

SERVICE MANUAL

SEGA® GHOST SQUAD

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®



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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**.

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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 there 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.



REAR OF
BILLBOARD



SPECIFICATIONS

Size (mm): 1200 x 1680

Height (mm): 2230

Weight (kg): 253

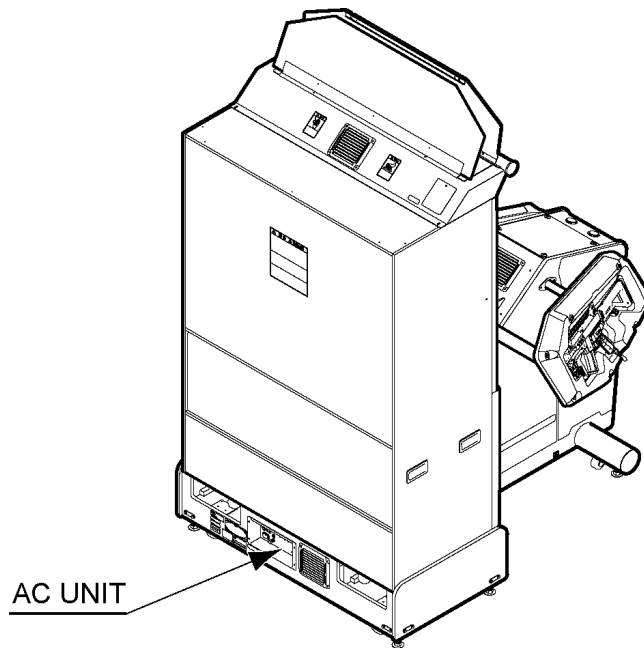
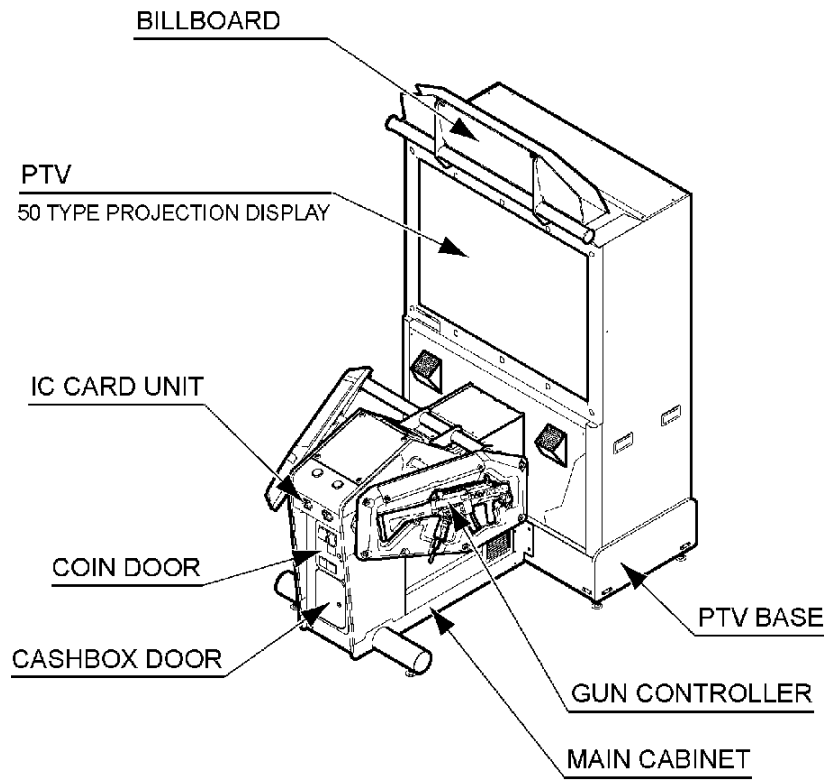
Rated Voltage (VAC): 220-240VAC 50Hz

Rated Current: 3A

Operating Temperature Range: 5-30°C

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

2. NAME OF PARTS



	Width (mm)	Length (mm)	Height (mm)	Weight (kg)
PTV	1,140	555	1,670	100
PTV BASE	1,200	620	310	26
BILLBOARD	1,170	410	385	18
MAIN CABINET	1,140	1,090	1,010	98
When Assembled	1,200	1,680	2,230	253

2.1. HOW TO USE THE CHIHIRO BOARD CARTON BOX

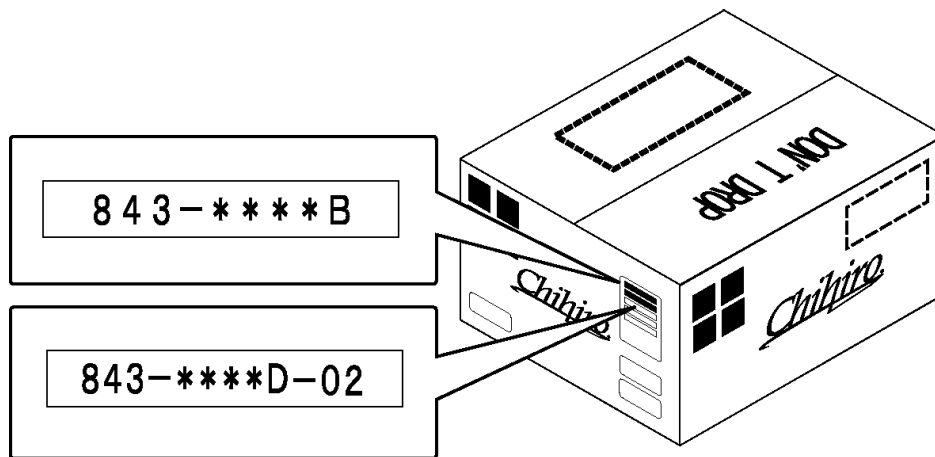
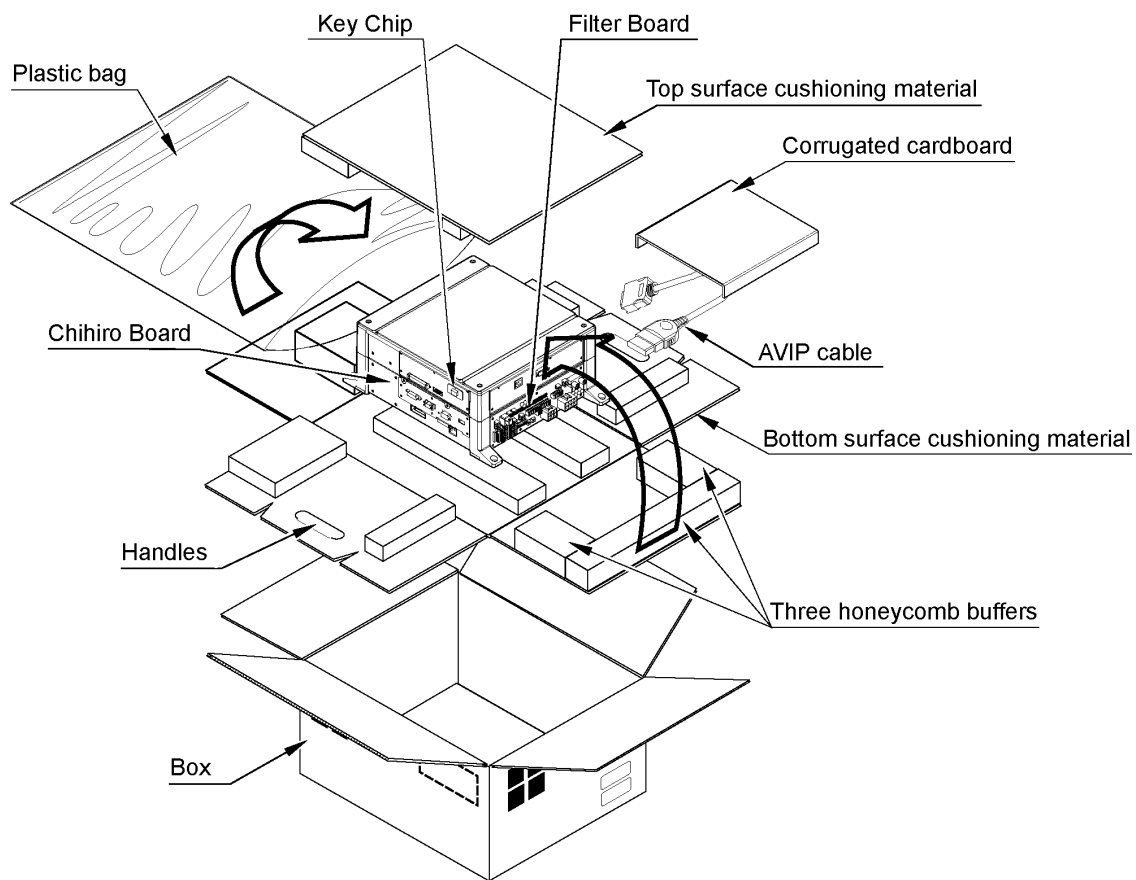


Replacement or repair of the Game Board (Chihiro) for this product should be undertaken at the appropriate repair centre. Be sure to follow the specifications below when requesting repairs/sending the board to the repair centre. Not following the specifications may result in the board not being accepted or in extra charges being made.

- 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.

2.1.1. 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. Placing 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.

