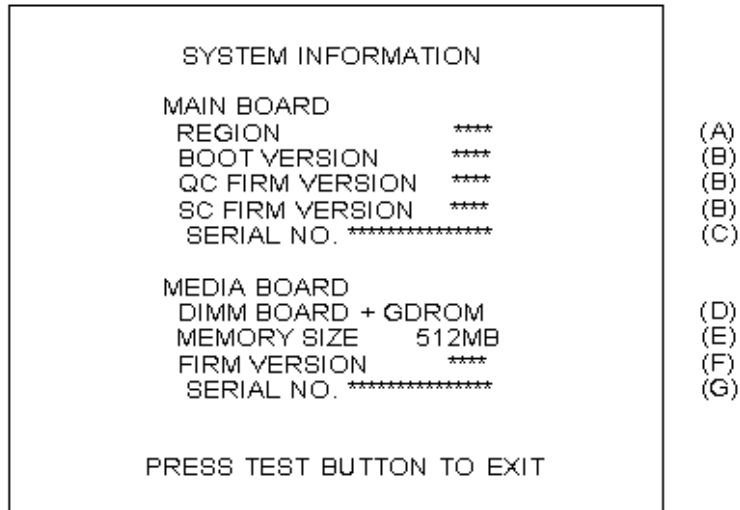


1. MEDIA BOARD TEST begins immediately upon entering this test mode.
2. If "GOOD" is displayed to the right of each item, the MEDIA BOARD components are functioning properly.
3. After the test is complete, move the cursor to EXIT and press the TEST Button to return to the SYSTEM MENU screen.

5.2.2. SYSTEM INFORMATION

Use SYSTEM INFORMATION to check version and other information for system programmes. Screens may differ depending on the type of MEDIA BOARD connected to the unit.

*The following is the SYSTEM INFORMATION screen for a unit with a DIMM BOARD.



Press the TEST Button to return to the SYSTEM MENU screen.

- (A) REGION
The COUNTRY CODE of the MAIN BOARD.
- (B) BOOT VERSION, QC FIRM VERSION, SC FIRM VERSION
Version information for the MAIN BOARD system programmes.
- (C) SERIAL NO.
Serial number of the MAIN BOARD.
- (D) DIMM BOARD + GDROM
Type of MEDIA BOARD. This example shows a DIMM BOARD with a GD-ROM DRIVE connected.
- (E) MEMORY SIZE
Capacity of DIMM memory installed on the DIMM BOARD.
- (F) FIRM VERSION
Version information for the DIMM BOARD system programme.
- (G) SERIAL NO.
Serial number of the DIMM BOARD.

5.2.3. JVS TEST

JVS TEST is used to verify the specs of the I/O BOARD connected to the Chihiro and to run input tests. I/O BOARD specs are displayed initially. Screens may differ depending on the type of I/O BOARD connected to the unit.

```
JVS TEST
INPUT TEST
NEXT NODE
EXIT
NODE  → *****
NAME *****
I/O BD JVS
VER *****
*****
CMD VER 1.1
JVS VER 2.0
COM VER 1.0
SWTCH 2 PLAYER(S) 13 BITS
COIN 2 SLOT
ANALOG 8 CH
ROTARY 0 CH
KEYCODE 0
SCREEN X:0 Y:0 CH:0
CARD 0 SLOT
HOPPER OUT 0 CH
DRIVER OUT 6 CH
ANALOG OUT 0 CH
CHARACTER CHARA: 0 LINE: 0

SELECT WITH SERVICE BUTTON
AND PRESS TEST BUTTON
```

- (1) Use the SERVICE Button to move the cursor to the desired test item.
- (2) Move the cursor to INPUT TEST and press the TEST Button to enter the INPUT TEST screen for the I/O BOARD currently displayed.
- (3) When 2 or more I/O BOARDS are connected, move the cursor to NEXT NODE and press the TEST Button to enter the test screen for the next I/O BOARD. The lower the NODE number, the further away the node is from the Chihiro.
- (4) Move the cursor to EXIT and press the TEST Button to return to the SYSTEM MENU screen.

5.2.4. INPUT TEST Screen

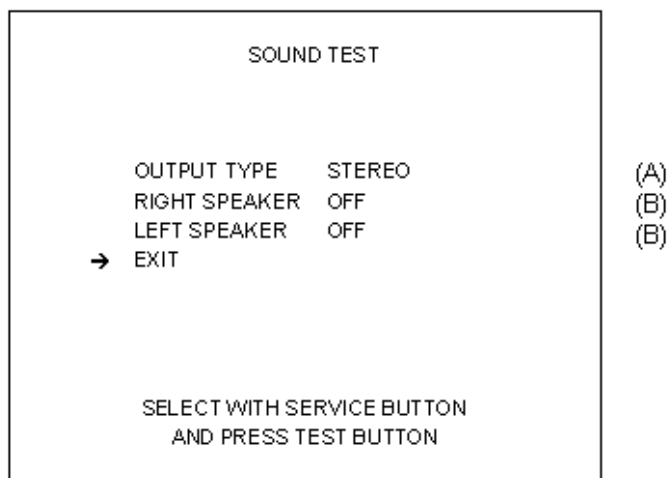
JVS TEST		
INPUT TEST		
NODE	1/1	
SYSTEM	00	(A)
PLAYER 1	0000	(A)
PLAYER 2	0000	(A)
COIN 1	0000	(B)
COIN 2	0000	(B)
ANALOG 1	0000	(C)
ANALOG 2	0000	(C)
ANALOG 3	0000	(C)
ANALOG 4	0000	(C)
ANALOG 5	0000	(C)
ANALOG 6	0000	(C)
ANALOG 7	0000	(C)
ANALOG 8	0000	(C)

PRESS TEST AND SERVICE BUTTON TO EXIT

- (5) On-screen values change according to the input from switches and the volume.
- (A) SYSTEM, PLAYER
Values change with input from control panel/other switches.
 - (B) COIN
Increases with input from the COIN SWITCH. The count is cleared when exiting TEST MODE.
 - (C) ANALOG
Displays analog values from "0000" to "FFFF".
- (6) Press the SERVICE and TEST Buttons simultaneously to return to the JVS TEST main screen.

5.2.5. SOUND TEST

Use SOUND TEST to test sound output and to select the stereo/mono/surround setting.



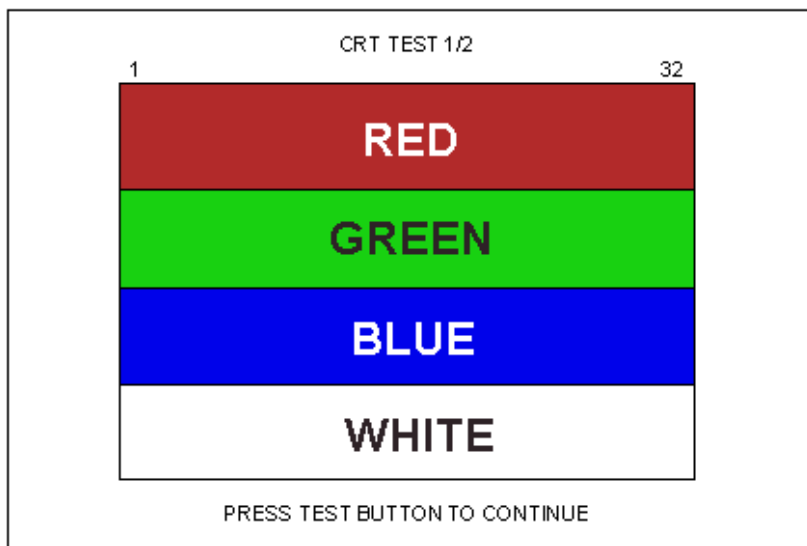
- (1) Use the SERVICE Button to move the cursor to the desired test item.
- (2) Press the TEST Button to enter the selected item.
 - (A) OUTPUT TYPE (STEREO, MONO, SURROUND)
Select the sound output from the I/O PANEL audio output interface setting among STEREO, MONO and SURROUND.
 - (B) RIGHT/LEFT SPEAKER (ON, OFF)
When set to "ON", the test sends a beep to each audio output interface. Only the word "SPEAKER" is displayed when the OUTPUT TYPE is set to "MONO", and when set to "ON", the test sends the same beep to both the left/right audio output interfaces.
To test surround output, it is necessary to use a separate Audio Amp, and receive signal from a terminal not in use at the time of shipping.
Note: Not available with this product.
- (3) Move the cursor to EXIT and press the TEST Button to return to the SYSTEM MENU screen.

5.2.6. C.R.T. TEST

Use the C.R.T. TEST to adjust monitor colours and verify screen size.

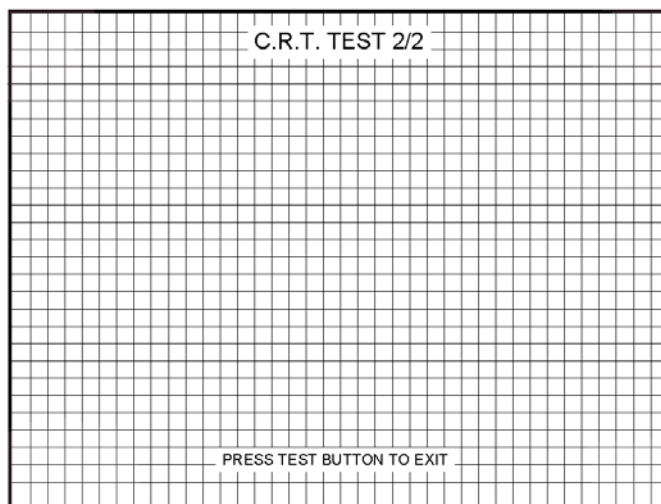
COLOUR CHECK Screen

- (1) Monitor COLOUR CHECK screen is displayed initially.
Each of the colours (red, green and blue) is darkest at the far left and gets progressively lighter (32 steps) towards the right.
Monitor brightness is set correctly if the white colour bar is black at the left edge and white at the right edge.



- (2) Press the TEST Button to proceed to the next page

SIZE CHECK Screen

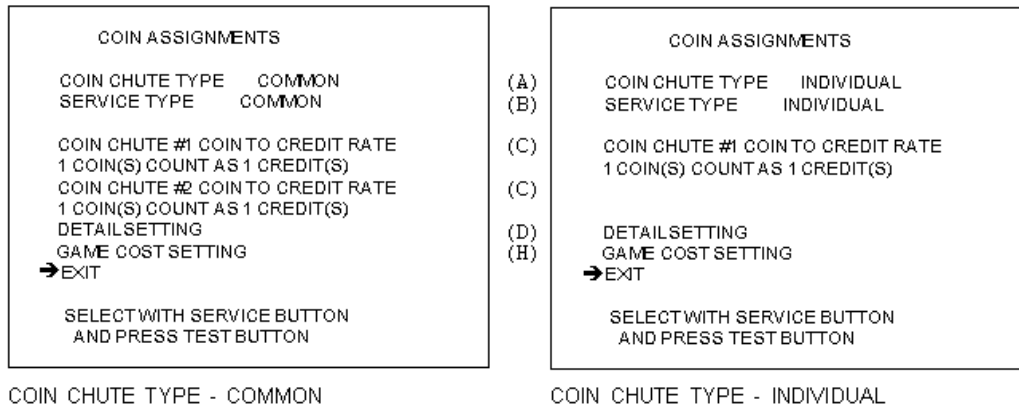


- (3) Adjust the CHECK GRID so that the entire GRID is displayed on the screen.
- (4) Press the TEST Button to return to the SYSTEM MENU screen.

5.2.7. COIN ASSIGNMENTS

Use COIN ASSIGNMENTS to set the credit rate for each coin inserted.

- (1) Use the SERVICE Button to move the cursor to the desired test item.
- (2) Press the TEST Button to change the setting or to open the detailed settings.
- (3) Move the cursor to EXIT and press the TEST Button to return to the SYSTEM MENU screen.



(A) COIN CHUTE TYPE (COMMON, INDIVIDUAL)

Adjust settings according to the specs of the cabinet COIN CHUTE.

COMMON

This is for cabinets where a single COIN CHUTE is used by multiple players.

Coins inserted by each player are treated as common credits.

Up to 2 COIN CHUTES (#1 and #2) may be used. The (C) COIN TO CREDIT RATE setting for COIN CHUTE #1 and #2 may be set differently.

INDIVIDUAL

This is for cabinets with individual COIN CHUTES for each player.

Coins inserted by each player are treated as individual player credits.

The (C) COIN TO CREDIT RATE setting is used by all COIN CHUTES.

(B) SERVICE TYPE (COMMON, INDIVIDUAL)

Use this to set the function of each SERVICE Button when there is more than one SERVICE Button.

COMMON

Pressing any SERVICE Button enters service credits for all players.

INDIVIDUAL

Pressing the SERVICE Button enters service credits only for the corresponding player.

- (C) COIN TO CREDIT RATE
 Set the CREDIT RATE for each coin inserted.
 The " Δ COIN(S) COUNT AS \square CREDIT(S)" setting indicates that "Inserting Δ coins equals \square credits".
 Set this to "FREE PLAY" to allow game play without credits.
 When (A) COIN CHUTE TYPE is set to "COMMON", COIN CHUTE #2 settings are restricted to some extent by the settings for COIN CHUTE #1.
- (D) DETAIL SETTING
 This mode allows for more detailed credit rate settings than the (C) COIN TO CREDIT RATE setting.
 Changes made in DETAIL SETTING override any (C) COIN TO CREDIT RATE settings.

DETAIL SETTING Screen

```

COIN ASSIGNMENTS
DETAIL SETTING
COIN CHUTE #1 MULTIPLIER
1 COIN COUNT AS 1 COIN(S)
COIN CHUTE #2 MULTIPLIER
1 COIN COUNT AS 1 COIN(S)
BONUS ADDER      NO BONUS ADDER
COIN TO CREDIT  1 COIN(S) 1 CREDIT
→EXIT
COIN CHUTE #1 OPERATION
COIN  1 2 3 4 5 6 7 8 9
CREDIT 1 2 3 4 5 6 7 8 9
COIN CHUTE #2 OPERATION
COIN  1 2 3 4 5 6 7 8 9
CREDIT 1 2 3 4 5 6 7 8 9
      SELECT WITH SERVICE BUTTON
      AND PRESS TEST BUTTON
  
```

COIN CHUTE TYPE --- COMMON

(E)

(E)

(F)

(G)

```

COIN ASSIGNMENTS
DETAIL SETTING
COIN CHUTE #1 MULTIPLIER
1 COIN COUNT AS 1 COIN(S)

      BONUS ADDER      NO BONUS ADDER
COIN TO CREDIT  1 COIN(S) 1 CREDIT
→EXIT
COIN CHUTE #1 OPERATION
COIN  1 2 3 4 5 6 7 8 9
CREDIT 1 2 3 4 5 6 7 8 9

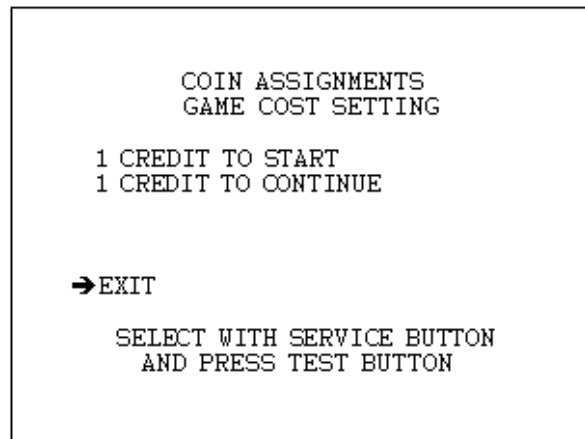
      SELECT WITH SERVICE BUTTON
      AND PRESS TEST BUTTON
  
```

COIN CHUTE TYPE --- INDIVIDUAL

- (E) COIN CHUTE MULTIPLIER
 Use this to set how many coins will be counted for each coin inserted.
 The "1 COIN COUNT AS Δ COIN(S)" setting indicates that "Each coin will be counted as Δ coins".
 When the (A) COIN CHUTE TYPE is set to "COMMON", the setting may be set individually for COIN CHUTE #1 and #2.
- (F) BONUS ADDER
 Use this to set the number of coins calculated with the (E) COIN CHUTE MULTIPLIER setting that need to be inserted to get 1 bonus coin. When the (A) COIN CHUTE TYPE is set to "COMMON", the sum of the coins for COIN CHUTE #1 and #2 is used for the calculation.
 The " Δ COINS GIVE 1 EXTRA COIN" setting indicates that "For every Δ coins, 1 bonus coin is given".
 Set this to "NO BONUS ADDER" to disable bonus coins entirely.
- (G) COIN TO CREDIT
 Use this to set how many coins calculated with the (F) BONUS ADDER setting count as 1 credit.
 The " Δ COIN(S) 1 CREDIT" setting indicates that "Every Δ coins equals 1 credit."

(H) GAME COST SETTING

Use this mode to set the number of credits required to start a game.
Screens may differ depending on the game.



(I)
(J)

(I) Set the number of credits required to start a game.

(J) Set the number of credits required to continue a game.

5.2.8. CLOCK SETTING


Use the SERVICE Button to move the cursor to the item to be set.



- (1) Move the cursor to the desired item and press the TEST Button to increase values.
- (2) The max value for YEAR is "2099"; further increases return the value to "2000".
- (3) Move the cursor to EXIT and press the TEST Button to return to the SYSTEM MENU screen.

5.2.9. NETWORK SETTING (CORE)

Use the LAN PORT attached to the Main Board, and carry out the settings necessary for network communication.