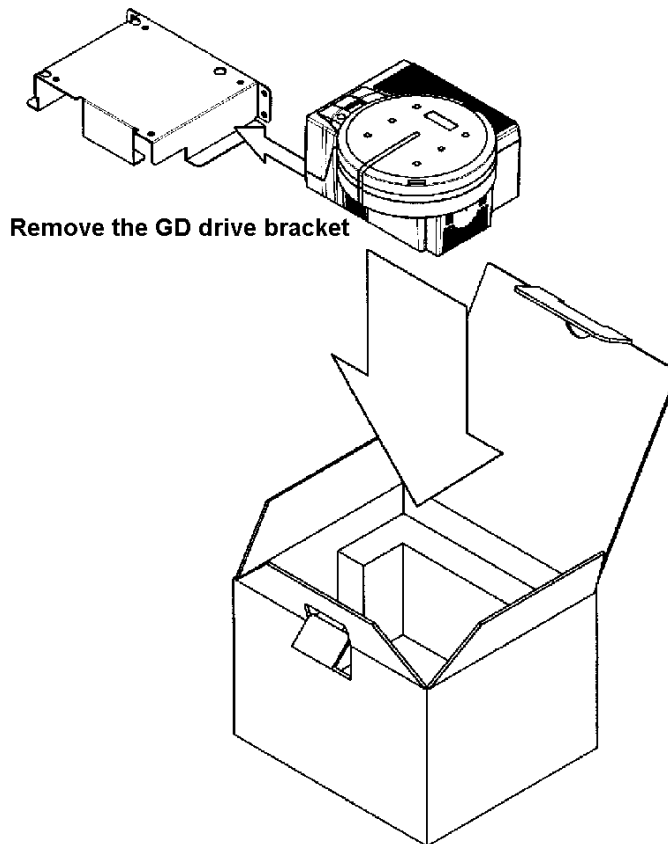


2.2. HOW TO USE THE CARTON BOX (GD-ROM DRIVE)



When you want to order for replacing or repairing service of the GD-ROM drive that is used by the product, pack it in a carton box as instructed below, and then deliver the carton box to a service agent. If you do not observe the instruction, your order may not be accepted or may be charged additionally. If you handle the GD-ROM drive differently from the following instructions, its components may be damaged.

- Contain the GD-ROM drive in a dedicated carton box. Do not disassemble it or remove any part from it unless otherwise instructed.
- Before containing the GD-ROM drive in a dedicated carton box, attach the GD-ROM drive lid (DISC LID) onto the drive and fix the lid with a screw.
- Before containing the GD-ROM drive in a dedicated carton box, remove the GD-ROM disc from the drive. Do not attempt to move the GD-ROM drive with a GD-ROM disc inside.
- Before containing the GD-ROM drive in a dedicated carton box, remove the GD-ROM drive bracket. Carefully keep the GD-ROM drive bracket and the 4 set screws, because they will be reused.
- When inserting the GD-ROM drive into a dedicated carton box, be careful about an inserting direction as illustrated below.
- The packing materials in a carton box are used as a cushion. Use them always when inserting the GD-ROM drive into a dedicated carton box. Do not bend them.



3. ASSEMBLY AND INSTALLATION



- Perform assembly work by following the procedure herein stated. Failing to comply with the instructions can cause electric shock hazard.
- Perform assembling as per this manual. Since this is a complex machine, erroneous assembling can cause an electric shock, machine damage and or not functioning as per specified performance.
- When assembling, be sure to use plural persons. Depending on the assembly work, there are some cases in which working by one person alone can cause personal injury or parts damage.
- Ensure that connectors are accurately connected. Incomplete connections can cause electric shock hazard.
- Be careful not to damage the wires. Damaged wires may cause electric shock or short circuit or present a fire risk.
- Do not carelessly push the PTV. Pushing the PTV carelessly can cause the PTV to fall down.
- This work should be performed by the site maintenance individual or other skilled professional. Performing work by non-technical personnel can cause a severe accident such as electric shock. Failing to comply with this instruction can cause a severe accident such as electric shock to the player during operation.
- Provide sufficient space so that assembling can be performed. Performing work in places with narrow space or low ceiling may cause an accident and assembly work to be difficult.
- To perform work safely and avoid serious accident such as the cabinet's falling down, do not perform work in places where step-like grade differences, a ditch, or slope exist.
- Do not use this product with connectors other than those that were connected and used with the Game Board at the time of shipping. Do not carelessly connect wires to connectors that were not used at the time of shipping, as this may cause overheating, smoke or fire damage.

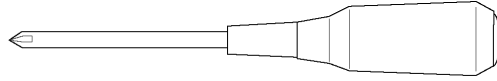


- When handling plastic parts, use care. Do not give a shock or apply excessive load to the fluorescent lamps and plastic parts. Failure to observe this can cause parts damage, resulting in injury due to fragments, cracks and broken pieces.
- To perform work safely and securely, be sure to prepare a step which is in a secure and stable condition. Performing work without using the step can cause violent falling down accidents.
- Make sure that the GD cable connector is inserted parallel to the plug. Improper insertion may cause damage to the connector and present a fire risk.

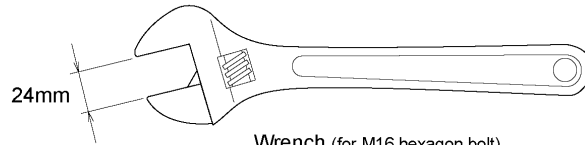
When carrying out the assembly work, follow the procedure in the following sequence:

- STEP 1: ASSEMBLING THE BILLBOARD**
- STEP 2: ASSEMBLING THE CABINET**
- STEP 3: SECURING IN PLACE ADJUSTER TUNING**
- STEP 4: TURNING THE POWER ON**
- STEP 5: ASSEMBLY CHECK**

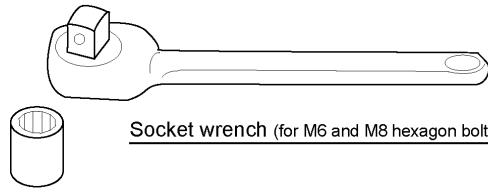
The parts contained in the installation kit are required for the assembly work.



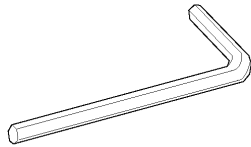
Philips type screwdriver



Wrench (for M16 hexagon bolt)



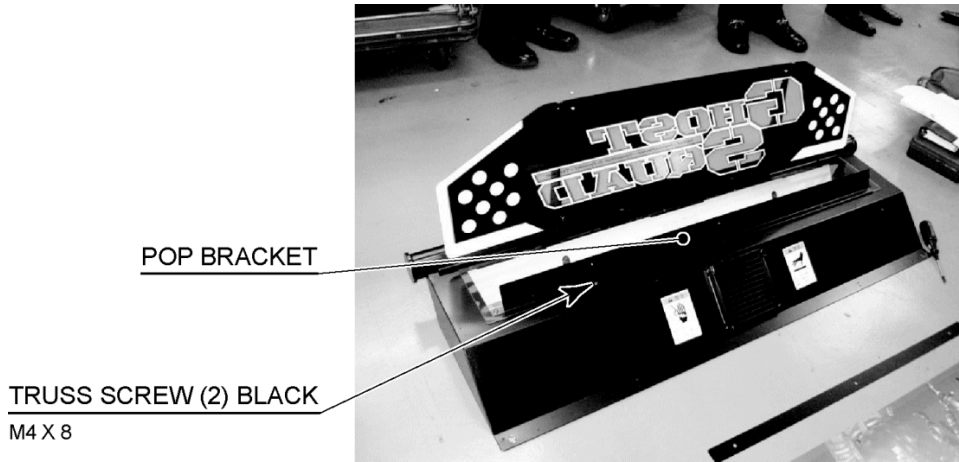
Socket wrench (for M6 and M8 hexagon bolt)



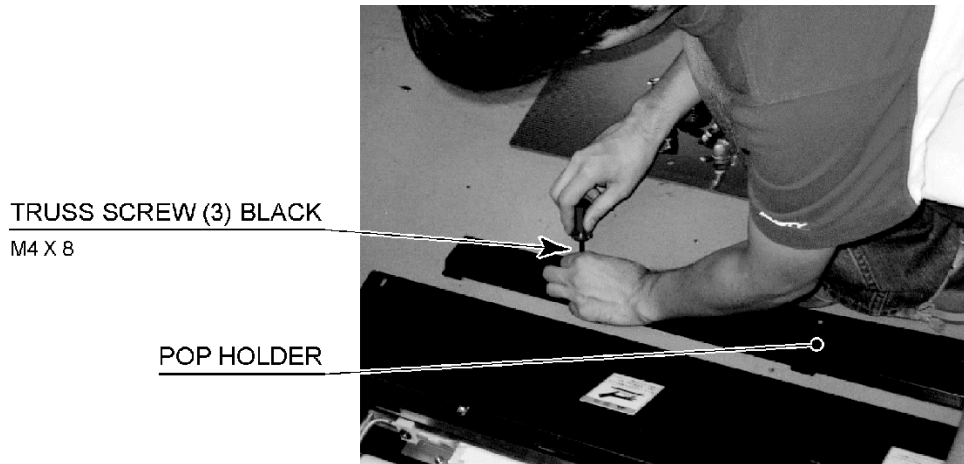
L - wrench (3mm L-shaped hex wrench)

3.1. ASSEMBLING THE BILLBOARD

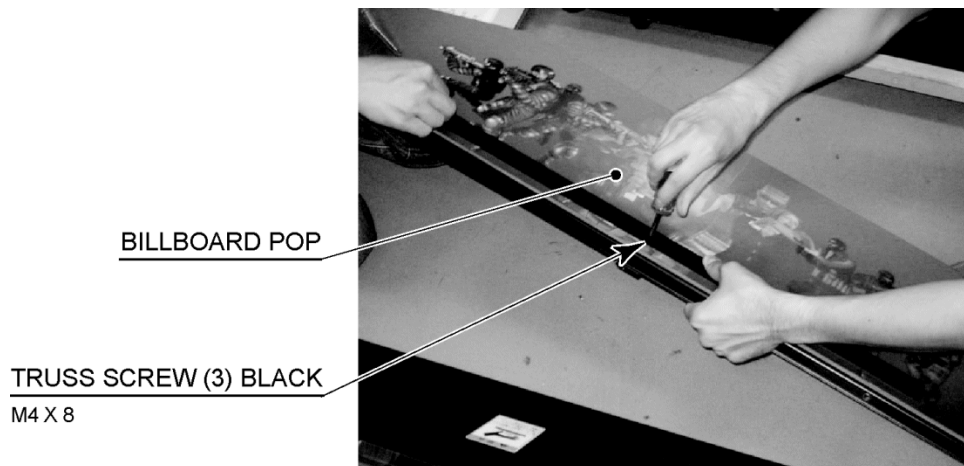
1. Undo the 2 truss screws, and remove the pop bracket.