***This game does not support network communication connections. ***

THIS OPTION IS FOR POSSIBLE FUTURE GAMES ONLY.
SELECT EXIT AND GO DIRECTLY TO THE NEXT TEST MODE.

```
NETWORK SETTING(CORE)

REMOTE(C)          ENABLE (A)

IP ADDRESS(C)      (B)
-----
SUBNET MASK(c)     (C)
-----
GATEWAY(C)         (D)
-----
PRIMARY DNS(C)     (E)
-----
-> EXIT

CURRENT ***** (F)
*****

SELECT WITH SERVICE BUTTON
AND PRESS TEST BUTTON
```

- (1) Use the SERVICE Button to move the cursor to the desired test item.
(When setting IP ADDRESS, SUBNET MASK, GAME WAY or PRIMARY DNS, use the underline as a guide.)
 - (2) Press the TEST Button to change the setting.
 - (3) Move the cursor to EXIT and press the TEST Button to return to the SYSTEM MENU screen.
- (A) REMOTE (C)
This sets up whether a communication setting is automatic or manual.
ENABLE: Sets the communication setting automatically.
DISABLE: Sets the communication setting manually.
- (B) IP ADDRESS (C)
This is one of the settings required for communication network. After setting the number, press TEST Button on SET position to memorize the setting. If you set the REMOTE setting to ENABLE, you cannot select this.
- (C) SUBNET MASK (C)
This is one of the settings required for communication network. After setting the number, press TEST Button on SET position to memorize the setting. If you set the REMOTE setting to ENABLE, you cannot select this.
- (D) GATE WAY (C)
This is one of the settings required for communication network. After setting the number, press TEST Button on SET position to memorize the setting. If you set the REMOTE setting to ENABLE, you cannot select this.
- (E) PRIMARY DNS (C)
This is one of the settings required for communication network. After setting the number, press TEST Button on SET position to memorize the setting. If you set the REMOTE setting to ENABLE, you cannot select this.
- (F) CURRENT
This displays the present setting value during a set-up of each item [(B), (C), (D), (E)]. Pressing TEST Button on SET position, the settings are memorized and the screen is changed.

5.2.10.NETWORK SETTING (MEDIA)

Use NETWORK SETTING to establish and test network connections.
This is only displayed when a network enabled MEDIA BOARD is connected to the Chihiro.




***This game does not support network communication connections and only an error message will be displayed. ***

THIS OPTION IS FOR POSSIBLE FUTURE GAMES ONLY.
SELECT EXIT AND GO DIRECTLY TO THE NEXT TEST MODE.

NETWORK SETTING (MEDIA)

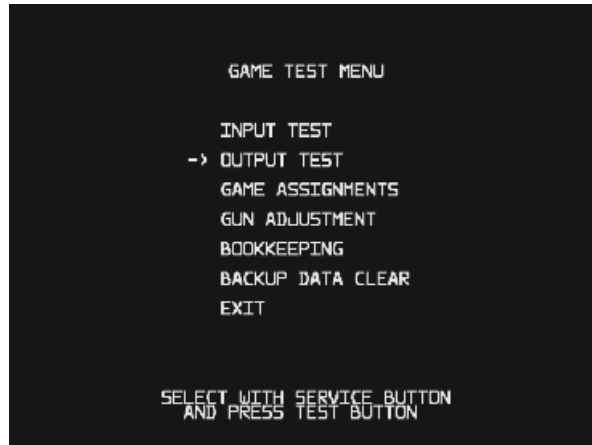
COMMUNICATION ERROR

5.3. GAME TEST MODE

 <p>STOP IMPORTANT</p>	<ul style="list-style-type: none">• When changing the game configuration, changes will not take effect until the Game Test Mode has been completed. Be sure to exit the Game Test Mode properly after configuration changes.• Do not configure the game in ways not described in this text. It is possible that the game will not function properly.
---	---

Select ENTER GAME TEST from the System Menu screen to display the Game Test Menu screen as follows.

Use the SERVICE Button to move the cursor to the desired test item.
Press the TEST Button to enter the selected item's test.



Performs tests, adjustments and settings for each of the Game Test Menu screen items below.

INPUT TEST:	Tests each input device used in the game.
OUTPUT TEST:	Tests each output device used in the game.
GAME ASSIGNMENTS:	Adjusts game settings.
GUN SETTING:	Performs sight settings for the game's Control Unit (Gun).
BOOKKEEPING:	View all recorded game data.
BACKUP DATA CLEAR:	Erase all game records.

After selecting an item, read the explanations below regarding operation.

After performing tests and adjustments, return to the Game Test Menu screen, select EXIT and press the TEST Button.

You will return to the System Menu screen. Move the cursor to EXIT on the System Menu screen and press the TEST Button to return to the Game Play screen.

5.3.1. INPUT TEST

Select INPUT TEST to display the following screen and check the status of input devices. This test should be used periodically to check that each input device is functioning correctly.



The items refer to the following input devices.

- TRIGGER: The gun triggers.
- CHANGE: The controller's weapon change button.
- PEDAL: The foot pedal.
- GUN-X: Ranges between 00 and FF when controller is pointed at screen.
- GUN-Y: Ranges between 00 and FF when controller is pointed at screen.
- SCREEN: Point controller at screen to change from OUT to IN.
- START: The player Start Buttons.
- SERVICE: The SERVICE Button.
- TEST: The TEST Button.

Input is normal if the display to the right of each item changes from OFF to ON when each input device is operated.

Input is normal if the display to the right of SCREEN changes from OUT to IN and GUN-X and GUN-Y show values between 00 and FF when the controller is pointed at the screen.

Press the SERVICE and TEST Buttons simultaneously to return to the Game Test Menu screen.

5.3.2. OUTPUT TEST

Select OUTPUT TEST to display the following screen and check the status of each lamp. This test should be used periodically to check that the lamps are functioning correctly.

Press the SERVICE Button to move the cursor and the TEST Button to select. Displays ON when selected.

Actual screen may differ for depending on cabinet type.

Below: Guide to the DELUXE type



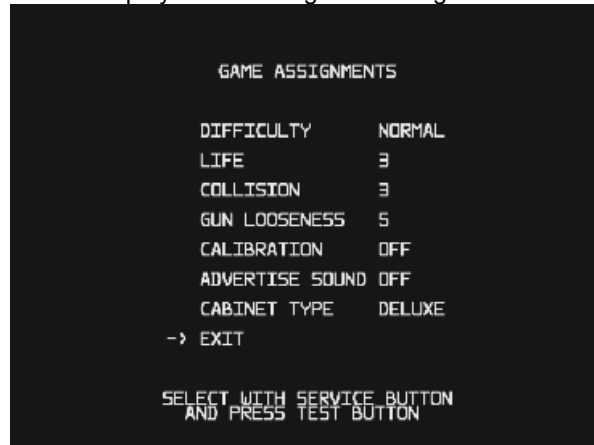
Perform the tests as follows.

- PLAYER 1 START LAMP: Lights up the 1P START button.
- PLAYER 2 START LAMP: Lights up the 2P START button flash.
- PLAYER 1 FOOT PANEL: Lights up the 1P foot panel. Press the TEST Button to cycle through the colours, in the order RED, BLUE, WHITE, and RED.
- PLAYER 2 FOOT PANEL: Lights up the 2P foot panel. Press the TEST Button to cycle through the colours, in the order RED, BLUE, WHITE, and RED.
- PLAYER 1 BILLBOARD: Lights up the 1P Billboard. Press the TEST Button to cycle through the colours, in the order RED, GREEN, YELLOW, BLUE, PURPLE, AQUA, WHITE, RED.
- PLAYER 2 BILLBOARD: Lights up the 2P Billboard. Press the TEST Button to cycle through the colours, in the order RED, GREEN, YELLOW, BLUE, PURPLE, AQUA, WHITE, RED.

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

5.3.3. GAME ASSIGNMENTS

Select GAME ASSIGNMENTS to display the current game settings and make changes.



Perform the following settings for each item.

- **DIFFICULTY:** Set the game's difficulty level. Five settings are available, from VERY EASY to VERY HARD.
- **LIFE:** Set the number of lives each player starts the game with. Nine levels are available.
- **COLLISION:** Set the size of targets. Five levels, from 1 to 5, are available. The higher the level, the easier it is to hit targets.
- **GUN LOOSENESS:** Set gun looseness. Ten levels, from 0 to 9, are available. The higher the level, the easier it is to hit targets.
- **CALIBRATION:** Toggle the availability of user calibration at the start of the game. Three options are available.
 - 1) OFF: Disable calibration.
 - 2) ON (TYPE1): Always calibrate.
 - 3) ON (TYPE2): Allow calibration if command is entered (start game with controller aimed at screen and pedal held down).
- **ADVERTISE SOUND:** Turn advertising sound output ON/OFF.
- **CABINET TYPE:** Set cabinet type. Set to either DELUXE or STANDARD. Be sure to set according to actual cabinet type.

Changes to settings are not enabled until Test Mode is exited. After changing settings, be sure to exit Test Mode.

After changing the settings, select EXIT and press the TEST Button to return to the Game Test Menu screen.

5.3.4. GUN ADJUSTMENT

Select GUN ADJUSTMENT to display the following screen.

This screen allows you to adjust the gun using the five calibration targets (TOP, LEFT, CENTER, RIGHT, BOTTOM). Use each target to calibrate as follows.

Use the standard gun controller, carefully aim at the correct target and pull the trigger to calibrate the value. Select between the calibration targets with the 1P and 2P START buttons or SERVICE button.



Details for each item are as follows.

- TOP x y: Set the TOP value.
The number on the left (x) is the horizontal component, and the number on the right (y) is the vertical component. Aim the controller at the TOP target (white circle) and pull the trigger to set the value. This will not affect horizontal calibration.
- LEFT x y: Set the LEFT value.
The number on the left (x) is the horizontal component, and the number on the right (y) is the vertical component. Aim the controller at the LEFT target (white circles) and pull the trigger to set the value. This will not affect vertical calibration.
- CENTRE x y: Set the CENTRE value.
The number on the left (x) is the horizontal component, and the number on the right (y) is the vertical component. Aim the controller at the CENTRE target and pull the trigger to set the CENTRE value.
- RIGHT x y: Set the RIGHT value.
The number on the left (x) is the horizontal component, and the number on the right (y) is the vertical component. Aim the controller at the RIGHT circle and pull the trigger to set the RIGHT value. This will not affect vertical calibration.
- BOTTOM x y: Set the BOTTOM value.
The number on the left (x) is the horizontal component, and the number on the right (y) is the vertical component. Aim the controller at the BOTTOM circle and pull the trigger to set the value. This will not affect horizontal calibration.
- DEFAULT: Restore calibration values to original settings.
- CANCEL: Restore calibration values to previous settings.
- CURSOR: Select CURSOR and aim the controller at the screen to display a round cursor (blue

for 1P, red for 2P) where the controller hits the screen. Use this cursor to check calibration.

- **OUT OF SCREEN:** Displays "OUT OF SCREEN" when the controller is pointed outside the screen. Values cannot be set when the controller is out of screen.

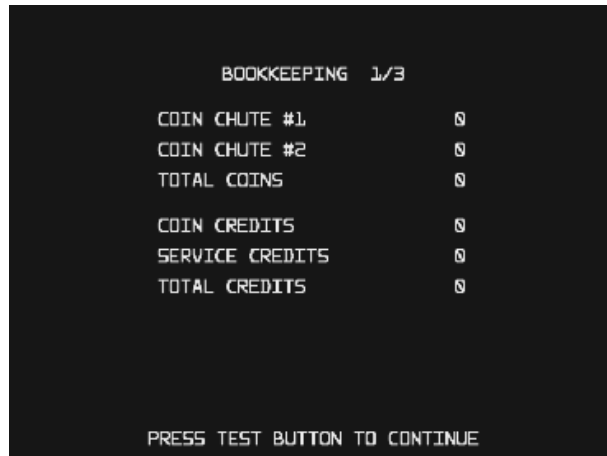
Changes to settings are not enabled until the Test Mode is exited. After changing settings, be sure to exit Test Mode.

After changing the settings, select EXIT and press the TEST Button to return to the Game Test Menu screen.

5.3.5. BOOKKEEPING

Select BOOKKEEPING on the Game Test Menu screen to display the three screens of operating status data.

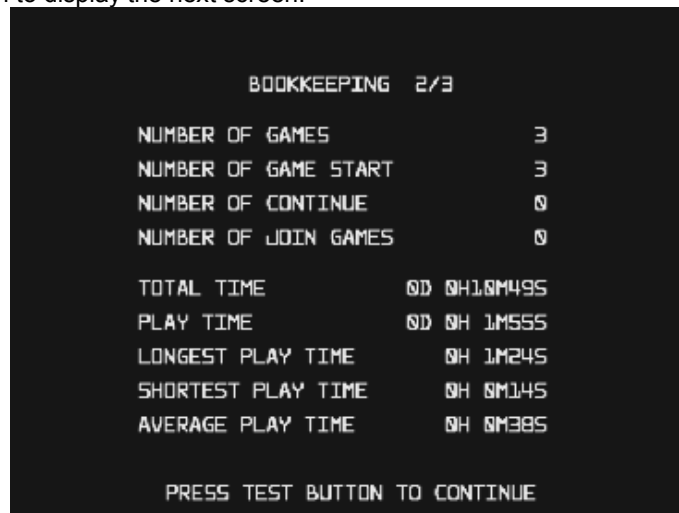
Press the TEST Button on the BOOKKEEPING 1/3 and BOOKKEEPING 2/3 screens to move to the second and third (BOOKKEEPING 3/3) screens. Press the TEST Button in the third screen to return to the Game Test Menu screen.



The display items for the screen (Page 1 of 3) are as follows.

- **COIN CHUTE #1:** The number of coins inserted into Coin Slot 1.
- **COIN CHUTE #2:** The number of coins inserted into Coin Slot 2.
- **TOTAL COINS:** The total number of coins inserted into the coin slots.
- **COIN CREDITS:** The number of credits for the coins inserted.
- **SERVICE CREDITS:** The number of credits input by the SERVICE Button.
- **TOTAL CREDITS:** Total credits from coins and the SERVICE Button

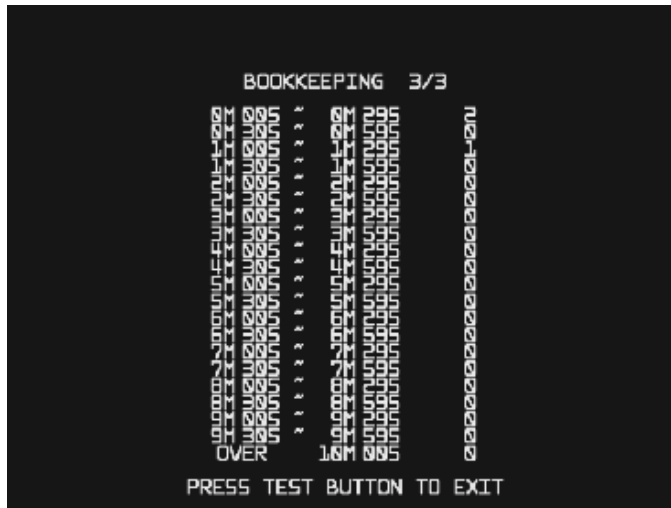
Press the TEST Button to display the next screen.



The display items for the screen (Page 2 of 3) are as follows.

- NUMBER OF GAMES: The total number of games played by 1P and 2P.
- NUMBER OF GAME STARTS: Number of games started.
- NUMBER OF CONTINUES: Number of times game has been continued.
- NUMBER OF JOIN GAMES: Number of two-player games.
- TOTAL TIME□ The amount of time the unit has been in operation.
- PLAY TIME: The sum of 1P's time played and 2P's time played.
- LONGEST PLAY TIME□ The longest play time for one game.
- SHORTEST PLAY TIME□ The shortest play time for one game.
- AVERAGE PLAY TIME: The sum of all play times divided by the total number of games.

Press the TEST Button to display the next screen (Page 3 of 3).



PLAY TIME HISTOGRAM shows the number of plays and the respective play times. This histogram should be referred to when setting the Game Difficulty.

This displays play times on a scale from 0M00S to 9M59S with 30-second intervals. All play times over ten minutes are included in the item OVER 10M00S.

Press the TEST Button after viewing. You will return to the Game Test Menu screen.

5.3.6. BACKUP DATA CLEAR

Select BACKUP DATA CLEAR to clear the contents of BOOKKEEPING, ranking data and coin/credit data.



To clear data, use the SERVICE Button to move the cursor to YES (CLEAR) and then press the TEST Button. When the data has been cleared, the message "COMPLETED" will be displayed.

Press the TEST Button again to return to the Game Test Menu screen.

Move the cursor to NO (CANCEL) and press the TEST Button to return to the Game Test Menu screen without clearing the data.

Note that this operation does not affect GAME ASSIGNMENTS or GUN ADJUSTMENT settings.

6. COIN MECH INSTALLATION AND CREDIT BOARD SET UP

6.1. INTRODUCTION

Game credits between the Coin Mechanism and the game board for this machine are controlled by a *VTS* board. This electronic circuit allows the price of play to be set for a range of different countries. These functions are set on Dual In Line (DIL) PCB mounted switches.

SW1 is used to set the currency (or coin ratio) and SW3 the price of play. Refer to the Tables on the following pages for the correct settings for your environment.

The *VTS* board pictured below is mounted in the Coin Chute Tower.