2. Undo the 3 truss screws, and remove the pop holder.



3. Attach the billboard pop by fitting it between the pop bracket and pop holder, and fixing it in place with the 3 truss screws.



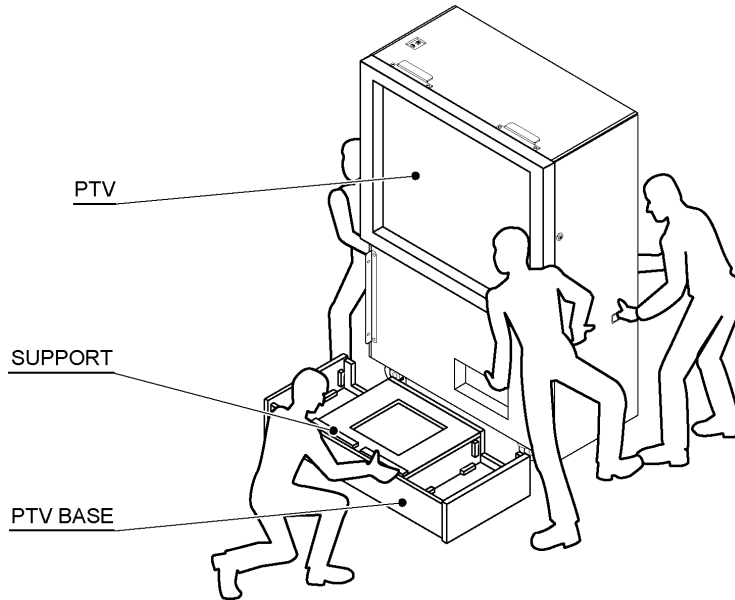
4. Attach the assembled billboard pop using the 2 truss screws.



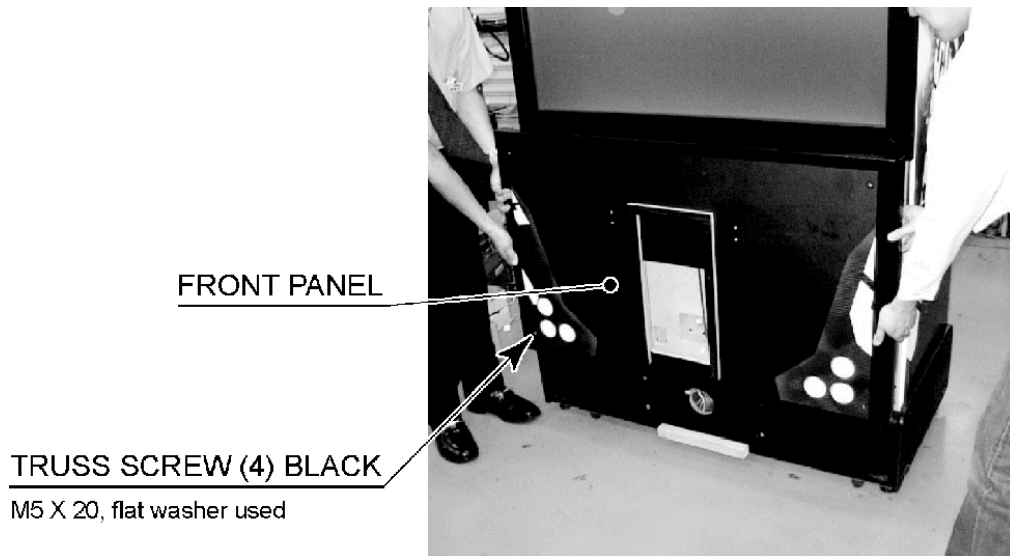
TRUSS SCREW (2) BLACK
M4 X 8

3.2. ASSEMBLING THE CABINET

1. Move the PTV to the back of the PTV base.
2. Put the PTV on the PTV base. To do this, you will need at least 4 people to lift the PTV, and another person to hold the PTV base to stop it from moving. Lower the PTV until it touches the supports. Take care not to damage any wiring during this step.



3. Attach the front panel using 4 truss screws. Take care that you do not damage any wiring during this step.

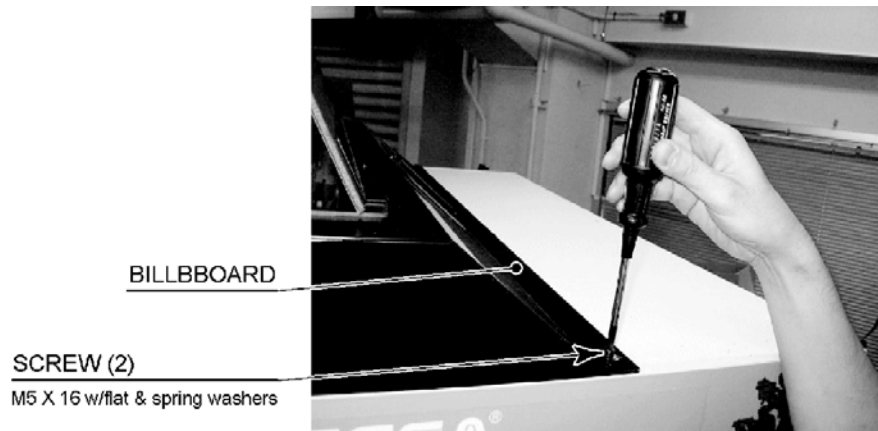


4. Have 2 people lift the billboard and place it on the PTV. Lower the billboard so that the two mask bracket uppers that were attached in step 2 fit into the 2 rectangular holes in the billboard base plate, and push the billboard towards the PTV screen. The base plate of the billboard is then fixed into place by fitting into the mask brackets.

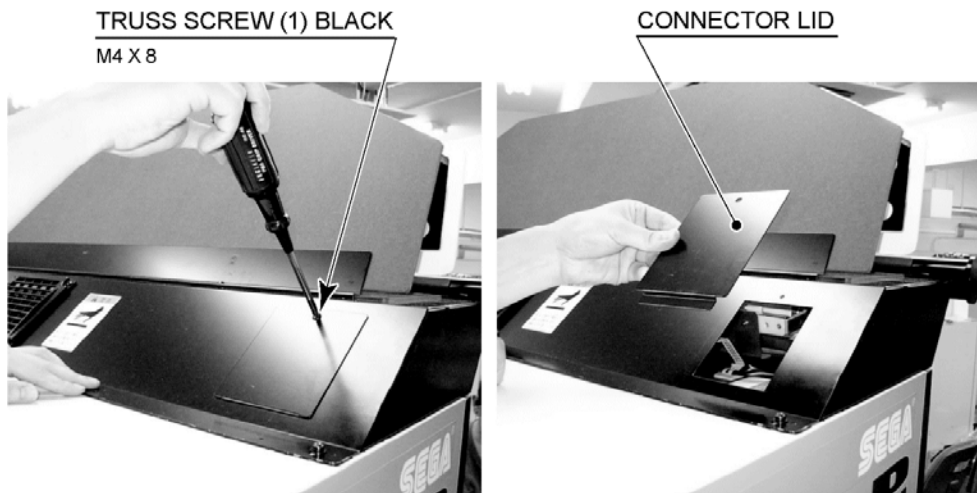


You will need 2 people to perform this step.

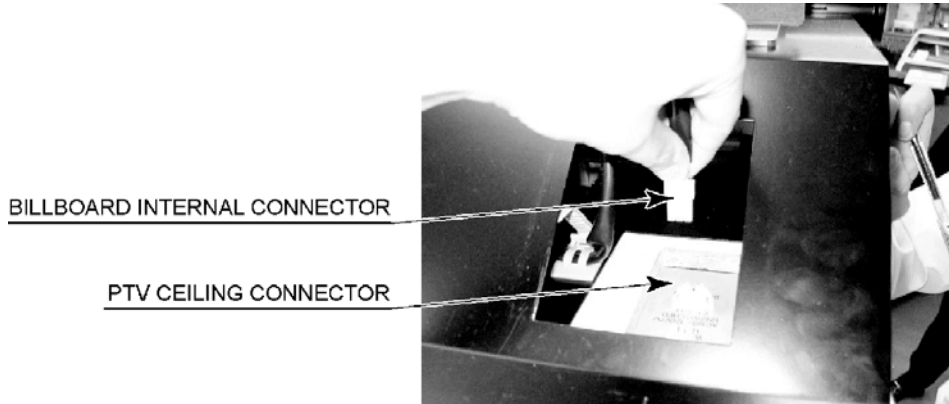
5. You will need a footstool to complete the following step. Attach the billboard to the PTV using 2 screws.