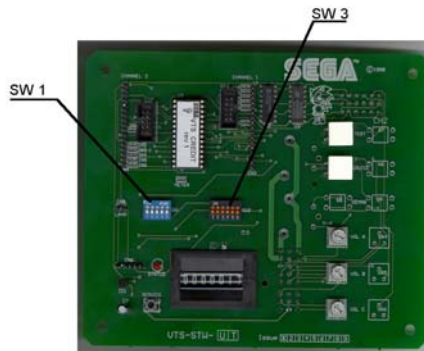
The *VTS* board is connected to the coin validator and lamps via a dedicated wiring harness depending upon the coin validator used:

Wiring Harness	Validator	
LM1006	Coin Controls	(15 way connector)
LM1007	Mars	(13 way connector)
LM1008	Mechanical	See note 2
N/A	NRI	See note 1

Notes

1. If NRI mechanisms are to be used, these should be ordered with the highest denomination coin on coin path #1 and the lowest denomination on coin path #4. The *VTS* board should be then be set up for either the UK or Switzerland settings. A minimum connecting lead length of 600mm is required.
2. Mechanical coin mechanisms may be connected in parallel allowing two identical mechanisms to be fitted.

The *VTS* Board



Credit Board Mode Settings Switch 3																					
Country	Setting	Switch 3 Setting						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	-	50p old						
UK	Coin Controls SR3 Parallel	ON	ON	OFF	OFF			£1	50p new	20p	10p	-	£2	-	50p old	-	-	-	-		
UK Euro	Coin Controls 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										
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	50Pta old	25Pta old						
Spain	SR3/NRI Parallel	ON	ON	OFF	ON			500Pta	200Pta	100Pta	50Pta	25Pta	-	-	200Pta	-	50Pta old	25Pta old	-		
Spain	Coin Controls C220 Parallel	OFF	OFF	ON	ON			100Pta	50Pta new	-	25Pta new	-	50Pta old	-	25Pta old						
Portugal Euro	Parallel	ON	OFF	ON	ON			200Es €1	100Es 50¢	50Es	-	-	-	-	-						
	TBA					OFF		TBA						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							
						ON		TBA													
	Channels						OFF	Direct Mode													
							ON	2 channel Mode													

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.
- For Germany (DM), France (Fr) & Switzerland (SFr), use the appropriate existing setting shown above (from another country) that matches the coin ratios programmed into your coin mech.
- Set SW 3 on the VTS /Excel board as shown in the table above corresponding to the country required.

6.1.1. PRICE OF PLAY SETTINGS UK

	Price	Bonus			DIL Switch 1				
					Switch 1	Switch 2	Switch 3	Switch 4	Switch 5
1	10p	No Bonus			OFF	OFF	OFF	OFF	OFF
2	10p	6 = 50p			ON	OFF	OFF	OFF	OFF
3	20p	No Bonus			OFF	ON	OFF	OFF	OFF
4	20p	3 = 50p	6 = £1	12 = £2	ON	ON	OFF	OFF	OFF
5	30p	No Bonus			OFF	OFF	ON	OFF	OFF
6	30p	1.66 = 50p	4 = £1	8 = £2	ON	OFF	ON	OFF	OFF
7	30p	2 = 50p	4 = £1		OFF	ON	ON	OFF	OFF
8	30p	AMLD *	3 = £1	6 = £2	ON	ON	ON	OFF	OFF
9	40p	No Bonus			OFF	OFF	OFF	ON	OFF
10	40p	1.25 = 50p	3 = £1	6 = £2	ON	OFF	OFF	ON	OFF
11	50p	No Bonus			OFF	ON	OFF	ON	OFF
12	50p		3 = £1	6 = £2	ON	ON	OFF	ON	OFF
13	50p		2 = £1	5 = £2	OFF	OFF	ON	ON	OFF
14	60p	No Bonus			ON	OFF	ON	ON	OFF
15	60p		2 = £1	4 = £2	OFF	ON	ON	ON	OFF
16	80p	No Bonus			ON	ON	ON	ON	OFF
17	80p	1.25 = £1	2 = £1.50	2.5 = £2	OFF	OFF	OFF	OFF	ON
18	£1	No Bonus			ON	OFF	OFF	OFF	ON
19	£1		3 = £2		OFF	ON	OFF	OFF	ON
20	£1		2 = £2	5 = £4	ON	ON	OFF	OFF	ON
21	£1.50	No Bonus			OFF	OFF	ON	OFF	ON
22	£1.50		2 = £2		ON	OFF	ON	OFF	ON
23	£2	No Bonus			OFF	ON	ON	OFF	ON
24	£2			3 = £5	ON	ON	ON	OFF	ON
25	£3	No Bonus			OFF	OFF	OFF	ON	ON
26	£3			2 = £5	ON	OFF	OFF	ON	ON
27	£5	No Bonus			OFF	ON	OFF	ON	ON
28	£5			3 = £10	ON	ON	OFF	ON	ON
29	£7.50	No Bonus			OFF	OFF	ON	ON	ON
30	£7.50			2 = £10	ON	OFF	ON	ON	ON
31	£10	No Bonus			OFF	ON	ON	ON	ON
32	Free Play				ON	ON	ON	ON	ON

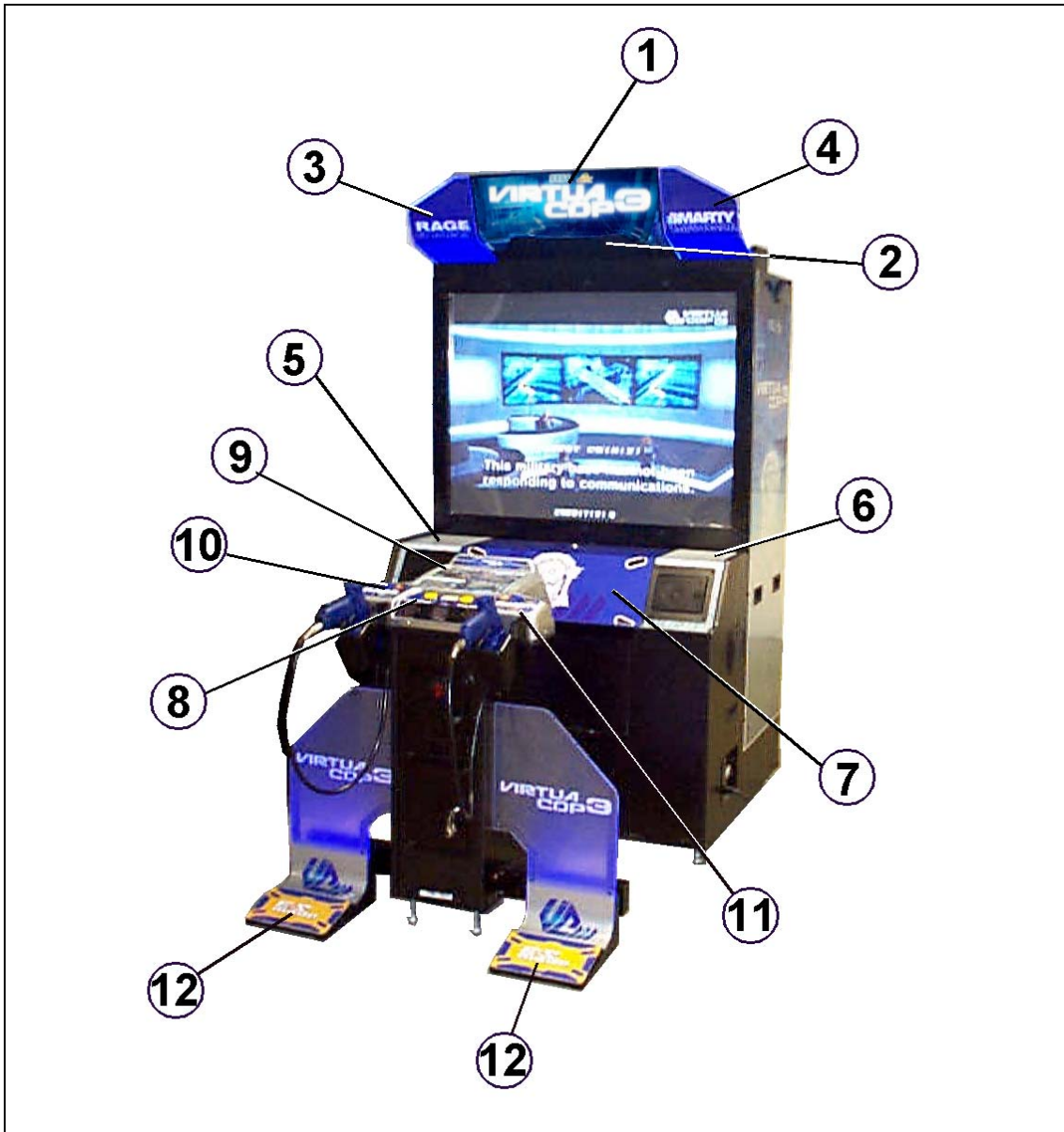
6.1.2. PRICE OF PLAY SETTINGS EURO

	Price	Bonus			DIL Switch 1				
					Switch 1	Switch 2	Switch 3	Switch 4	Switch 5
1	10¢	No Bonus			OFF	OFF	OFF	OFF	OFF
2	10¢	6 = 50¢			ON	OFF	OFF	OFF	OFF
3	20¢	No Bonus			OFF	ON	OFF	OFF	OFF
4	20¢	3 = 50¢	6 = €1	12 =€2	ON	ON	OFF	OFF	OFF
5	30¢	No Bonus			OFF	OFF	ON	OFF	OFF
6	30¢	1.66 = 50¢	4 = €1	8 = €2	ON	OFF	ON	OFF	OFF
7	30¢	2 = 50¢	4 = €1		OFF	ON	ON	OFF	OFF
8	30¢	AMLD *	3 = €1	6 = €2	ON	ON	ON	OFF	OFF
9	40¢	No Bonus			OFF	OFF	OFF	ON	OFF
10	40¢	1.25 = 50¢	3 = €1	6 = €2	ON	OFF	OFF	ON	OFF
11	50¢	No Bonus			OFF	ON	OFF	ON	OFF
12	50¢		3 = €1	6 = €2	ON	ON	OFF	ON	OFF
13	50¢		2 = €1	5 = €2	OFF	OFF	ON	ON	OFF
14	60¢	No Bonus			ON	OFF	ON	ON	OFF
15	60¢		2 = €1	4 = €2	OFF	ON	ON	ON	OFF
16	80¢	No Bonus			ON	ON	ON	ON	OFF
17	80¢	1.25 = £1	2 = €1.50	2.5 = €2	OFF	OFF	OFF	OFF	ON
18	€1	No Bonus			ON	OFF	OFF	OFF	ON
19	€1		3 = €2		OFF	ON	OFF	OFF	ON
20	€1		2 = €2	5 = €4	ON	ON	OFF	OFF	ON
21	€1.50	No Bonus			OFF	OFF	ON	OFF	ON
22	€1.50		2 = €2		ON	OFF	ON	OFF	ON
23	€2	No Bonus			OFF	ON	ON	OFF	ON
24	€2			3 = €5	ON	ON	ON	OFF	ON
25	€3	No Bonus			OFF	OFF	OFF	ON	ON
26	€3			2 = €5	ON	OFF	OFF	ON	ON
27	€5	No Bonus			OFF	ON	OFF	ON	ON
28	€5			3 = €10	ON	ON	OFF	ON	ON
29	€7.50	No Bonus			OFF	OFF	ON	ON	ON
30	€7.50			2 = €10	ON	OFF	ON	ON	ON
31	€10	No Bonus			OFF	ON	ON	ON	ON
32	Free Play				ON	ON	ON	ON	ON

6.1.3. PRICE OF PLAY SETTINGS Austria-Czech-Denmark-Norway-Israel-France2

	Price	Bonus			Switch 1				
					Switch 1	Switch 2	Switch 3	Switch 4	Switch 5
1	1	No Bonus			OFF	OFF	OFF	OFF	OFF
2	1			11 = 10	ON	OFF	OFF	OFF	OFF
3	1		6 = 5		OFF	ON	OFF	OFF	OFF
4	2	No Bonus			ON	ON	OFF	OFF	OFF
5	2			6 = 10	OFF	OFF	ON	OFF	OFF
6	2		3 = 5		ON	OFF	ON	OFF	OFF
7	3	No Bonus			OFF	ON	ON	OFF	OFF
8	3			4 = 10	ON	ON	ON	OFF	OFF
9	3		2 = 5		OFF	OFF	OFF	ON	OFF
10	4	No Bonus			ON	OFF	OFF	ON	OFF
11	4		3 = 10		OFF	ON	OFF	ON	OFF
12	5	No Bonus			ON	ON	OFF	ON	OFF
13	5			3 = 10	OFF	OFF	ON	ON	OFF
14	6	No Bonus			ON	OFF	ON	ON	OFF
15	6			4 = 20	OFF	ON	ON	ON	OFF
16	8	No Bonus			ON	ON	ON	ON	OFF
17	10	No Bonus			OFF	OFF	OFF	OFF	ON
18	10			3 = 20	ON	OFF	OFF	OFF	ON
19	20	No Bonus			OFF	ON	OFF	OFF	ON
20	20			3 = 50	ON	ON	OFF	OFF	ON
21	30	No Bonus			OFF	OFF	ON	OFF	ON
22	30			2 = 50	ON	OFF	ON	OFF	ON
23	50	No Bonus			OFF	ON	ON	OFF	ON
24	50			3 = 100	ON	ON	ON	OFF	ON
32	Free Play				ON	ON	ON	ON	ON

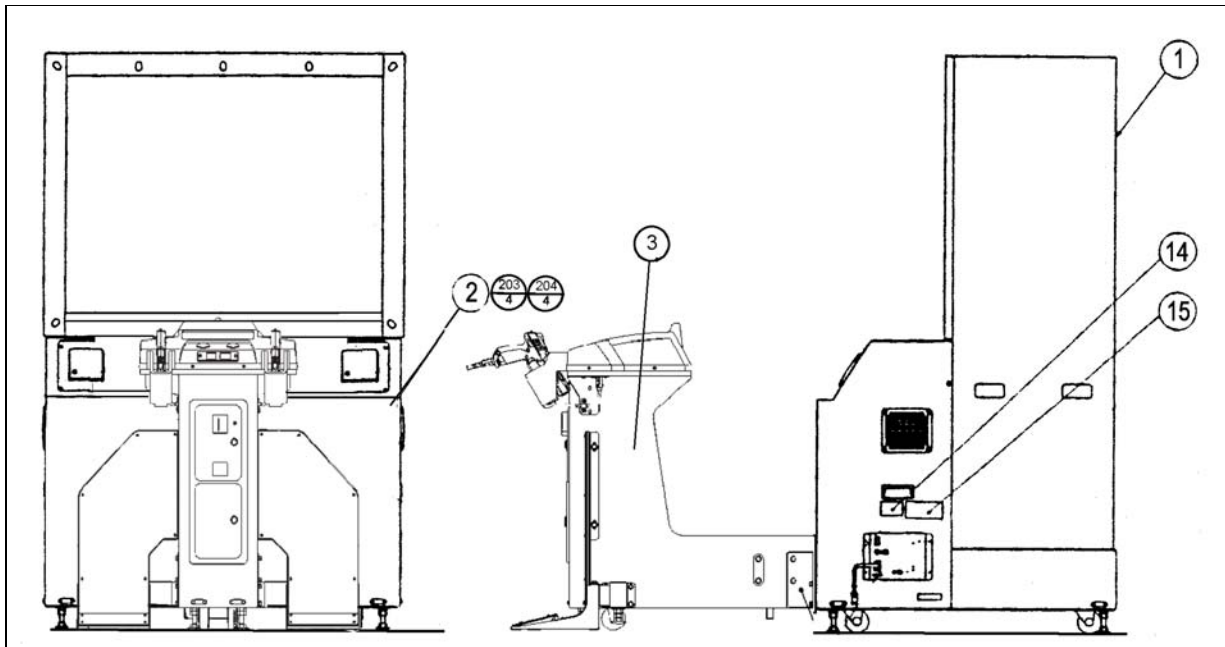
7. DESIGN RELATED PARTS



Item	Part No.	Description
1	VCT-0525UK	BILLBOARD PLATE VCT
2	VCT-0531UK	STICKER BILLBOARD VCT
3	VCT-0526	BILLBOARD PLATE L VCT
4	VCT-0527	BILLBOARD PLATE R VCT
5	VCT-1008UK	STICKER CABI TOP L
6	VCT-1009UK	STICKER CABI TOP R
7	VCT-1061UK	STICKER LID UPPER
8	VCT-2001-BUK	BUTTON SHEET VCT DX
9	VCT-2001-C-01UK	STICKER CTRL PNL TOP VCT
10	VCT-2001-DUK	STICKER CNTRL PANEL L VCT DX
11	VCT-2001-EUK	STICKER CNTRL PANEL R VCT DX
12	VCT-1203	FOOT PLATE