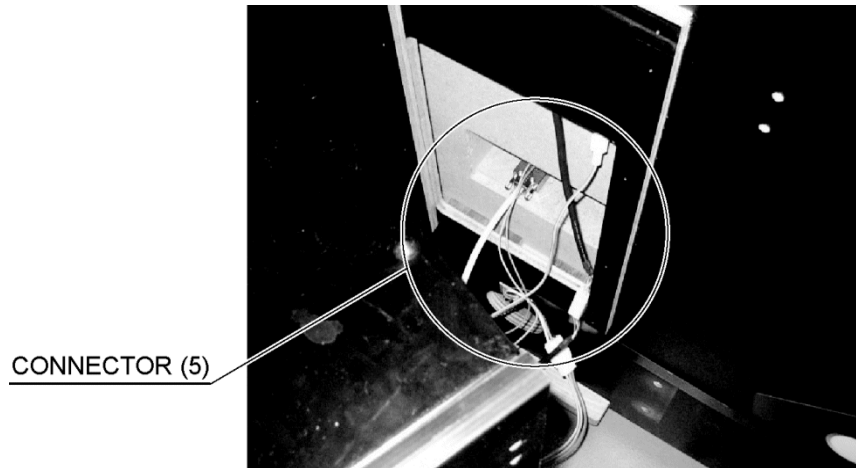
6. Undo the single truss screw and remove the connector lid.



7. Connect the internal billboard connector to the connector in the PTV ceiling.



8. Attach the connector lid using the single truss screw.
9. Bring the main cabinet next to the PTV.
10. Connect the wiring between the main cabinet and the PTV. You will need to connect a total of 5 connectors.



11. Place the main cabinet on the supports in the PTV base. Make sure that the wires do not get pinched while you do this.

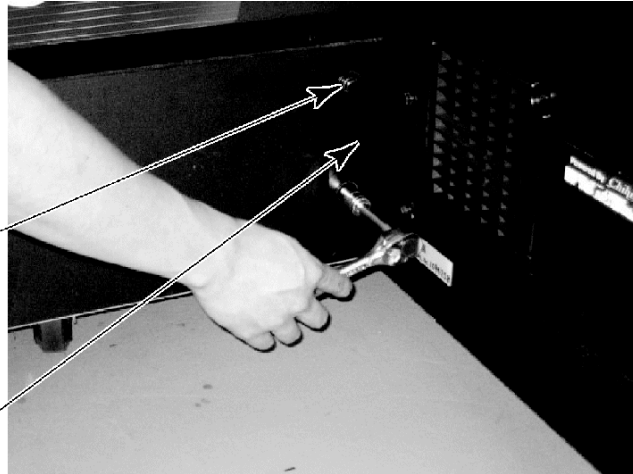
Be careful not to pinch the wiring



12. Tighten the 2 hexagon bolts on each of the left and right brackets of the main cabinet to affix the cabinet.

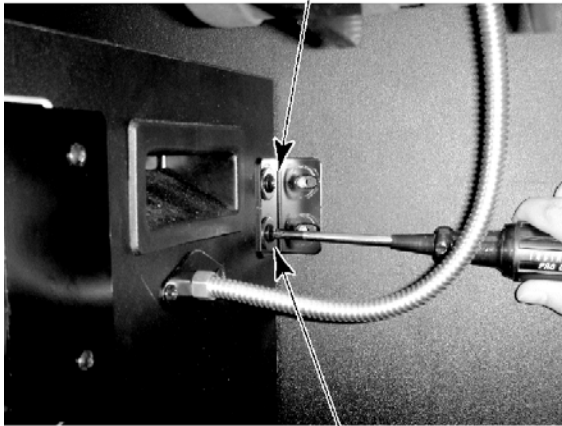
HEXAGON BOLT (2 ea), black
M8 X 40 w/spring washer flat washer used

BRACKET

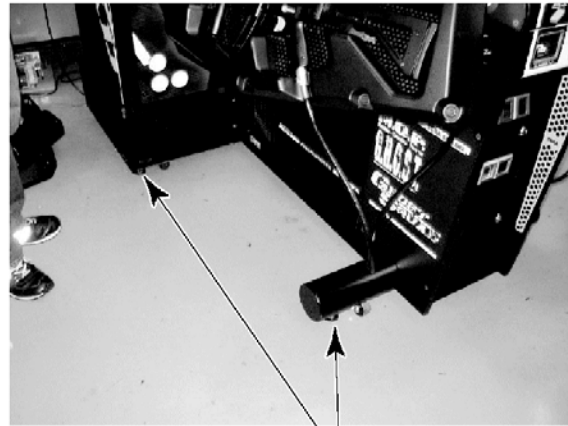


13. Attach the joint bracket uppers to the left and right sides of the joint between the main cabinet and the PTV using 4 truss screws on each side to secure the joint. Arrange these so that the vertical holes correspond to the main cabinet and the horizontal holes correspond to the PTV. If there is a gap between the main cabinet and the PTV, adjust the main cabinet or the adjuster on the PTV base to close the gap before tightening the screws.

JOINT BRACKET UPPER



TRUSS SCREW (4 ea), BLACK
M5 X 20, flat washer used



ADJUSTER

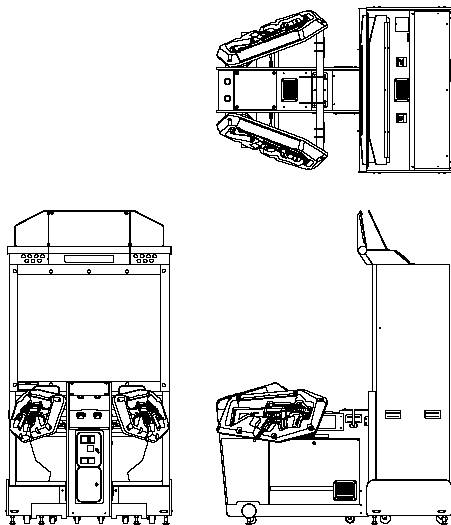
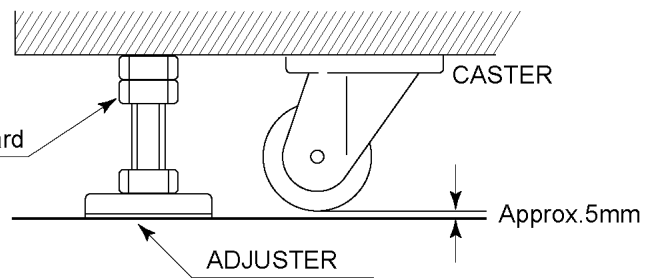
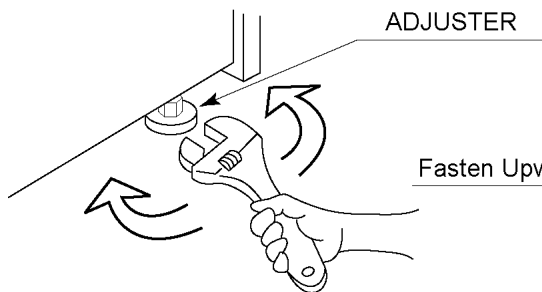
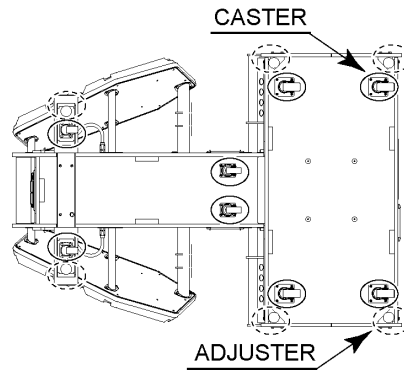
3.3. SECURING IN PLACE (ADJUSTER TUNING)



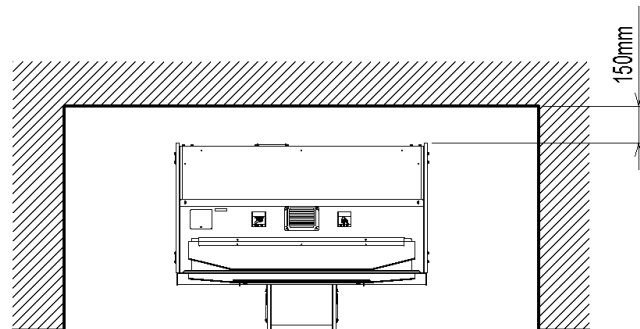
- Make sure that all of the adjusters are in contact with the floor. If they are not, the cabinet can move and cause an accident.

This product has 8 casters (4 for PTV Base, 4 for MAIN CABINET) and 6 Adjusters (4 for PTV Base, 2 for MAIN CABINET). (FIG. 6. 4 a) When the installation position is determined, cause the adjusters to come into contact with the floor directly, make adjustments in a manner so that the casters will be raised approximately 5 mm. from the floor and make sure that the machine position is level.

1. Transport the product to the installation position.
2. Have all of the adjusters make contact with the floor. Adjust the adjuster's height by using a wrench so that the machine position is kept level. When contacting the adjusters of the right and left fences onto the floor, manually turn them.
3. After making adjustment, fasten the adjuster nut upward and secure the height of adjuster.



Refer to this figure for the installation layout



Leave a gap for ventilation.

3.4. TURNING THE POWER ON

Turn the main switch on the AC unit on to turn the power on. When the power is turned on, the fluorescent lights in the billboard and instruction panel turn on. A few second later, the system startup screen is displayed, then the waiting screen for customers (advertising screen) is displayed.

The time required for the advertising screen to appear can vary between several tens of seconds and a few minutes. The time is not necessarily the same each time. This is due to the rechargeable battery in the GD-ROM system, and does not represent a malfunction.

Audio begins playing from the speakers on the left and right sides of the main cabinet at the same time the advertising screen is displayed. In addition, the halogen lamp, left and right controller holder LEDs, and the LED under the IC card unit all light up. However, if the game has been configured to not play sounds during advertising, then no sound is produced.

Even after you turn the power to this product off, the number of credits and ranking data are preserved. However, the number of excess coins (the number of coins that have been inserted that do not add up to a full credit) and bonus adder count data are not preserved.

Fluorescent lamp (in the Billboard) is lit.

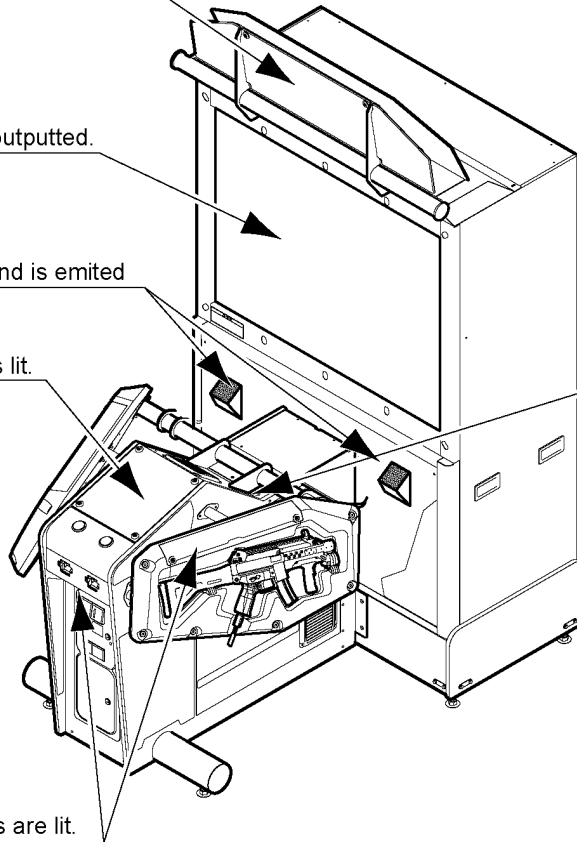
On-screen images are outputted.

Sound is emitted

Fluorescent lamp is lit.

Halogen lamp is lit.

LEDs are lit.



3.5. ASSEMBLY CHECK

In the TEST MODE, ensure that the assembly has been made correctly and IC BD. is satisfactory (refer to Section 5).

In the test mode, perform the following test:

3.5.1. 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

DIMM BOARD(TYPE3)
VERSION    ****
STATUS     GOOD
CHECKING   100%

DIMM TEST
DIMM0      GOOD
DIMM1      NONE
GD-ROM     GOOD

PRESS TEST BUTTON TO EXIT
```

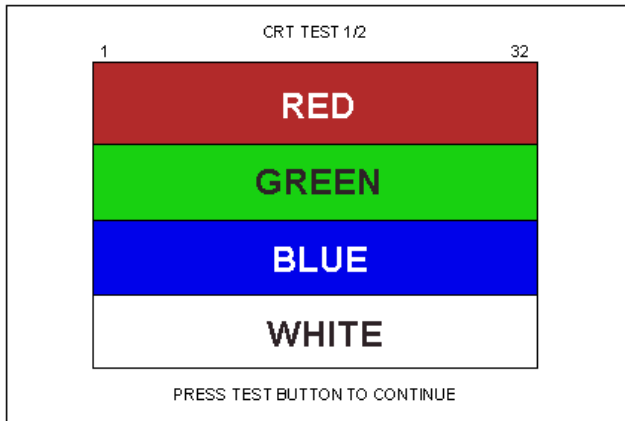
```
SYSTEM INFORMATION

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

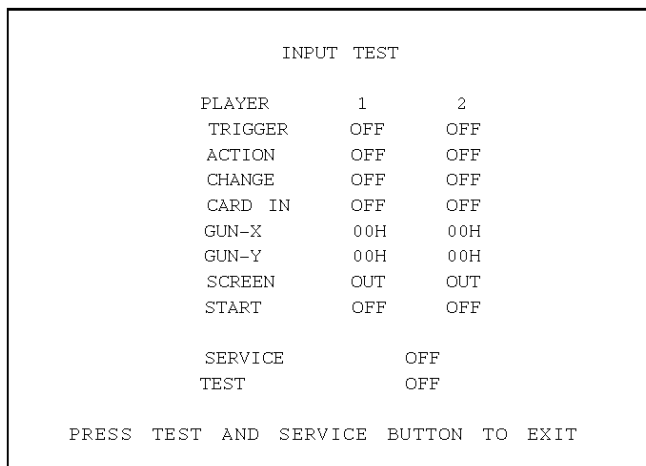
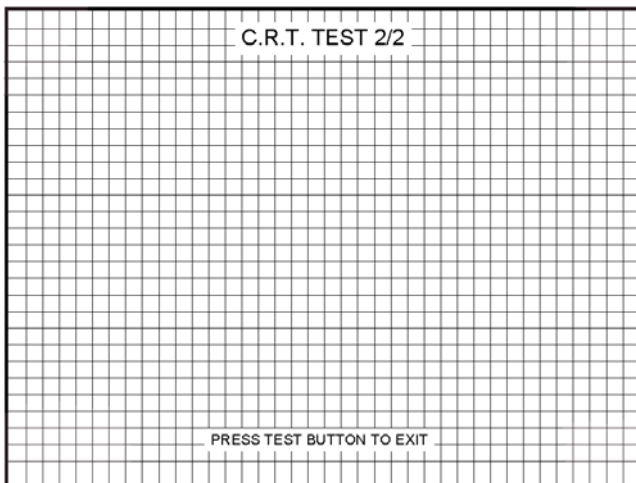
MEDIA BOARD
DIMM BOARD + GDROM
MEMORY SIZE     512MB
FIRM VERSION    ****
SERIAL NO. *****

PRESS TEST BUTTON TO EXIT
```

3.5.2. C.R.T. TEST



In the TEST mode menu, selecting C.R.T. TEST allows the screen (on which the projector is tested) to be displayed. Although the projector 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 projector by referring to Section 12.



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.

3.5.3. 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.

```
                                OUTPUT TEST

PLAYER 1 START LAMP           OFF
PLAYER 2 START LAMP           OFF
PLAYER 1 HALOGEN LAMP         OFF
PLAYER 2 HALOGEN LAMP         OFF
PLAYER 1 HOLDER LAMP          OFF
PLAYER 2 HOLDER LAMP          OFF
PLAYER 1 GUN REACTION         OFF
PLAYER 2 GUN REACTION         OFF
COIN LED                      OFF
-> EXIT

                                SELECT WITH SERVICE BUTTON
                                AND PRESS TEST BUTTON
```

3.5.4. 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 of the moving/shipping divergence.

```
                                GUN ADJUSTMENT

                                PLAYER 1
-> TOP           5   233
LEFT           -318  17
CENTER         -10   15
RIGHT          242   34
BOTTOM         -10 -204

                                PLAYER 2
-> TOP           5   233
LEFT           -318  17
CENTER         -10   15
RIGHT          242   34
BOTTOM         -10 -204