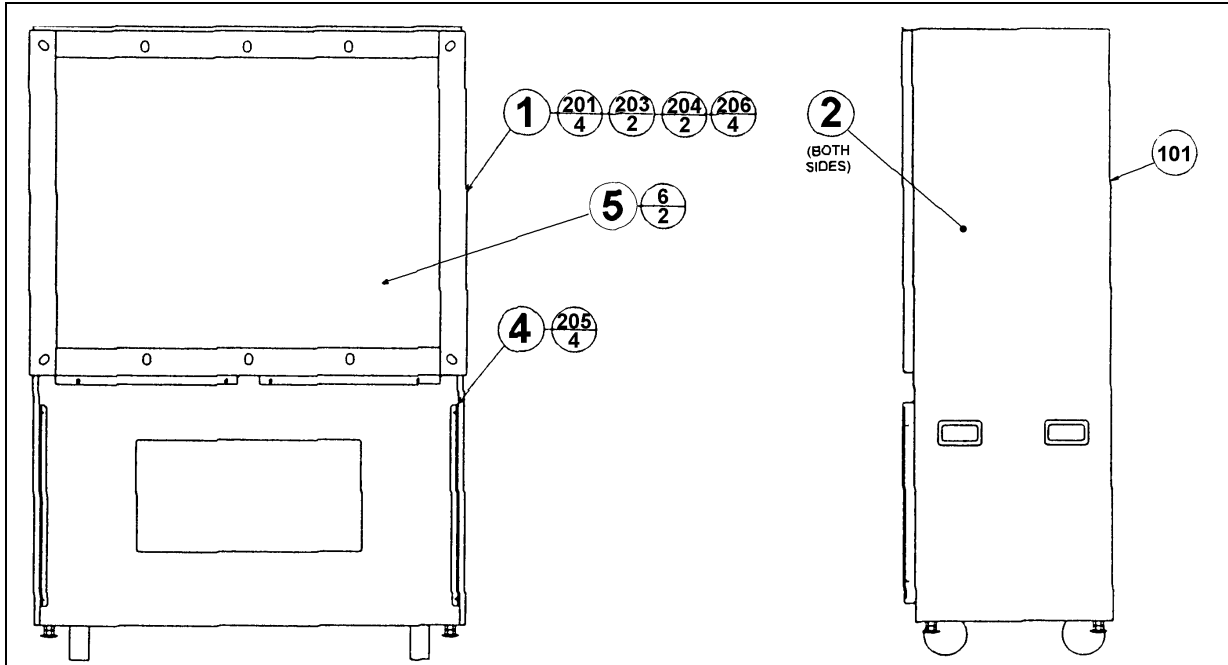
8. PARTS LIST

8.1. VCT-0000UK - TOP ASSY VIRTUA COP 3 DX



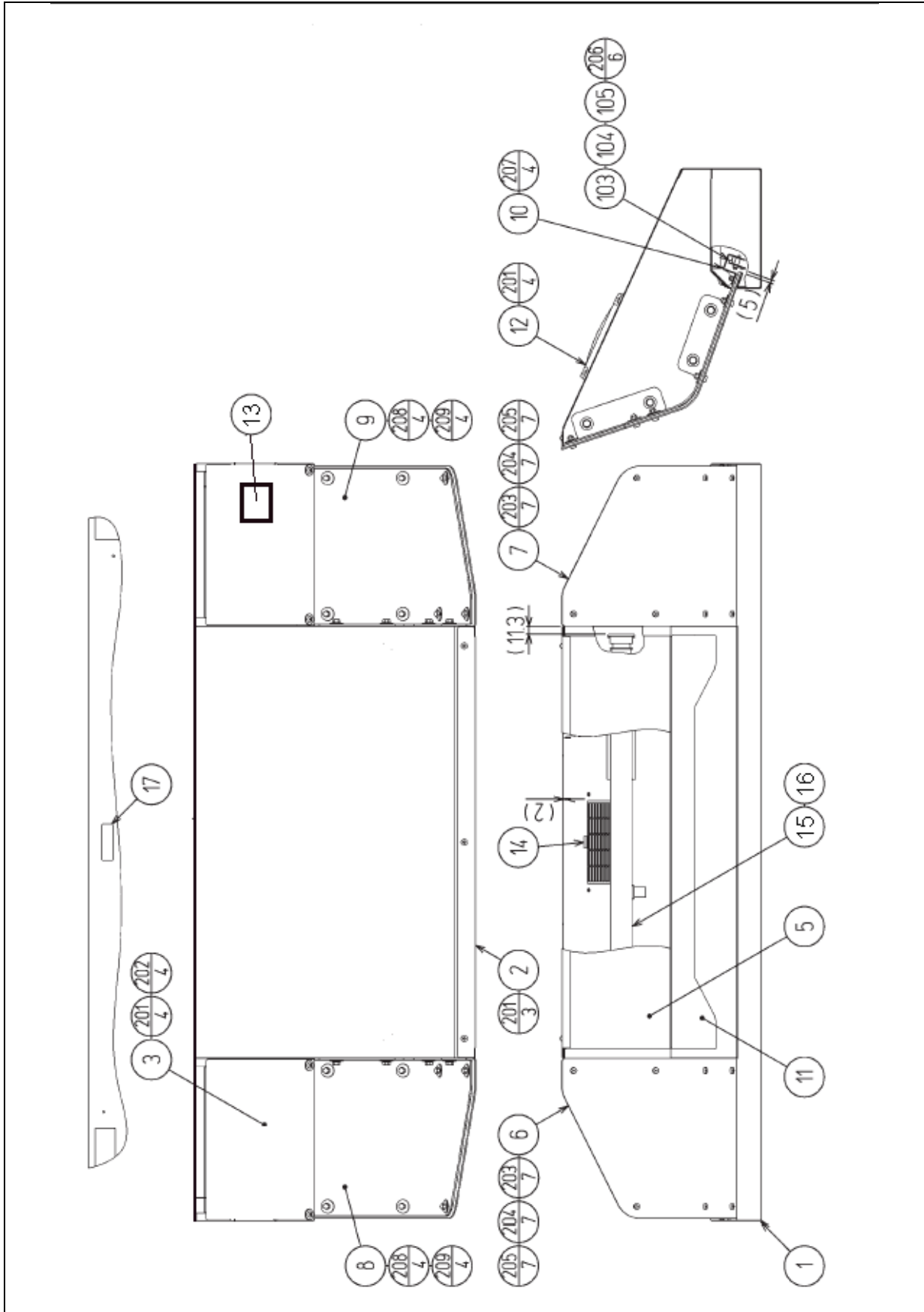
Item	Component Part	Qty	Description	Component Reference
1	VCT-0500UK	1	ASSY PTV	
2	VCT-1000UK	1	ASSY PTV CABI DX	
3	VCT-1100UK	1	ASSY CONTROLLER CABINET	
9	HOD-2003	1	DENOMI PLATE	
10	SGM-4346	1	POLY COVER 1200X1200X1300	
11	SGM-4426	1	POLY COVER 800X750X900	
12	421-7987-VCT-D	1	STICKER ELEC SPEC VCT DX	NEXT TO AC UNIT
13	421-7988-91UK	2	STICKER SERIAL NUMBER UK	NEAR AC,CCT
14	LB1102	1	STICKER DANGEROUS VOLTAGE	ON MAIN LID
15	421-7020UK	2	STICKER CAUTION FORK	
23	VCT-INST-DX	1	ASSY INST KIT VCT DX	
24	PK0180	1	PALLET CABI HOD DELUXE	
25	PK0333	1	SLEEVE CTRL CABI VCT DX	
26	PK0178	1	PALLET GUN CABI	
27	PK0334	1	SLEEVE GUN CABI VCT DX	
28	PK0117	1	PALLET PTV TOSH ZMB	
29	PK0335	1	SLEEVE PTV VCT	
30	LB1046	1	LABEL TESTED FOR ELEC. SAFETY	
203	000-T00530-0B	4	M5X30 MSCR TH BLK	(2)-4
204	068-552016-0B	4	M5 WSHR 200D FLT BLK	(2)-4
205	000-T00416-0C	4	M4X16 MSCR TH CRM	(8)-4

8.2. VCT-0500UK - ASSY PTV



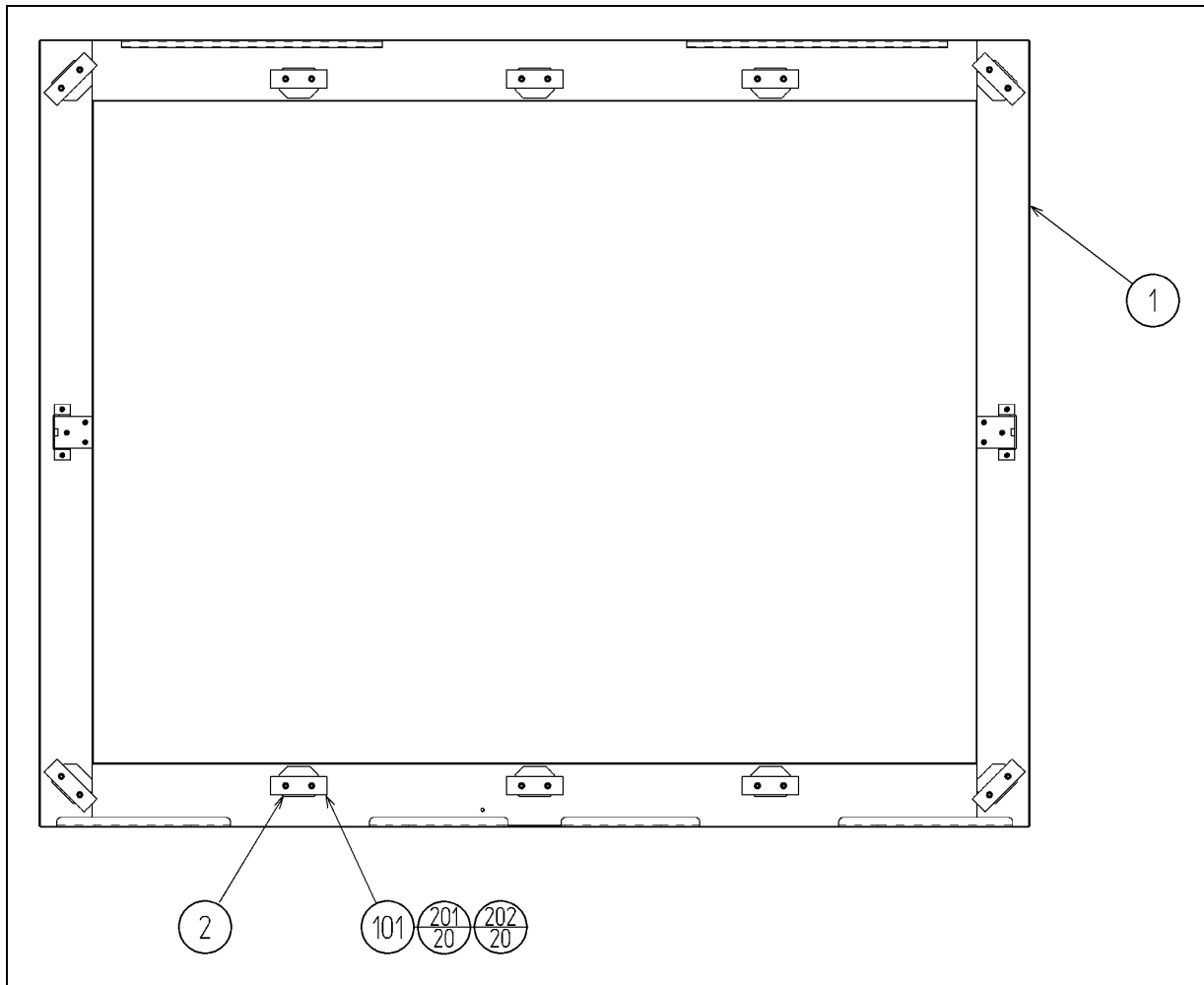
Item	Component Part	Qty.	Description	Component Reference
1	SPX-0530UK	1	ASSY MASK	
2	VCT-0511UK	2	STICKER PTV SIDE	
4	HOD-1101	2	PTV HOLDER	
5	SPX-0532UK	1	PROTECT SCREEN PTV	(101)-1
6	SPX-0533UK	2	RETAINING BRKT HORIZ PTV	(5)-2
101	200-5788-31	1	PROJECTION DSPL T 50TYPE 31K	
201	000-T00520-0B	4	M5X20 MSCR TH BLK	(1)-4
203	000-T00525-0B	2	M5X25 MSCR TH BLK	(1)-2
204	068-552016-0B	2	M5 WSHR 20OD FLT BLK	(1)-2
205	000-P00516-W	4	M5X16 MSCR PAN W/FS PAS	(4)-4
206	000-F00414	4	M4X14 MSCR CSK PAS	(1)-4

8.3. VCT-0520UK - ASSY BILLBOARD DX



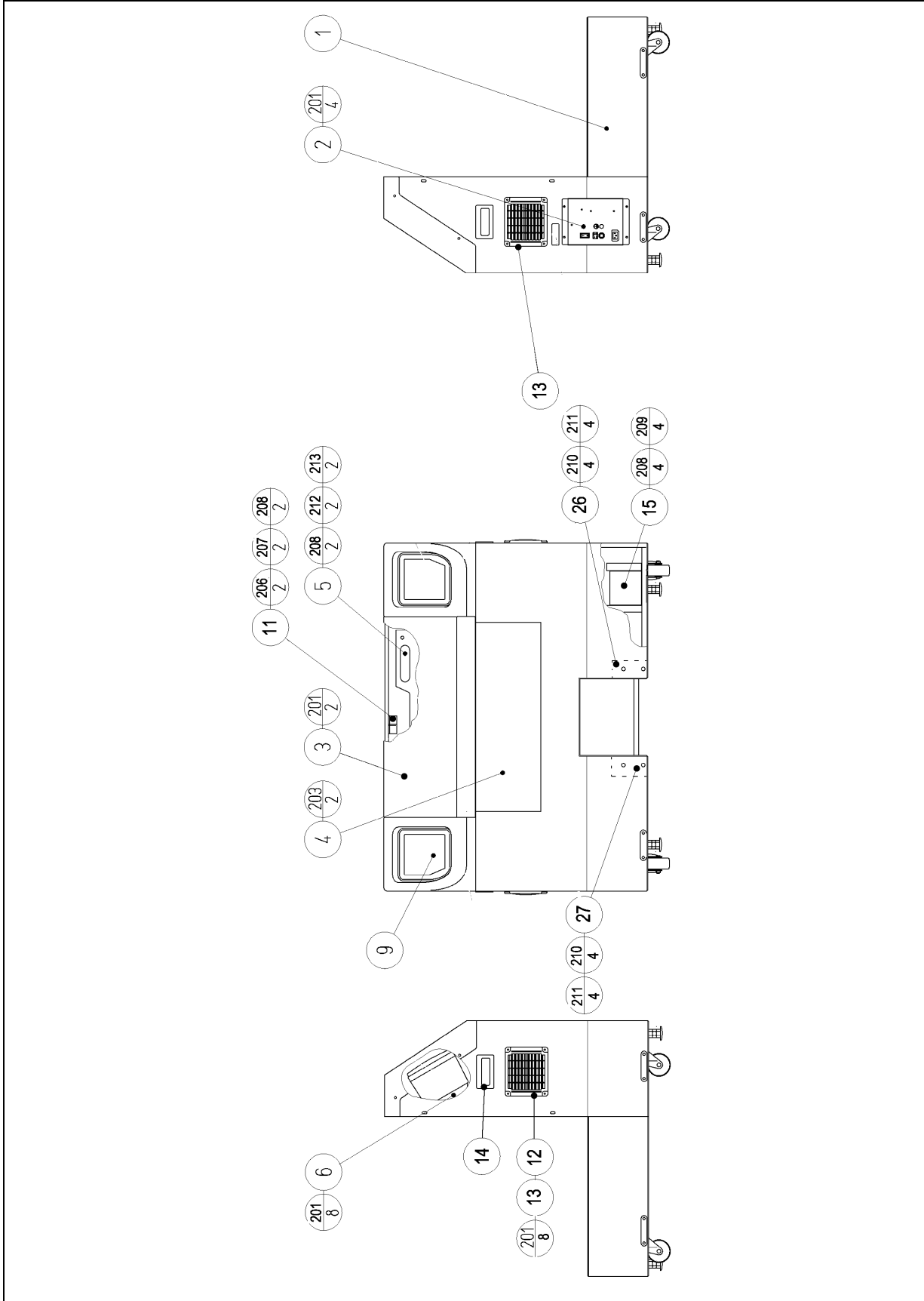
Item	Component Part	Qty	Description	Component Reference
1	VCT-0521UK	1	BILLBOARD BOX	
2	VCT-0522UK	1	BILLBOARD SASH	
3	VCT-0523UK	2	BILLBOARD LID	
4	VCT-0524UK	1	BD BASE	
5	VCT-0525UK	1	BILLBOARD PLATE VCT	
6	VCT-0526	1	BILLBOARD PLATE L VCT	KD PART
7	VCT-0527	1	BILLBOARD PLATE R VCT	KD PART
8	VCT-0528UK	1	PLATE HOLDER L	
9	VCT-0529UK	1	PLATE HOLDER R	
10	VCT-0530	2	LED BD HOLDER	
11	VCT-0531UK	1	STICKER BILLBOARD VCT	ARTWORK UK
12	253-5460-1	1	AIR VENT BLACK	
13	LB1102	1	STICKER DANGEROUS VOLTAGE	
14	LB1104	1	STICKER CAUTION, HOT SURFACE	
15	390-5695-40CUK	1	FL TRAY 110V 40W (T12)	
16	390-5695-40DUK	1	FL TUBE 40W 600L 1.5" DIA	
102	280-5009-01	8	CORD CLAMP 21	
103	838-14281-02	2	LED BAR BD RGB	
104	280-5247	6	ONE TOUCH BUSHING	
105	280-5248-10	6	ONE TOUCH COLLAR M3 L=10	
106	838-14371	1	OUTPUT CONTROL BD FOR JVS	
201	000-T00408-0B	11	M4X8 M SCR TH BLK	(12)-4, (3)-4,(2)-3
202	068-441616-0B	4	FLT WSHR BLK 4.4-16X16	(3)-4
203	068-552016-0B	14	FLT WSHR BLK 5.5-20X1.6	(8)-7,(9)-7
204	FAS-290034	14	HEX SKT LH CAP SCR STN M5X15	(8)-7,(9)-7
205	050-C00500-3B	14	CAP NUT TYPE3 BLK M5	(8)-7,(9)-7
206	000-P00320-W	10	M SCR PH W/FS M3X20	(4)-4,(10)-6
207	050-F00400	8	FLG NUT M4	(4)-4,(10)-4
208	030-000616-SB	8	HEX BLT W/WS BLK M6X16	(8)-4, (9)-4
209	068-652016-0B	8	FLT WSHR BLK 6.5-20X 1.6	(8)-4, (9)-4
210	000-P00430-W	2	M4X30 MSCR PAN W/F	(15)-2
301	NCR-60420UK	1	WIRE HARN FL	
302	VCT-60002UK	1	WH-PWR BILLBOARD	
303	VCT-60004UK	1	WH-BILLBOARD PWR EXT	
304	VCT-60014UK	1	WH-BILLBOARD PWR EXT 2	
305	VCT-60015UK	1	WH-BILLBOARD LED	
306	VCT-60016UK	1	WH-BILLBOARD PWR	

8.4. SPX-0530UK ASSY MASK



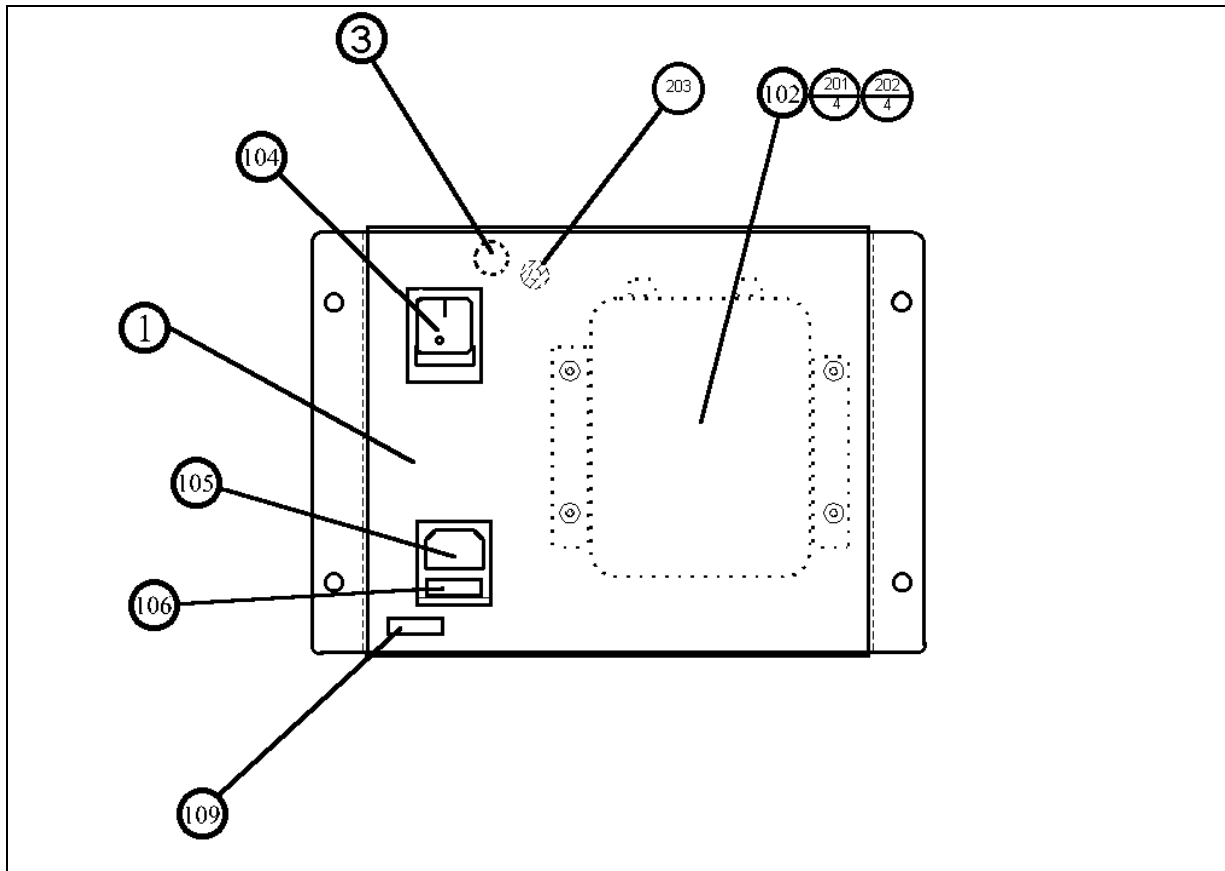
ITEM	PART NUMBER	QTY	DESCRIPTION	COMPONENT REF
1	HOD-1151	1	MASK BASE	
2	JPT-1082	10	IR COVER	
101	838-13145-02	10	LED BD GUN SENSE HOD	
201	050-U00300	20	M3 NUT NYLOK PAS	(101)-20
202	068-330808-PN	20	M3 WSHR 8OD FLT NYLON	(101)-20
203	050-F00400	1	M4 NUT FLG SER PAS	EARTH-1
301	SPY-60024	7	WIRE HARN MASK SHORT	
302	SPY-60025	2	WIRE HARN MASK LONG	
303	SPY-60026	1	WIRE HARN MASK INTO	
304	600-9120-44K	1	WIRE HARN EARTH 1200MM M4/M4	MASK TO AC BRKT

8.5. VCT-1000UK ASSY PTV CABI DX



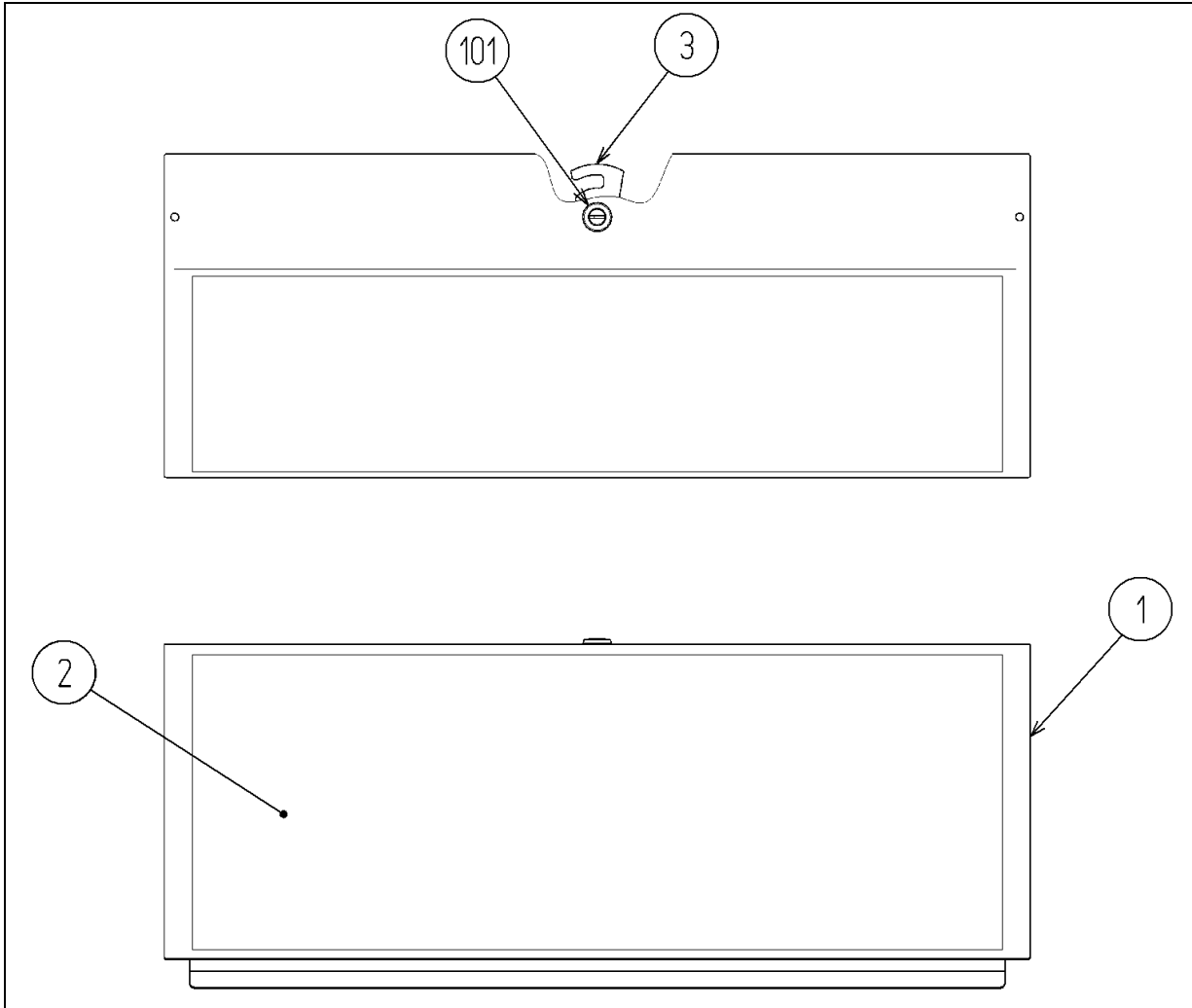
Item	Component Part	Qty	Description	Component Reference
1	VCT-1002UK	1	PTV CABINET	
2	HOD-1020UK	1	ASSY AC UNIT UK	
3	VCT-1060UK	1	ASSY LID UPPER	
4	VCT-1070UK	1	ASSY LID LOWER	
5	VCT-4000UK	1	ASSY MAIN BD DX	
6	HOD-1070UK	2	ASSY SPEAKER UK	
9	SPX-1010UK	2	SPEAKER COVER	
11	HOD-1003	1	LOCKING BRKT HOD	
12	VCT-1530UK	1	FAN UNIT DC UK	
13	253-5460-01	2	AIR VENT BLACK	
14	253-5396-91	2	CABINET HANDLE	
15	VCT-4100UK	1	ASSY PWR SPLY	
26	HOD-1007	1	JOINT BRKT R	
27	HOD-1008	1	JOINT BRKT L	
28	VCT-1008UK	1	STICKER CABI TOP L	
29	VCT-1009UK	1	STICKER CABI TOP R	
30	839-1221	1	RGB LED DECODER BD	
31	839-176-01	1	CONN BD JVS	
101	354081	5	TWIST LOK BHKL-450-4	
102	280-A00964-WX	12	ROUTER TWIST D09 SO6.4 WOOD X	
201	000-T00420-0B	22	M4X20 MSCR TH BLK	(2)-4,(3)-2,(13)-8,(6)-8
203	000-P00420-W	2	M4X20 MSCR PAN W/FS PAS	(4)-2
206	000-P00425-W	2	M4X25 MSCR PAN W/FS PAS	(11)-2
207	050-F00400	2	M4 NUT FLG SER PAS	(11)-2
208	068-441616-0B	8	M4 WSHR 16OD FLT BLK	(11)-2,(15)-4,(5)-2
209	000-P00430-W	4	M4X30 MSCR PAN W/FS PAS	(15)-4
210	030-000840-SB	8	M8X40 BLT W/S BLK	(26,27)-4
211	068-852216-0B	4	M8 WSHR 22OD FLT BLK	(26,27)-4
212	032-000530	2	M5X30 BLT WING PAS	(5)-2
213	068-551616	2	M5 WSHR 16OD FLT PAS	(5)-2
301	SPY-60011UK	1	WIRE HARN TOWER EXT 1	

8.6. HOD-1020UK ASSY AC UNIT



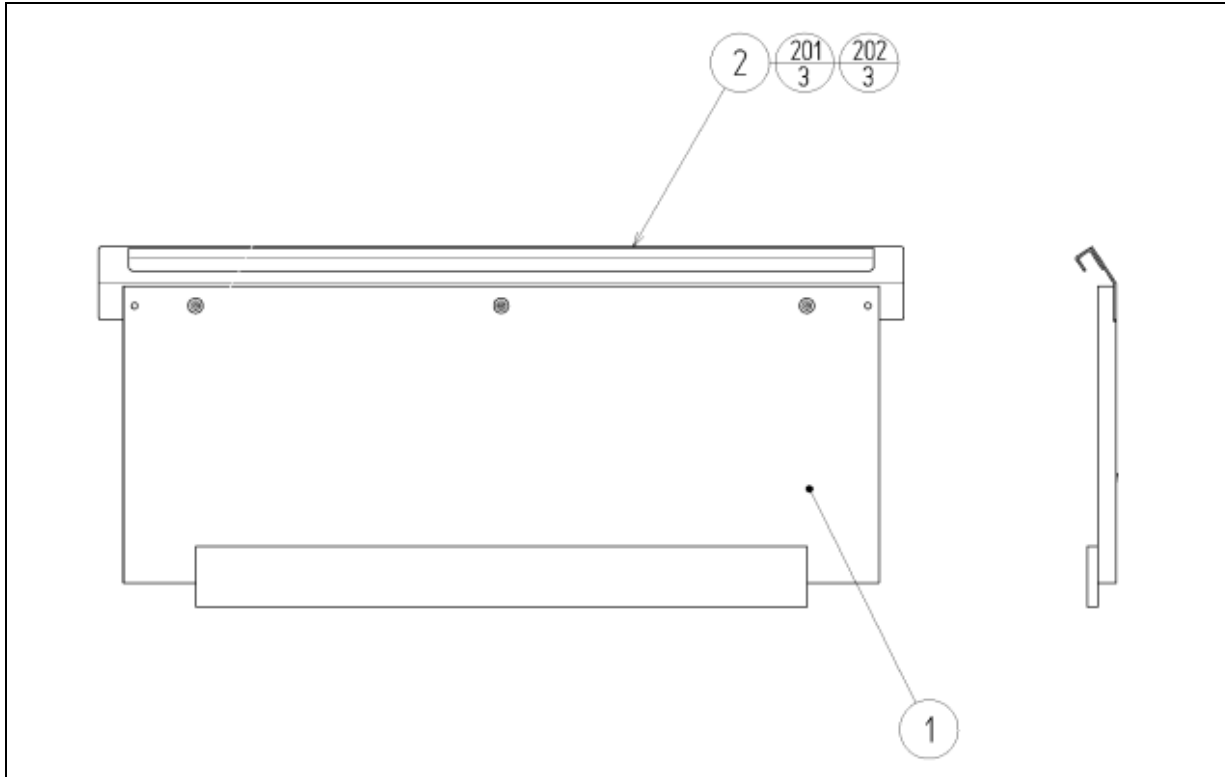
INDENT	PART NO.	QTY	DESCRIPTION	COMPONENT REF
1	HOD-1021UK	1	AC BRKT UK	
3	LB1096	1	STICKER PROTECTIVE EARTH	(EARTH STUD)
102	EP1379	1	FILTER EMI 10A ARCOTRONICS	
104	SW1109	1	SWITCH ROCKER 250V AC	
105	EP1302	1	EUROSOCKET FUSED 10A 250Vac	
106	514-5078-5000	1	FUSE 5X20 CERAMIC SB 5000mA	
107	310-5029-D508	0.04	HEAT SHRINK SLEEVING 50.8DIA	
109	421-6595-5000-T	1	STICKER FUSE 5000mA TYPE T	
201	000-P00308	4	M3X8 MSCR POSI PAN PAS	(102)-4
202	060-F00300	4	M3 WSHR FORM A FLT PAS	(102)-4
203	050-F00400	2	M4 NUT FLG	EARTH STUD
301	600-6911-049UK	1	WIRE HARN AC BRKT (JPT)	
302	600-7118-002UK	1	WIRE HARN AC OUT (PRIMARY)	
303	600-9040-45U	1	WIRE HARN EARTH 400mm M4/M5	AC BRKT - XFMR

8.7. VCT-1060UK ASSY LID UPPER



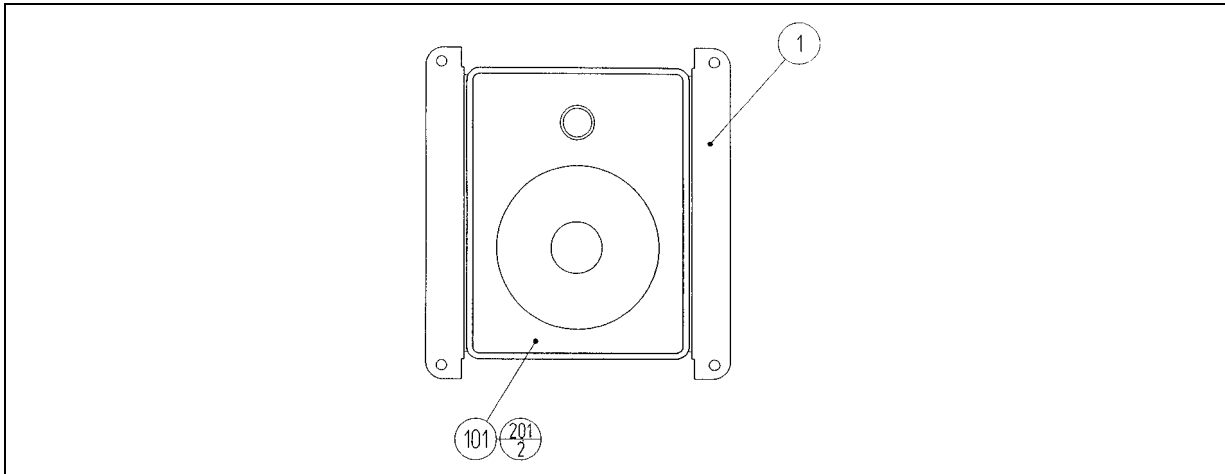
Item	Component Part	Qty.	Description	Component Reference
1	HOD-1051-A	1	FRONT LID U BLANK	
2	VCT-1061UK	1	STICKER LID UPPER	
3	TH1015UK	1	LOCKING TONGUE UK	
101	220-5575UK	1	LOCK	