DEFAULT
CANCEL
CURSOR

                                DEFAULT
                                CANCEL
                                CURSOR

                                SELECT WITH SERVICE BUTTON
                                AND PULL TRIGGER
                                PRESS TEST BUTTON TO EXIT
```

Perform the above inspections also at the time of monthly inspection. As for the gun adjustment described in Part (5) above, weekly confirm that the gun is properly adjusted.

3.6. INTERFERENCE PREVENTION WIRING



- In order to prevent electric shock and short circuit hazards, be sure to turn power off before performing work.
- Be careful not to damage the wires. Damaged wires may cause electric shock or short circuit or present a fire risk.
- Do not expose the IC BD, etc. without a good reason. Failure to observe this can cause electric shock hazard or malfunctioning.
- Work should be performed by the Location's Maintenance Man or technical personnel. Performing work by those who do not have technical knowledge and expertise can cause electric shock accident or malfunctioning.

When the game machines of a same or similar type are installed side by side, their sensors may interfere with each other. To reject the interference, follow the procedure below.

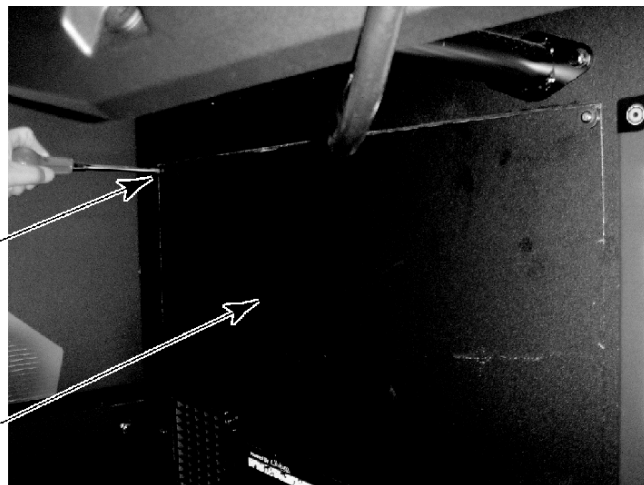
The following game machines employ a same or similar type of sensor. If interference happens to the sensors, operation of the games may be mutually disturbed.

- **THE HOUSE OF THE DEAD 2, U/R type, DX type and Super DX type**
- **DEATH CRIMSON, U/R type and DX type**
- **THE LOST WORLD, U/R type, DX type and Super DX type**
- **BRAVE FIRE FIGHTERS**
- **SAMBA DE AMIGO**
- **CONFIDENTIAL MISSION, U/R type and DX type**
- **SHAKATTO TAMBOURINE**
- **LUPIN THE 3RD THE SHOOTING, U/R type and DX type**
- **THE MAZE OF THE KINGS, U/R type and DX type**
- **THE HOUSE OF THE DEAD 3, U/R type and DX type**
- **VIRTUA COP 3, U/R type and DX type**
- **GHOST SQUAD, U/R type and DX type**

1. Turn the power off.
2. Undo the 2 truss screws and remove the side door L from the main cabinet.

TRUSS SCREW (2) BLACK
M4 X 40, flat washer used

SIDE DOOR

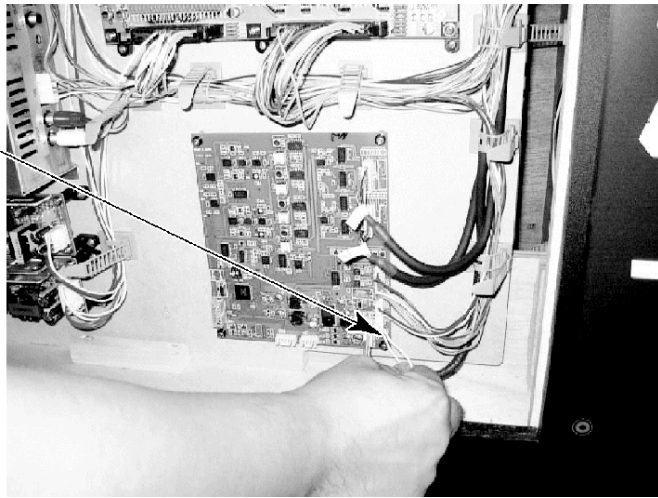


3. The interference prevention wire is connected to the sensor board on the lower right side.

If multiple units of the same game are installed side by side, make sure that the game units that are connected to the interference prevention wires are arranged so that they alternate with the units that are not connected.

INTERFERENCE PREVENTION WIRING

CTF-60013UK



3.7. PRECAUTIONS WHEN MOVING THE MACHINE

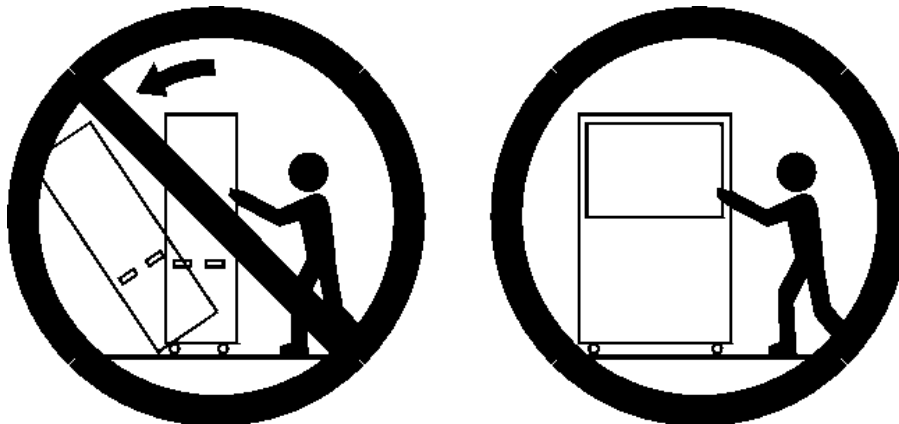


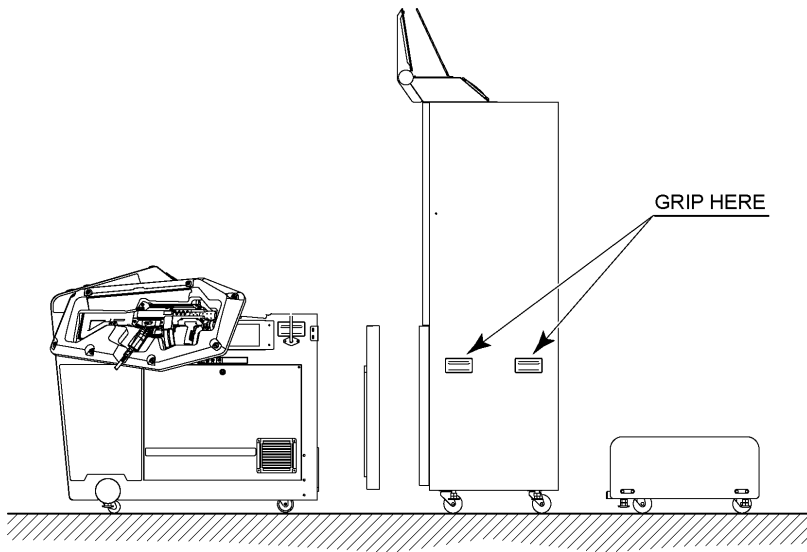
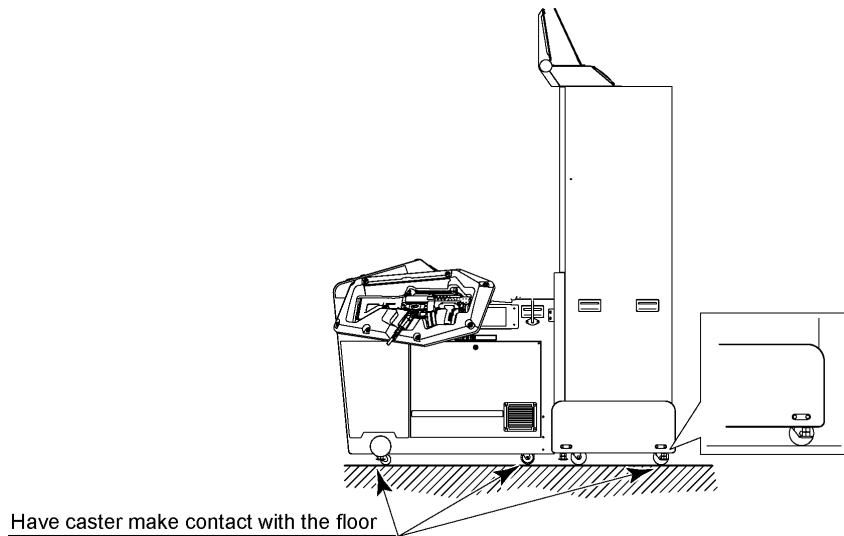
- When moving the machine, be sure to pull out the plug from the power supply. Moving the machine with the plug as is inserted can cause the power cord to be damaged and could result in a fire and or electric shock.
- When moving the machine on the floor, retract the Adjusters and ensure that Casters make contact with the floor. During transportation, pay careful attention so that Casters do not tread power cords and earth wires. Damaging the power cords can cause an electric shock and or short circuit.
- In places where step-like grade differences exist, be sure to separate the PTV, PTV Cabinet, and the Controller Cabinet. Inclining the PTV as is mounted on the PTV Cabinet can cause the PTV to fall off from the Base and result in injury.
- When lifting the cabinet, be sure to hold the grip portions or bottom part. Lifting the cabinet by holding other portions can damage parts and installation portions due to the empty weight of the cabinet, and cause personal injury.
- When moving the PTV, do not push it from the rear side. Push it from sideways. Pushing the PTV from the rear side can have the PTV fall down, causing personal injury etc. In case the floor has slanted surfaces or step-like differences, be sure to move the machine by 2 or more persons.
- When the Cabinet is disassembled, the detached Controller Cabinet may be unstable.
- If it is carelessly pushed, it can fall and cause accidents. When the Control Cabinet is detached, place it in on a level surface and be careful not to tip it right or left when moving it.



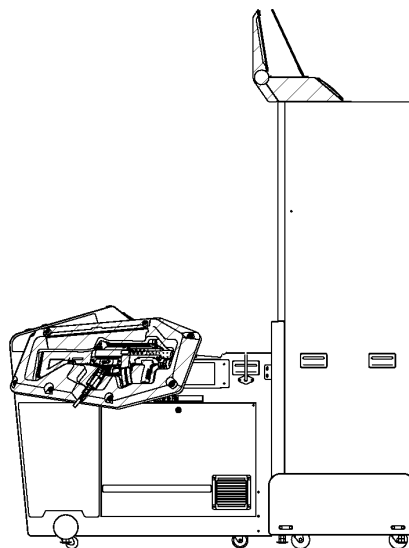
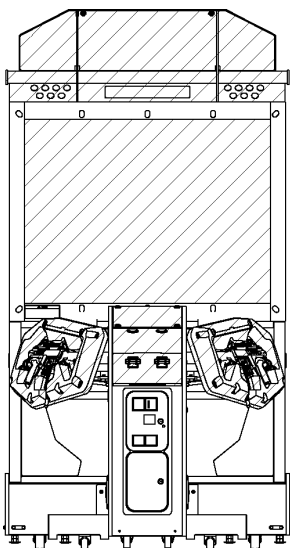
- Do not move the product with a GD-ROM disc inside. Remove the GD-ROM disc before moving the product.
- Failure to observe this instruction may cause the GD-ROM disc and/or GD-ROM drive to be damaged.
- Do not hold or press the plastic parts as indicated by the Figure 7c. Failure to observe this instruction may break the parts, and eventually the broken pieces may cause a personal injury.
- When moving the machine, be sure to remove the foot pedals. Moving with the foot pedals may cause an accident, and deform or damage the part/floor.

Do not push PTV from the back. Pushing the PTV from the back can cause the PTV to fall down. Push it from the side.





When transporting the product over areas with steps or steep slopes, always disassemble into each unit before transporting.



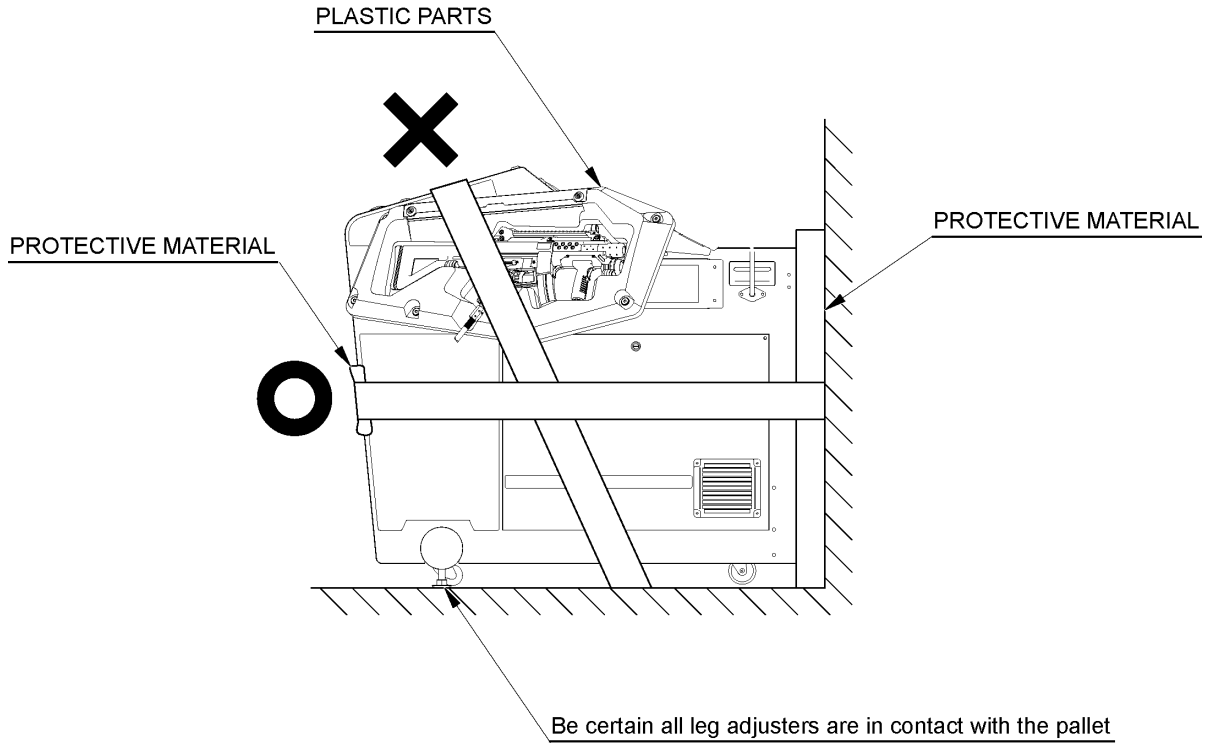
Do not hold press these hatched parts to move the product.

3.7.1. CAUTIONS WHEN TRANSPORTING THE MACHINE

Do not tie machine down using Plastic Parts as an anchor.

When using straps or tie downs (rope etc), use caution. Use protective material where tie downs make contact with the machine to avoid damage.