8.8. VCT-1070UK ASSY LID LOWER



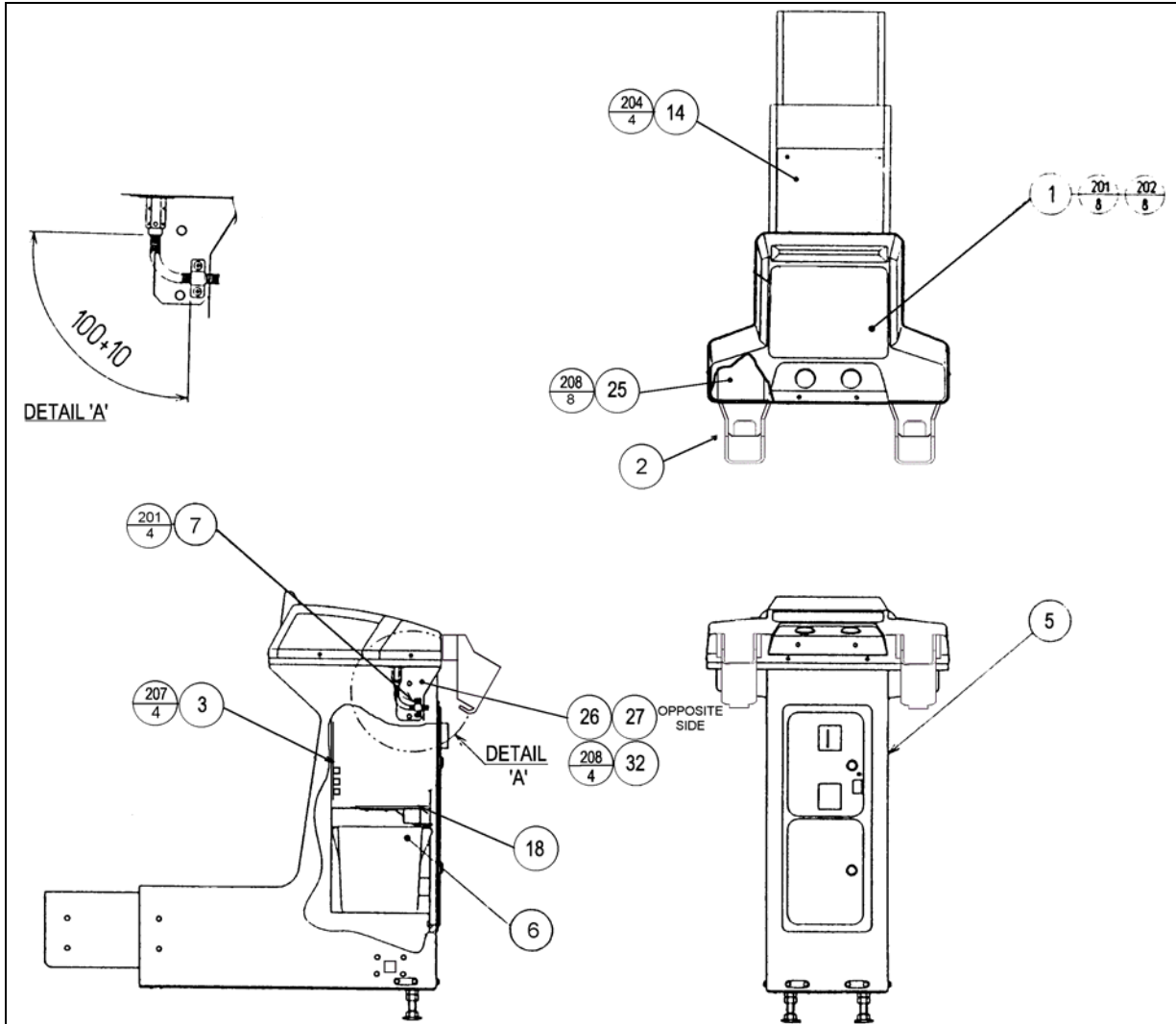
Item	Component Part	Qty.	Description	Component Reference
1	HOD-1061-AUK	1	FRONT LID L BLANK	
2	HOD-1062-A	1	FRONT LID BRKT BLANK	
201	050-F00400	3	M4 NUT FLG SER PAS	(2)-3
202	060-F00400-0B	3	M4 WSHR FORM A FLT BLK	(2)-3

8.9. HOD-1070UK ASSY SPEAKER



ITEM	PART NO.	QTY	DESCRIPTION	COMPONENT REF
1	CPT-1061UK	1	SPEAKER BRKT UK	
101	130-5096	1	ASSY SERVO SPEAKER BOX	
201	000-P00512-W	2	M5X12 MSCR POSI PAN W/FS PAS	(101)-2
301	HOD-60025	1	WIRE HARN SPEAKER UNIT	

8.10. VCT-1100UK ASSY CONTROLLER CABINET

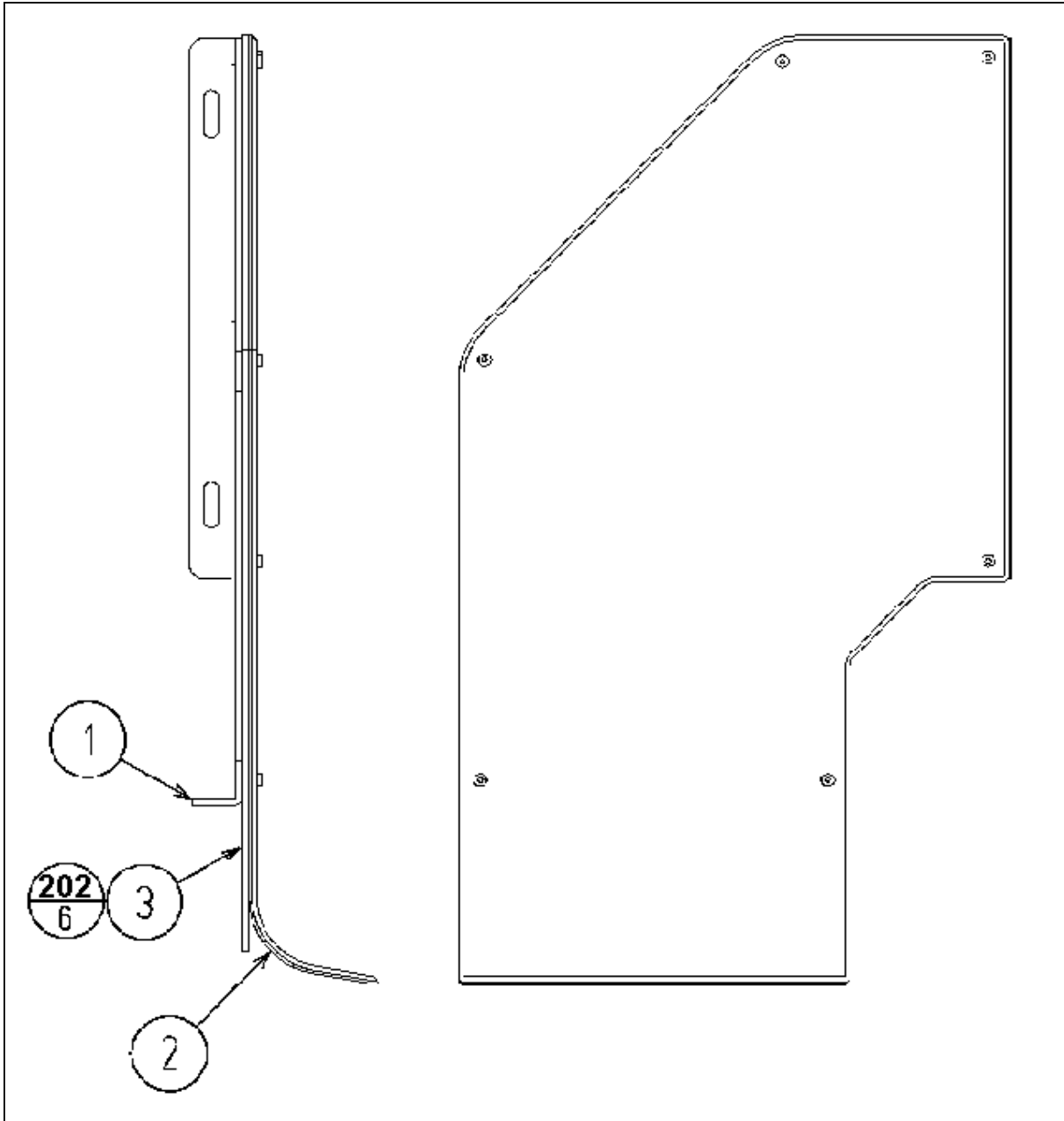


Item	Component Part	Qty	Description	Component Reference
1	VCT-2000UK	1	ASSY CTRL PANEL DX	
2	VCT-1103	2	HOLDER	
3	VTS-HOD-D	1	VTS BOARD HOD	
5	VCT-1302UK	1	GUN HOLDER CABI	
6	253-5366	1	CASH BOX	
7	JPT-3101	2	TUBE CLAMP	
14	HOD-1304	1	JOINT PART LID	
18	DUT-0302UK	1	COIN PATH PLATE	
25	SPY-1106	2	HOLDER BRKT	
26	HOD-1307-A	1	SIDE BRKT L BLANK	
27	HOD-1308-A	1	SIDE BRKT R BLANK	
32	105-5216	2	CHAIN BRKT	

CONTINUED NEXT PAGE

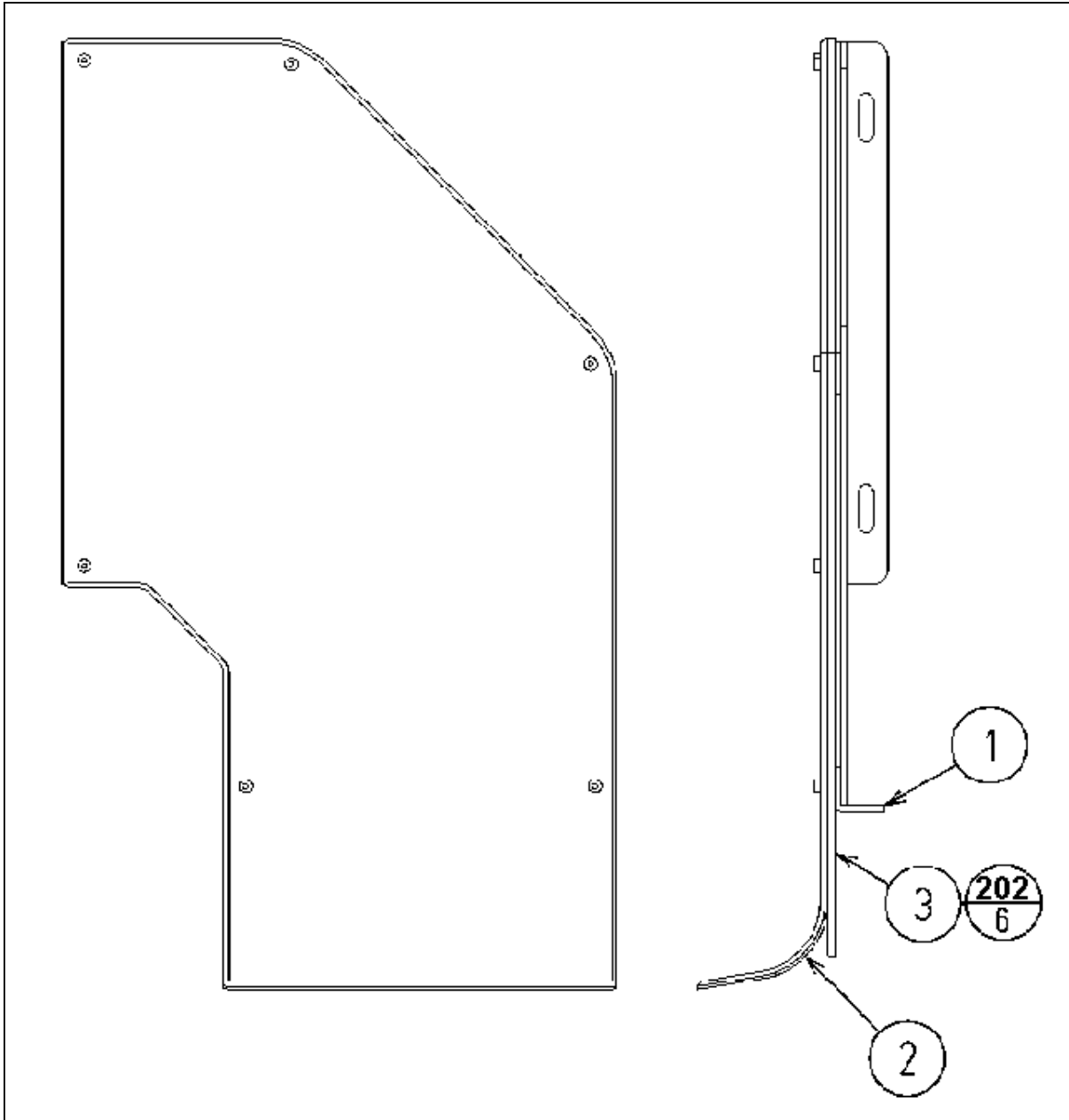
CONTINUED FROM PREVIOUS PAGE				
ITEM	PART NUMBER	QTY	DESCRIPTION	COMPONENT REFERENCE
201	000-T00416-0B	12	M4X16 MSCR TH BLK	(1)-8,(7)-4
202	068-441616-0B	8	M4 WSHR 16OD FLT BLK	(1)-8
203	008-T00430-0B	8	M4X30 TMP PRF TH BLK	(12)-8
204	000-T00440-0B	4	M4X40 MSCR TH BLK	(14)-4
207	000-P00420-W	9	M4X20 MSCR PAN W/FS PAS	(3)-4,(18)-5
208	030-000630-SB	12	M6X30 BLT W/S BLK	(25)-8,(26,27)-4

8.11. VCT-1150UK ASSY FENCE L



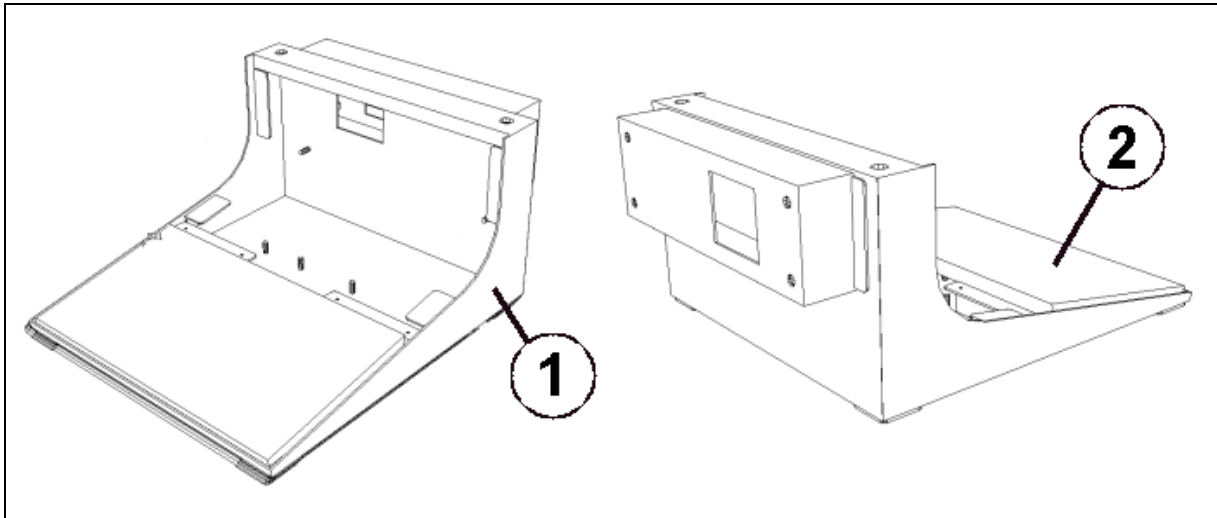
Item	Component Part	Qty	Description	Component Reference
1	VCT-1151UK	1	FENCE FRAME L	
2	VCT-1152	1	DESIGN PLATE L	
3	VCT-1153	1	GUARD PLATE L	
202	FAS-290034	6	M5 X15 HEX SKT LH CAP SCR STN	(3)-6

8.12. VCT-1160UK ASSY FENCE R



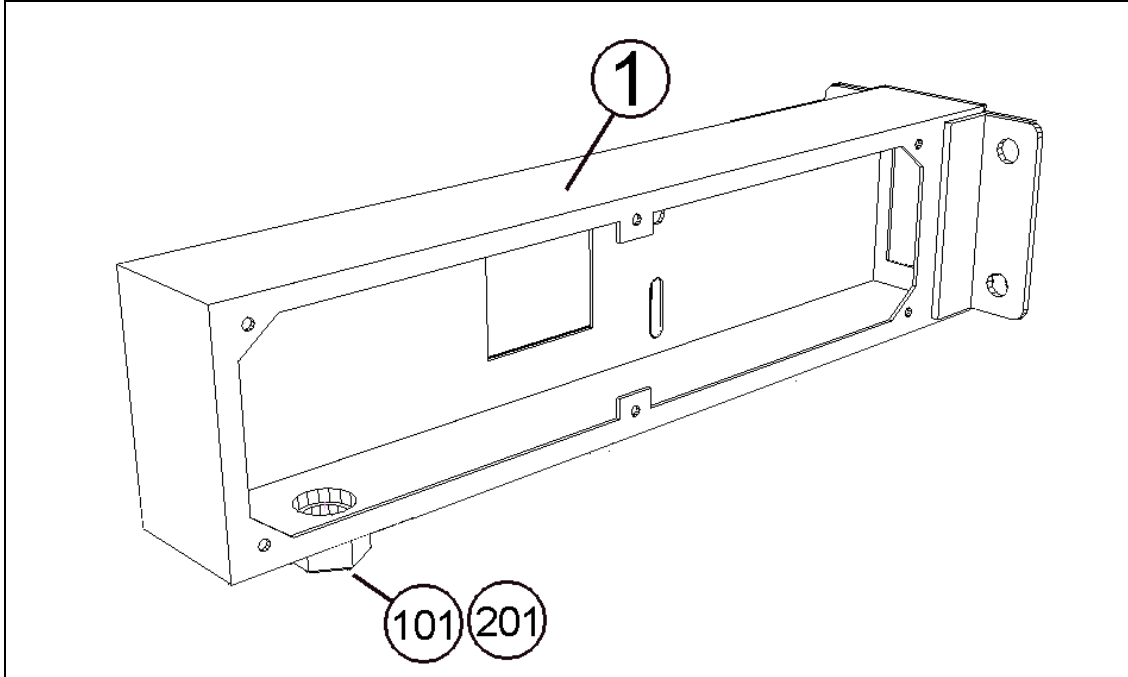
Item	Component Part	Qty	Description	Component Reference
1	VCT-1161UK	1	FENCE FRAME R	
2	VCT-1162	1	DESIGN PLATE R	
3	VCT-1163	1	GUARD PLATE R	
202	FAS-290034	6	M5 X15 HEX SKT LH CAP SCR STN	(3)-6

8.13. VCT-1200 ASSY FOOT PEDAL DX



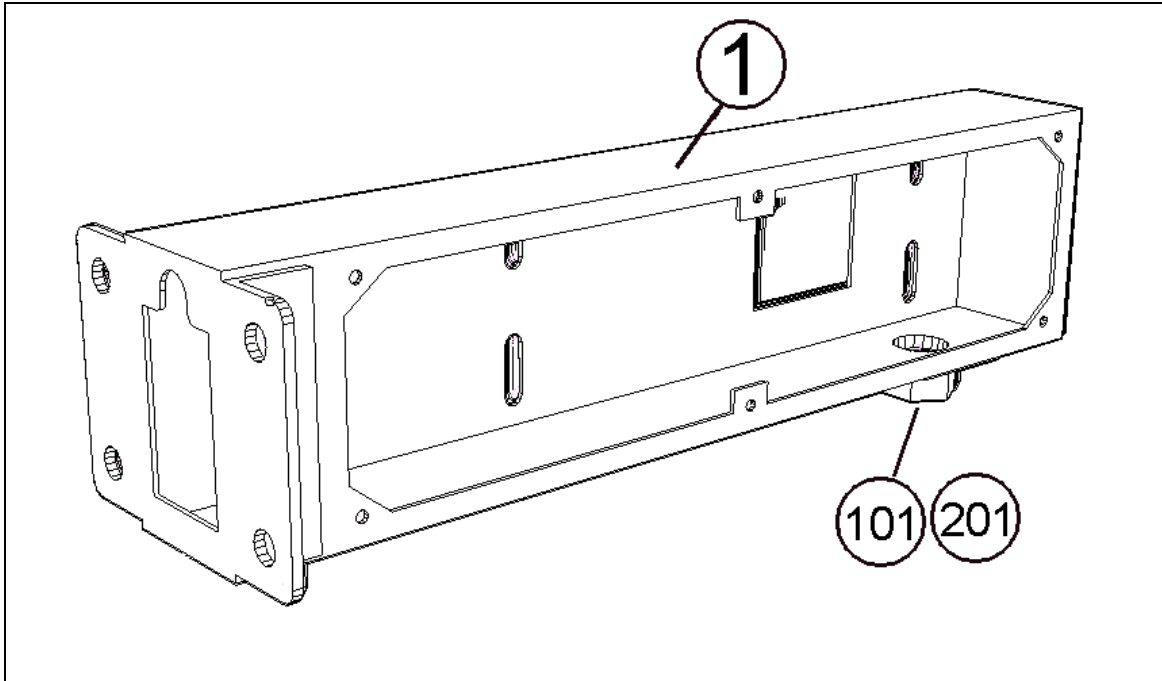
Item	Component Part	Qty	Description	Component Reference
1	VCT-1201	1	PEDAL BASE DX	
2	VCT-1202	1	PEDAL	
3	VCT-1203	1	FOOT PLATE	artwork
4	VCT-1204	1	COM SPRING	
5	VCT-1205	1	SPRING COVER	
6	VCT-1206	1	SHADE PLATE	
7	VCT-1207	1	SENSOR BRKT	
8	VCT-1208	1	WIRE COVER	
9	VCT-1209	2	STOPPER RUBBER	
10	VCT-1210	2	RUBBER CUSHION	
11	VCT-1211	2	RUBBER CASE	
12	VCT-1212	2	CUSHION	
13	VCT-1213	1	PLATE SASH	
14	VCT-1214	1	LED BD BRKT	
101	370-5226	1	PHOTO SENSOR OMT-01DAMP NEW	
103	280-6622-30030	4	SPACER TUBE	
104	838-14281-01	1	LED BAR BD RGB	
105	280-5247	3	ONE TOUCH BUSHING	
106	280-5248	3	ONE TOUCH COLLAR M3 L=10	
107	280-5009-01	2	CORD CLAMP 21	
108	280-5275-SR10	1	CORD CLAMP SR10	
201	FAS-000102	3	M5X6 MSCR TH BLK	NOT SHOWN
202	FAS-290034	4	M5X15 LH CAP SCR STN	NOT SHOWN
203	000-F00512	2	M5X12 MSCR FH	NOT SHOWN
204	000-P00310	10	M3X10 MSCR PAN W/FS	NOT SHOWN
205	050-F00400	10	M4 FLG NUT	NOT SHOWN
206	000-T00408-0B	2	M4X8 MSCR TH BLK	NOT SHOWN
207	000-P00320-W	3	M3X20 MSCR PR W/FS	NOT SHOWN
208	050-H00400	1	M4 NUT HEX	NOT SHOWN
209	060-F00400	1	M4 FLT WSHR	NOT SHOWN
210	060-S00400	1	M4 SPR WSHR	NOT SHOWN
211	030-000620	1	M6X20 BLT W/S BLK	NOT SHOWN

8.14. VCT-1300UK ASSY FOOT BASE L



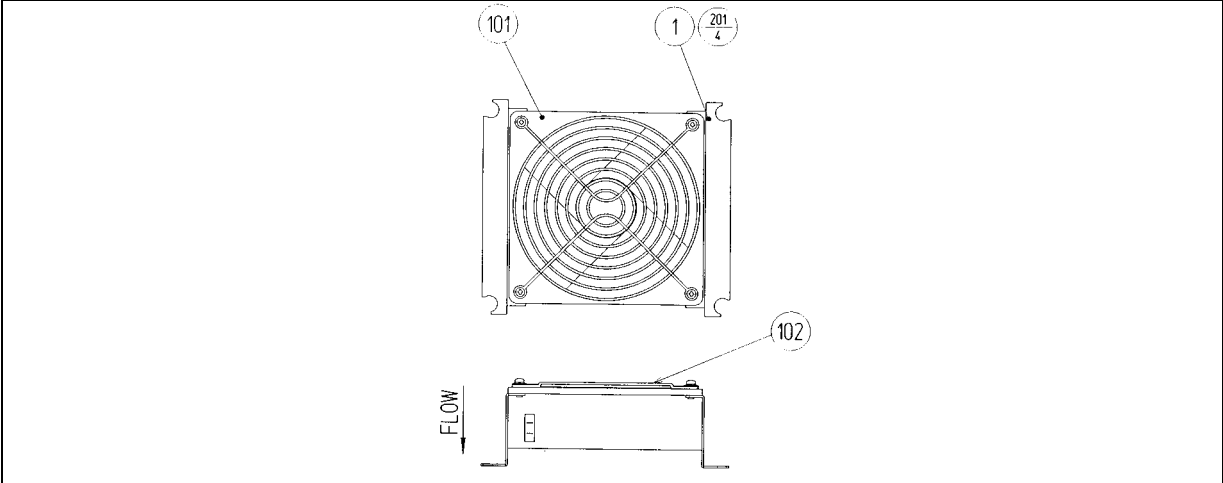
Item	Component Part	Qty	Description	Component Reference
1	VCT-1301	1	FOOT BASE FRAME L	
101	601-5699X	1	LEG ADJUSTER BOLT M16 X 75	
102	280-5009-01	1	CORD CLAMP 21	
201	050-H01600-0B	1	HEX NUT BLK M16	
202	068-651616-0B	4	M6 WSHR 16OD FLT BLK	NOT SHOWN
203	030-000616-SB	4	M6X16 BLT W/S BLK	NOT SHOWN
204	030-000830-SB	4	M8X30 BLT W/S BLK	NOT SHOWN
205	068-852216-0B	4	M8 WSHR 22OD FLT BLK	NOT SHOWN
301	VCT-60013	1	WH-PEDAL	
303	VCT-61004UK	1	WH-EARTH PEDAL BASE 1	

8.15. VCT-1310UK ASSY FOOT BASE R



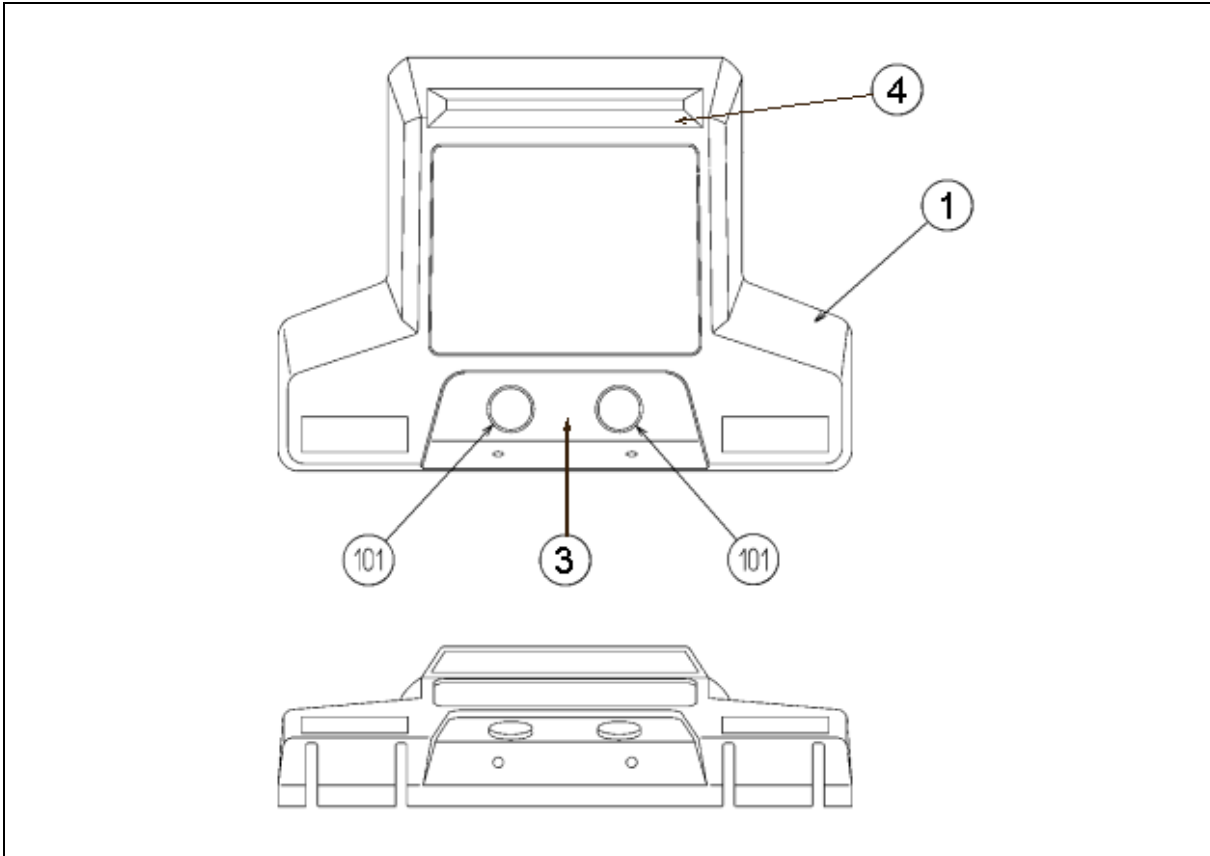
Item	Component Part	Qty	Description	Component Reference
1	VCT-1311	1	FOOT BASE FRAME R	
101	601-5699X	1	LEG ADJUSTER BOLT M16 X 75	
102	280-5009-01	1	CORD CLAMP 21	
201	050-H01600-0B	1	HEX NUT BLK M16	
202	068-651616-0B	4	M6 WSHR 16OD FLT BLK	NOT SHOWN
203	030-000616-SB	4	M6X16 BLT W/S BLK	NOT SHOWN
204	030-000830-SB	4	M8X30 BLT W/S BLK	NOT SHOWN
205	068-852216-0B	4	M8 WSHR 22OD FLT BLK	NOT SHOWN
301	VCT-60013	1	WH-PEDAL	
302	VCT-60010UK	1	WH-FRONT LED EXT 2	
303	VCT-61005UK	1	WH-EARTH PEDAL BASE 2	

8.16. HDT-1530UK ASSY FAN UNIT DC UK



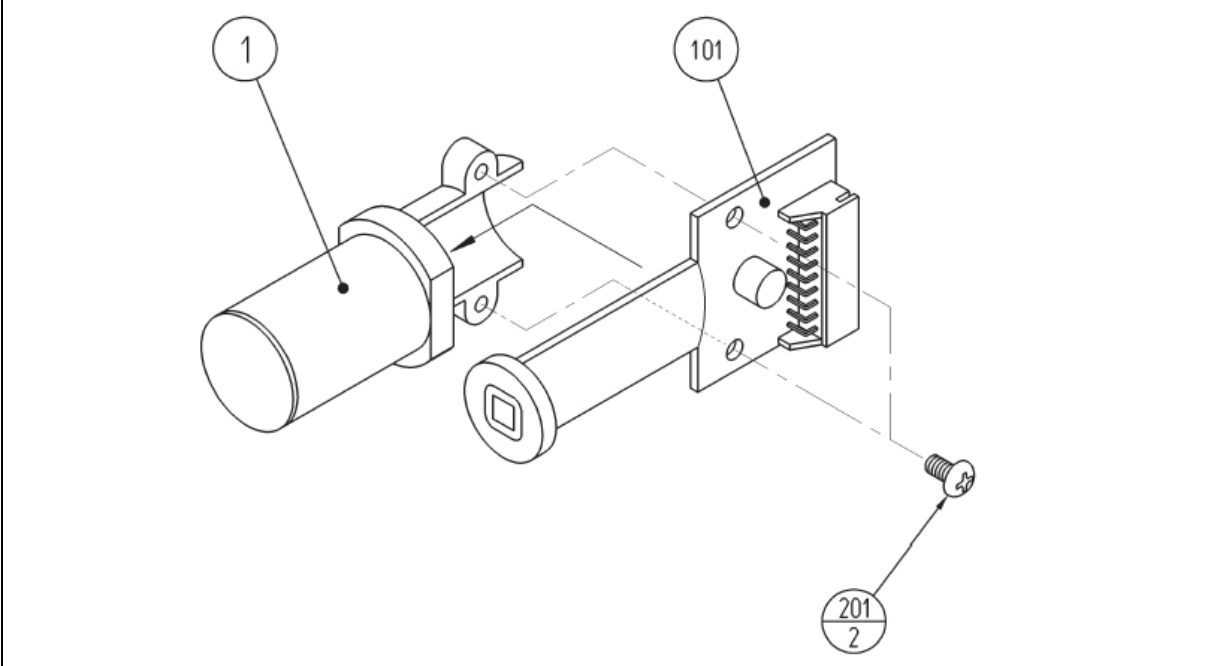
Item	Component Part	Qty.	Description	Component Reference
1	105-5340-01	2	FAN BRKT LONG	
101	EC814500	1	12V DC FAN 120MM KD1	
102	FN1012	1	MESH GUARD METAL 120mm FAN	
201	000-P00312-W	4	M3X12 MSCR PAN W/FS PAS	(1)-4
301	HDT-60004UK	1	WH 12V FAN LINK	