To keep machine from shifting during transport, be certain all leg adjusters are in contact with the pallet.

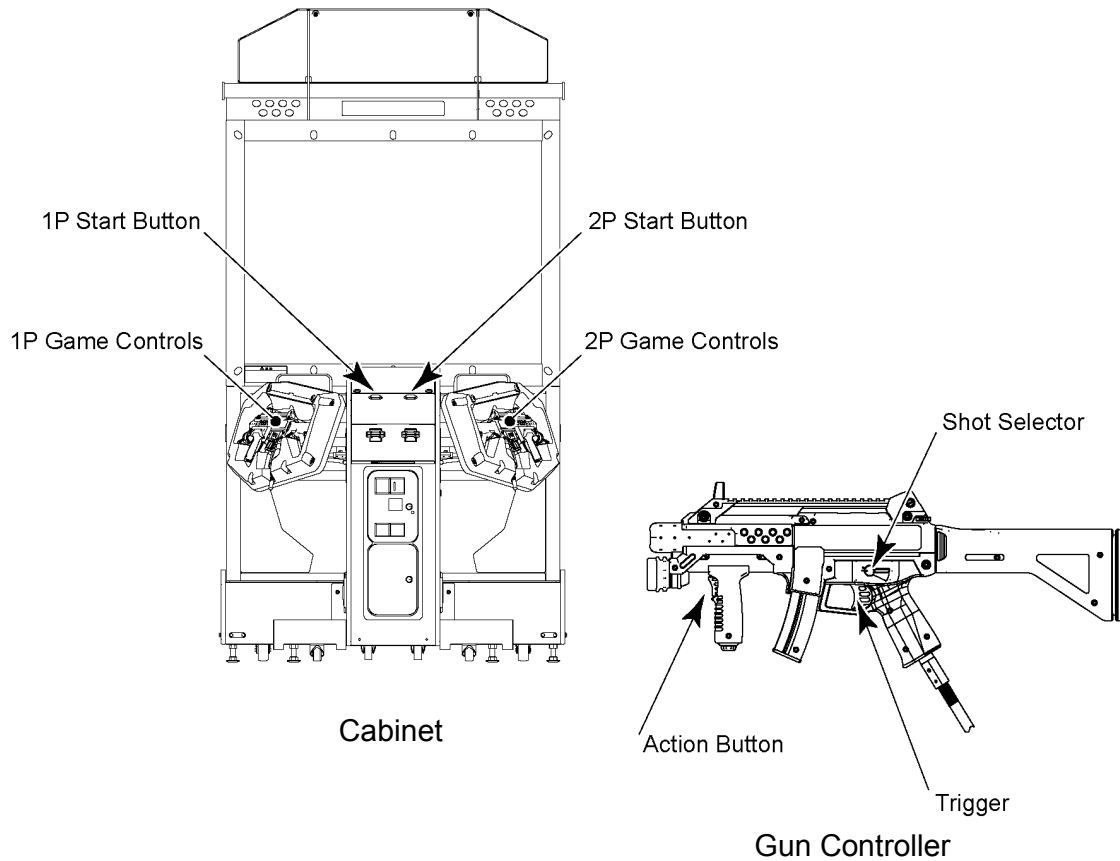


4. GAME DESCRIPTION

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

4.1.1. GAME OUTLINE

The player is a member of the special forces unit, "Ghost Squad", out to suppress vicious terrorists. Each mission contains multiple routes, allowing the player to choose how to proceed. Special events occur throughout the game depending on the route chosen, such as securing hostages or providing friendly cover fire.

This game also supports the use of IC Cards.

Players can enjoy a number of additional features recorded on IC Cards, including character name, score, experience accumulation, changes in rank, item collection, and added mission routes and events. Plus, by using the password displayed following a game, players can also access an Internet Ranking.

[When no IC Card is being used, the recording of player information and Internet Ranking access are not available. Also, play will be limited to certain mission routes and items.]

4.1.2. GAME CONTROLS

The game is controlled with the cabinet START buttons and the provided sub-machinegun-style gun controllers.

Each gun controller is equipped with 3 buttons, the TRIGGER, ACTION and SHOT SELECTOR buttons.

- START BUTTON : Used for starting the game and skipping event descriptions.
- TRIGGER : Used for firing (shooting bullets) and panel selection.
- ACTION BUTTON : Used during events and for skipping demo scenes.
- SHOT SELECTOR : Used to switch between firing modes (single shot, 3-shot burst, full auto).



* ONLY FOR CABINETS WITH IC CARD UNITS

4.1.3. CHARACTERS

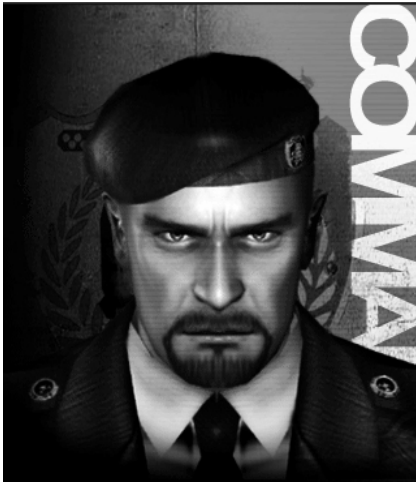
Alpha Unit

The Alpha Unit are the main characters in the game and are young hot-shot members of "Ghost Squad", an unofficial unit of the anti-terrorist group, "M.O.P." (Multiple-Operation-Program).



Fellow M.O.P. Members

The Commander provides radio backup and pertinent advice to the Alpha Unit. Also assisting the Alpha Unit in operations are Bravo Unit and Charlie Unit. These two units assist the players in suppressing the terrorist threat.



Commander



Unit Bravo



Unit Charlie

4.1.4. GAME FLOW AND ON-SCREEN DISPLAY

Card Insertion Screen [Only with the IC Card]

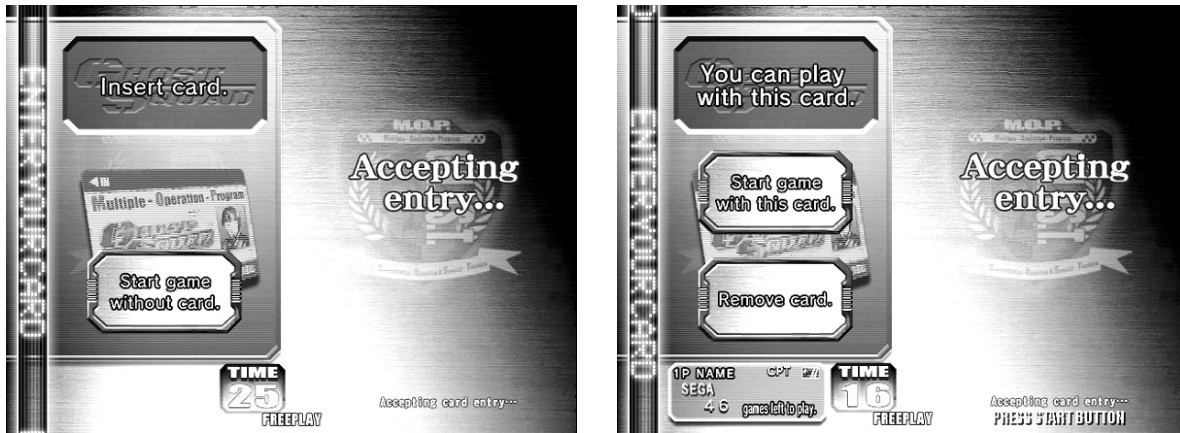
The IC Card Insertion Screen is displayed when starting a game.

Insert an IC Card into the card slot to read stored data.

To play a game without using an IC Card, select the "Start game without card." panel.

IC Card updates are also handled on this screen. Insert an old IC Card together with a new IC Card to transfer play data to the new card.

The game can be started directly after completing the update. (Refer to the additional update description section).



Player Information Display Screen [Only with the IC Card]

After starting a game with an IC Card, the player information read from the card is displayed.

On this screen, the following information can be confirmed: Player name, remaining number of card uses, rank, level, experience points, number of plays, top score, number of weapons attained, number of costumes attained, weapon currently being used, costume currently being worn.



On this screen, select GAME START to begin the game with the same weapon and costume used in the previous game.

To change the weapon or costume, select the CUSTOMIZE panel to go to the Customize Screen.

Customize Screen [Only with the IC Card]

On the Customize Screen, weapons and costumes can be changed.

With sufficient game progress, name change and screen display type selection also become available.



Customize Screen



Customize Select Screen

A Item Scroll Buttons

Scrolls through costume type indicators. Rapid scrolling is possible by keeping it held down.

B Selectable Costumes

Line up the cursor and pull the trigger to select a costume.

C Current Costume

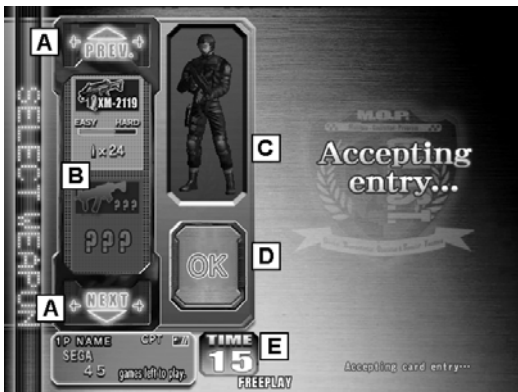
Displays the currently selected costume as worn by the character.

D OK Button

Sets the selected costume and returns to the menu.

E Remaining Time

The currently selected costume is selected automatically if the remaining time reaches zero.



Customize Select Screen

A Item Scroll Buttons

Scrolls through weapon type indicators. Rapid scrolling is possible by keeping it held down.

B Selectable Weapons

Line up the cursor and pull the trigger to select a weapon.

C Current Weapon

Displays the currently selected weapon as held by the character.

D OK Button

Sets the selected weapon and returns to the menu.

E Remaining Time

The currently selected weapon is selected automatically if the remaining time reaches zero.

Customize Screen [Only without the IC Card]

Starting the game without an IC Card will display the following screen and allow weapon and costume selection.

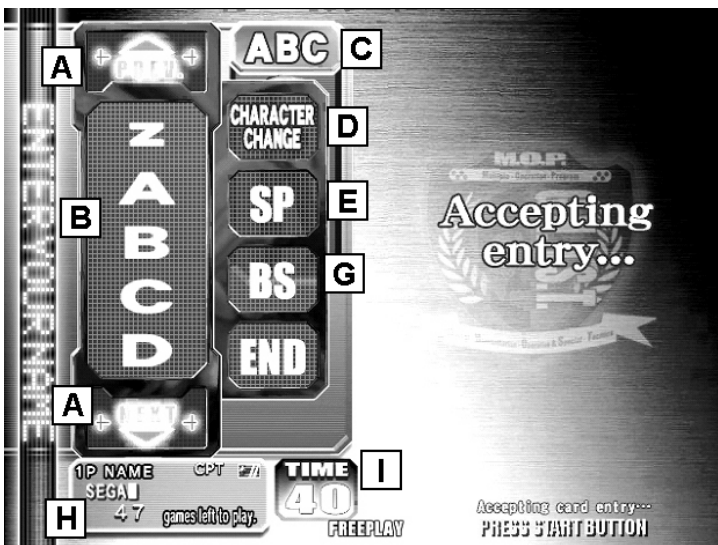


Name Entry Screen

When starting a game with a new IC Card, the Name Entry Screen is first displayed.

A name chosen once can later be changed on the Customize Screen. In both cases, the Name Entry Screen shown below is used.

[When no IC Card is being used, this name will be used to display the score if it makes the cabinet ranking.]



A Character Scroll Buttons

Scroll through selectable characters (letters). Rapid scrolling is possible by keeping it held down.

B Selectable Characters

Line up the cursor and pull the trigger to select a character.

C Current Character Type

Displays the current name entry character type.

D Character Change Button

Changes the character type.