8.17. VCT-2000UK ASSY CTRL PANEL DX



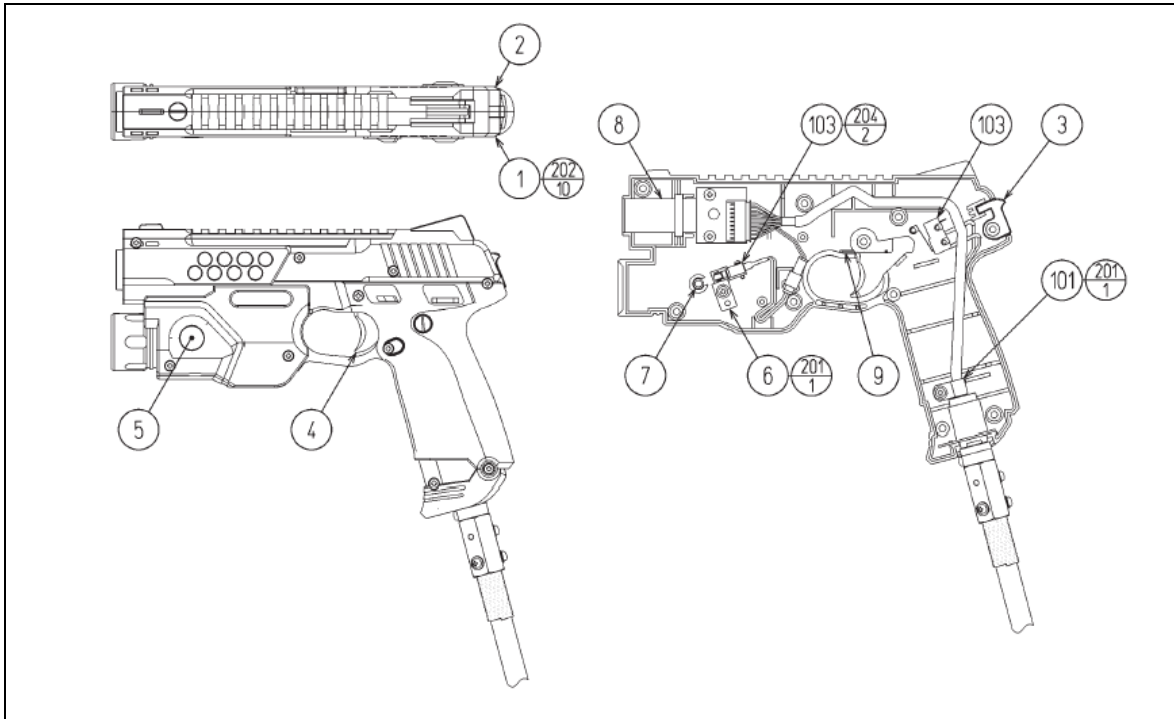
Item	Component Part	Qty.	Description	Component Reference
1	VCT-2001-A-W	1	CTRL PNL BLANK W/NUT PLATES	
3	VCT-2001-B	1	BUTTON SHEET DX	
4	VCT-2001-C-01UK	1	STICKER CTRL PNL TOP ENG	
5	VCT-2001-DUK	1	STICKER CNTRL PANEL L VCT DX	
6	VCT-2001-EUK	1	STICKER CNTRL PANEL R VCT DX	
101	509-5712-01S	2	SW PB W/L 6V YELLOW	
301	HOD-60020	1	WIRE HARN CONTROL PANEL	

8.18. SENSOR UNIT (JPT-2030)



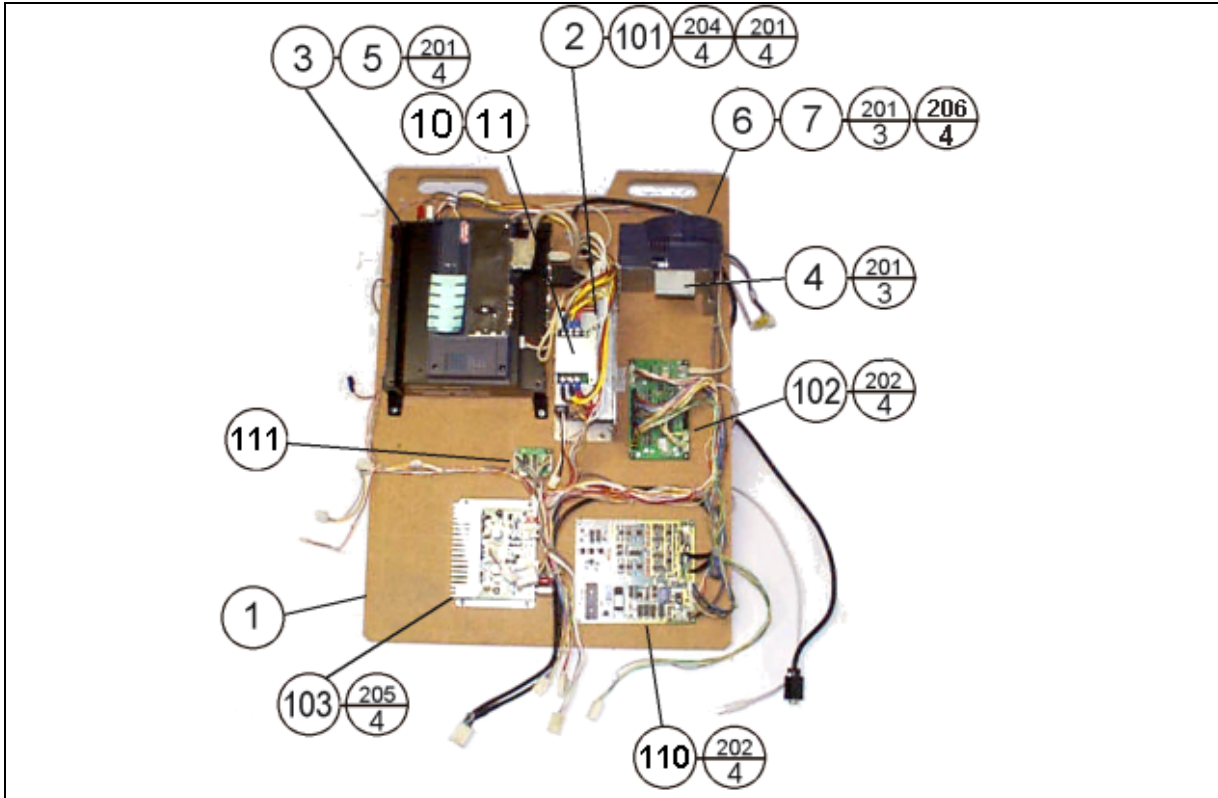
ITEM NO.	PART NO.	DESCRIPTION NOTE
1	JPT-2031	SENSOR HOLDER
101	838-13144	SENSOR BD GUN SENSE
201	012-P00306	TAP SCR #2 PH 3X6

8.19. VCT-2100-01 CONTROL UNIT EXP



Item	Component Part	Qty	Description	Component Reference
1	VCT-2101-01	1	COVER L EXP	
2	VCT-2102-01	1	COVER R EXP	
3	VCT-2103-01	1	HAMMER EXP	
4	VCT-2104	1	TRIGGER	
5	VCT-2105	1	CHANGE BUTTON	
6	VCT-2106	1	SW BRKT	
7	VCT-2107	1	COM SPRING	
8	JPT-2030	1	SENSOR UNIT	
9	125-5124	1	TORSION SPRING	
101	280-5124-04	1	NYLON CLAMP NK04	
102	310-5029-D20	1	SUMITUBE F D 20MM	
103	509-5080	1	SW MICRO TYPE (SS-5GL2)	
104	601-0460	1	PLASTIC TIE BELT 100 MM	
201	000-P00308-W	2	M SCR PH W/FS M3 x 8	(6)-1, (101)-1
202	FAS-000099	10	M SCR PH W/SMALL FS BLK M3 x10	(1)-10
204	FAS-000101	2	M SCR PH W/FS M2.3 x 10	(103)-2
301	VCT-60011	1	WH CONTROL UNIT	
302	VCT-60012	1	WH CHANGE SW	

8.20. VCT-4000UK ASSY MAIN BD DX



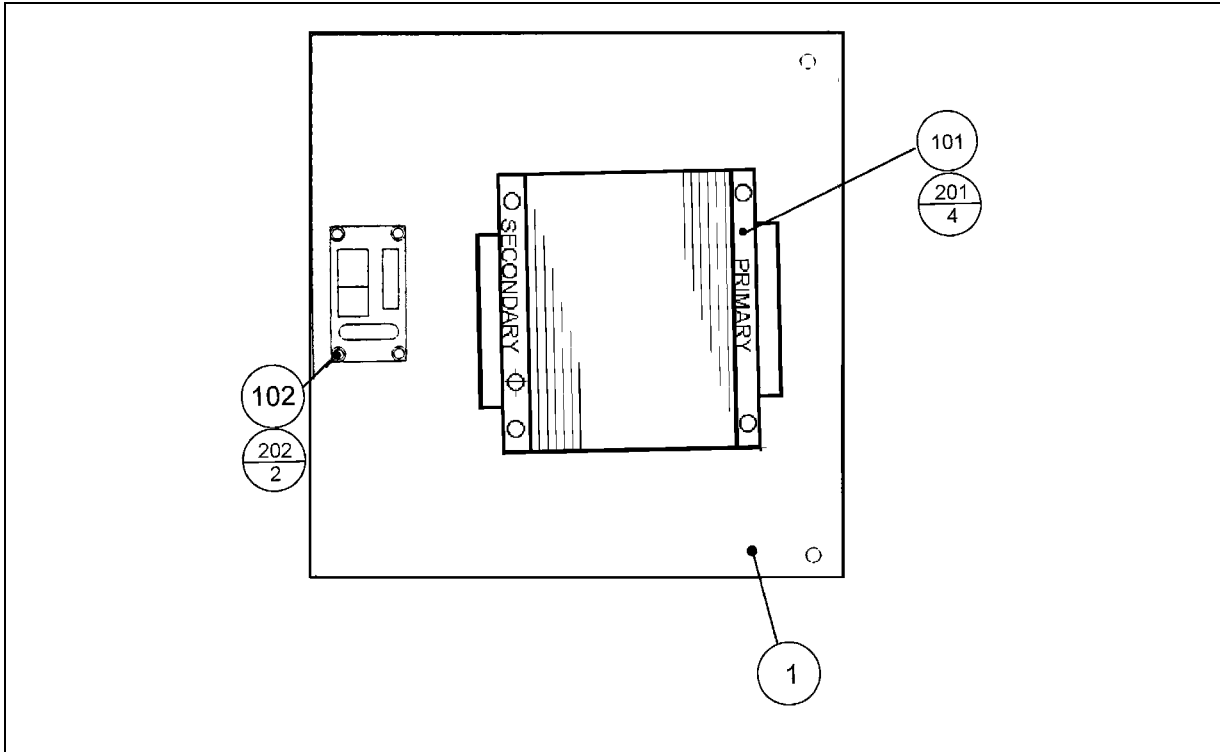
Item	Component Part	Qty	Description	Component Reference
1	SPY-4001UK	1	WOODEN BASE MAIN BD DX	
2	TMB-4003	1	SW REGU BRKT	
3	843-0001D-12	1	ASSY CASE BOX COM NAO DIMM EXP	
4	105-5435	1	GD DRIVE BRKT STD	
5	LB1101	1	LABEL WARNING BATTERY	
6	610-0617	1	GD-ROM DRIVE UNIT NAOMI	
7	610-0652-0003	1	GD SOFT VCT	
8	LB1111	1	STICKER PLEASE RECYCLE	
9	253-5508-0543	1	KEY CHIP	
10	NOM-4002	1	BRKT FOR PWR PROTECT UNIT	
11	610-0674	1	PWR PROTECT UNIT FOR CHIHIRO	
101	400-5443	1	SW REGU FOR CHIHIRO	
102	837-13551-92	1	I/O CONTROL BD FOR JVS	
103	838-13616	1	AUDIO POWER AMP 2CH	
104	280-A00964-WX	7	ROUTER TWIST D09 SO6.4 WOOD X	
105	354081	6	TWIST LOK BHKL-450-4	
106	354083	6	(A) TWIST N LOK BHKL-750-4	
110	838-13143-08	1	IC BD GUN SENSE SPY	
111	839-1221	1	RGB LED DECODER BD	
201	000-P00416-W	11	M4X16 MSCR PAN W/FS PAS	(2)-4,(3)-4,(4)-3, (6)-3
202	012-P00325	8	N4X1" S/TAP PAN PAS	(102)-4,(110)-4
204	000-P00408-W	4	M4X8 MSCR PAN W/FS PAS	(101)-4

Continued on next page

Continued from previous page

Item	Component Part	Qty	Description	Component Reference
205	012-P03512-F	4	N6X1/2" S/TAP FLG PAS	(103)-4
206	012-P00410-F	4	N8X3/8" S/TAP FLG PAS	(6)-4
301	SPY-60010UK	1	WIRE HARN HIGH FRQNCY JUMPER	CN1 ON IC BD GUN SENSE SPY
302	600-7159-039	1	WIRE HARN JVS PWR 039CM	
303	SPY-60009	1	WIRE HARN CTRL BD RECIEVER	
305	SMB-60013	1	WIRE HARN SPEAKER L	
306	SMB-60014	1	WIRE HARN SPEAKER R	
307	SPY-60005	1	WIRE HARN AUDIO L	
308	SPY-60006	1	WIRE HARN AUDIO R	
310	600-7009-2500	1	ASSY RGB CA D-SUB 15P 2500MM	
311	HDT-60100UK	1	WH POWER GD ROM	
313	600-7141-100	3	CABLE JVS TYPE A-B 100CM	
315	600-7242-500	1	CABLE SCSI ST-L TYPE1 500MM	
316	VCT-60001UK	1	WH-SIGNAL MAIN BOARD	
317	VCT-60005UK	1	WH-SENSOR OUT	
318	VCT-60017UK	1	WH-POWER PROTECT UNIT	
319	600-7141-200	1	CABLE JVS TYPE A-B 200CM	
320	VCT-60003UK	1	WH FRONT LED	
321	VCT-62003UK	1	WH-PWR	
322	VCT-60100UK	1	WH POWER GD ROM	

8.21. VCT-4200UK ASSY PWR SPLY



Item	Component Part	Qty.	Description	Component Reference
1	HOD-4101UK	1	WOODEN BASE PWR SPLY	
101	560-5422UK	1	XFMR NOB	
102	838-11856CE-02	1	CONN BD W/FUSE 6.3A CE	
201	000-P00416-W	4	M4X16 MSCR PAN W/FS PAS	(XFMR)-4
202	012-P00325	2	N4X1" S/TAP PAN PAS	(CONN BD)-2
301	HDT-62000UK	1	WIRE HARN AC-CONN BD	
302	HDT-62001UK	1	WH AWP POWER	

8.22. VCT-INST-DX ASSY INST KIT HDT DX

ITEM	PART NO.	QTY	DESCRIPTION	COMPONENT REFERENCE
1	VCT-0520UK	1	ASSY BILLBOARD DX	
2	HOD-0006	2	L BRKT	
4	440-CS0186UK	1	STICKER C EPILEPSY MULTI	
18	VCT-0502UK	1	WIRE COVER R	
19	VCT-0501UK	1	WIRE COVER L	
211	000-T00412-0B	5	M4X12 MSCR TH BLK	(18)-2, (19)-3
212	068-441616-0B	5	M4 WSHR 160D FLT BLK	(18)-2, (19)-3
23	SAECE-113	1	DECLARATION OF CONFORMITY	DECLARATION OF CONFORMITY VCT
24	VCT-2002UK	1	INST PLATE VCT DX	
101	290094	3M	WRAP BUBBLE (SM)	(1)-1
201	030-000850-SB	4	M8X50 BLT W/S BLK	FENCE L+R-2EA
202	030-000830-SB	16	M8X30 BLT W/S BLK	FENCE L+R-8EA
207	030-000840-SB	8	M8X40 BLT W/S BLK	(2)-8
208	068-852216-0B	32	M8 WSHR 220D FLT BLK	(2)-8,FENCE L+R-8EA, (CABI)-4
209	030-000860-0B	4	M8X60 BLT BLK	(CABI)-4
210	000-T00525-0B	2	M5X25 MSCR TH BLK	(1)-2
211	068-552016-0B	2	M5 WSHR 200D FLT BLK	(1)-2
401	420-6620UK	1	SERVICE MANUAL GD ROM SYSTEM	
402	OS1019	2	SELF SEAL BAG 9X12.3/4	
403	420-6759-01UK	1	OWNERS MANUAL VCT DX	
405	390-5160	1	LAMP WG B TYPE 6V 3W (C2R)	
406	509-5080	2	SW MICRO TYPE (SS-5GL2)	
413	514-5078-5000	1	FUSE 5X20 CERAMIC SB 5000mA	

9. APPENDIX A - ELECTRICAL SCHEMATIC

9.1. WIRE COLOURS

THE WIRE COLOUR CODE IS AS FOLLOWS:

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

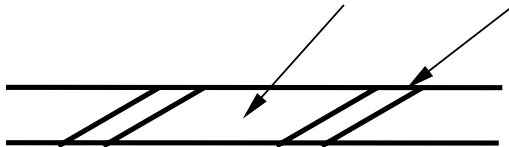
Wires other than those of any of the colours listed above will be displayed by 2 alphanumeric characters:

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

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

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

[Example] 51----- WHITE/RED = WHITE wire with RED stripes



Note 2: The character following the wire colour code indicates the size of the wire.

K:	AWG18, UL1015
L:	AWG20, UL1007
None	AWG22, UL1007

9.2. ELECTRICAL SCHEMATIC

The following pages contain the electrical schematic for this machine.

LOCATE A3 SCHEMATIC DRAWING 1 HERE

LOCATE A3 SCHEMATIC DRAWING 2 HERE

SEGA AMUSEMENTS EUROPE LTD./ SEGA SERVICE CENTRE

Suite 3a
Oaks House
12 - 22 West Street
Epsom
Surrey
United Kingdom
KT18 7RG

Telephone: +44 (0) 1372 731820

Fax: +44 (0) 1372 731849

SEGA[®]



© SEGA 2002