E Space Button

F Backspace Button

G END Button

Sets the entered name.

H Name as Entered

I Remaining Time

The currently entered name is used if the remaining time reaches zero.

Names up to 16 characters in length can be entered, using alphanumeric and symbol character types.

Gun Controller Explanation Screen

Exiting the Customize Menu plays the demo explaining how to use the gun controller. This explains the shooting stance, and how to use the SHOT SELECTOR and ACTION button. It is possible to skip this explanation with the START button.



Gun Controller Explanation Screen

Gun Controller Calibration Screen

If the CALIBRATION setting in the game Test Mode is turned on, this screen is displayed before starting the game.

Holding the gun controller correctly, aim at the target bulls-eye and pull the trigger to calibrate the gun. Press the START button to exit the Calibration Screen without waiting for the time limit to run out.



Gun Controller Calibration Screen

Mission Select Screen

On this screen, the player selects which mission to play from 3 available missions. Playing one mission all the way to the end displays this screen once again, allowing the player to select another mission. A mission played once cannot be played again in the same game.



Mission Select Screen

The Mission Level is displayed on the Mission Select Screen. Using an IC Card, the Mission Level will increase each time the boss is defeated. To replay missions at a lower level, line up the cursor with the Mission Level display and push the ACTION button. By changing the level, it is possible to play at the desired level.

[When no IC Card is being used, only Mission Level 1 to 4 can be selected from the beginning, and the Mission Achievement Rate is not displayed. There are no differences in game characteristics such as difficulty, game play changes, or the number of game events.]

In-game Display

During game play, information such as life and remaining ammunition is displayed. During game play, information such as life and remaining ammunition is displayed.



- | | | |
|---|--------------------------|---|
| A | Life (remaining health): | The colour will grow red as it nears zero. |
| B | GS Meter: | Special Points accumulated during the game are shown here. |
| C | Player Information: | Player name and ranking insignia are displayed. [Only with the IC Card]. |
| D | Score: | Points accumulated during play. |
| E | Mission Level: | Level of the current mission. |
| F | Terrorist: | Find and suppress! |
| G | Fellow Troops: | Members of the "Ghost Squad". |
| H | Correspondence: | Support requests from fellow troops, or advice from the Commander appears here. |
| I | Firing Mode: | Selectable firing modes and the currently selected firing mode are displayed. |
| J | Weapon Information: | Equipped weapon and remaining magazine ammunition are displayed. |
| K | Auxiliary Item: | Any currently effective auxiliary items are displayed. |

Mission Results Screen [Only with the IC Card]

After either successfully completing a single mission or dying partway, the Mission Result Screen is displayed.

Mission information, including the route taken or event results, can be confirmed on this screen. This screen also displays a notification if the Mission Level has increased.

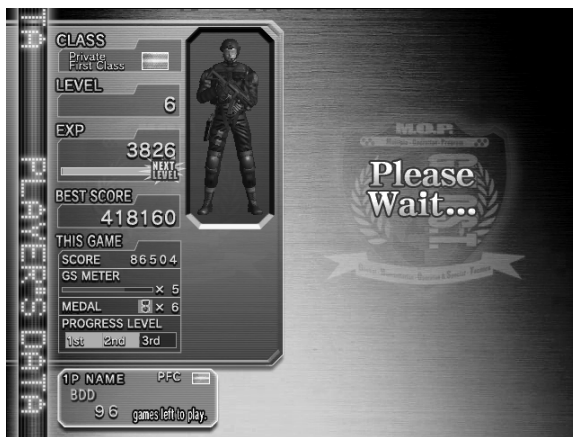


- Box showing “???” : Event to debut at a higher Mission Level.
- Grey, labelled box : Not yet played despite a sufficient Mission Level.
- Blue box : Already played, but not cleared.
- Green box : Cleared sometime in the past.

Game Results [Only with the IC Card]

Playing a game with an IC Card allows viewing of the game’s play results following the game.

Any notifications of levelling up, rank promotion, obtaining weapons/costumes, and so on, are displayed on this screen.



Game Results Screen



Nice Job! You Have Been Promoted!

4.1.5. GAME RULES AND GAMEPLAY

Life

During play, the player's life is displayed at the top part of the screen.

Life is diminished by enemy attack or accidental fire on hostages.

Once the player's life runs out, play stops.

The amount of life to start a game with can be configured in Test Mode settings.

Changing life settings will not affect the length of the life gauge. Instead, the amount of life lost when receiving damage changes, effectively varying the number of sustainable enemy hits.

(Refer to the "LIFE" setting of the "GAME ASSIGNMENTS" section in "Test Mode").

Continue and Game Over

The option to "Continue" is available when the player's life runs out.

The START button can be used to continue the game, as long as there are credits remaining.

When using an IC Card, each "Continue" deducts from the number of remaining card uses.

Not continuing results in "Game Over".

When using an IC Card, game results are displayed following the game, showing experience increases, rank promotions, and so on.

GS Meter

The GS Meter measures the value of the player's special force performance.

For example, pulling off a special shot ("GOOD SHOT", "QUICK SHOT", etc.) or successfully completing an event raises the meter, while shooting fellow troops or hostages lowers the meter.

When the GS Meter reaches its maximum level, the current weapon receives an upgrade.

Building up the GS Meter also increases the amount of experience gained following a game.

Reload

When a magazine is empty, reloading is executed by simply aiming the gun controller outside of the screen.

At that time it is not necessary to press the trigger or any other buttons.

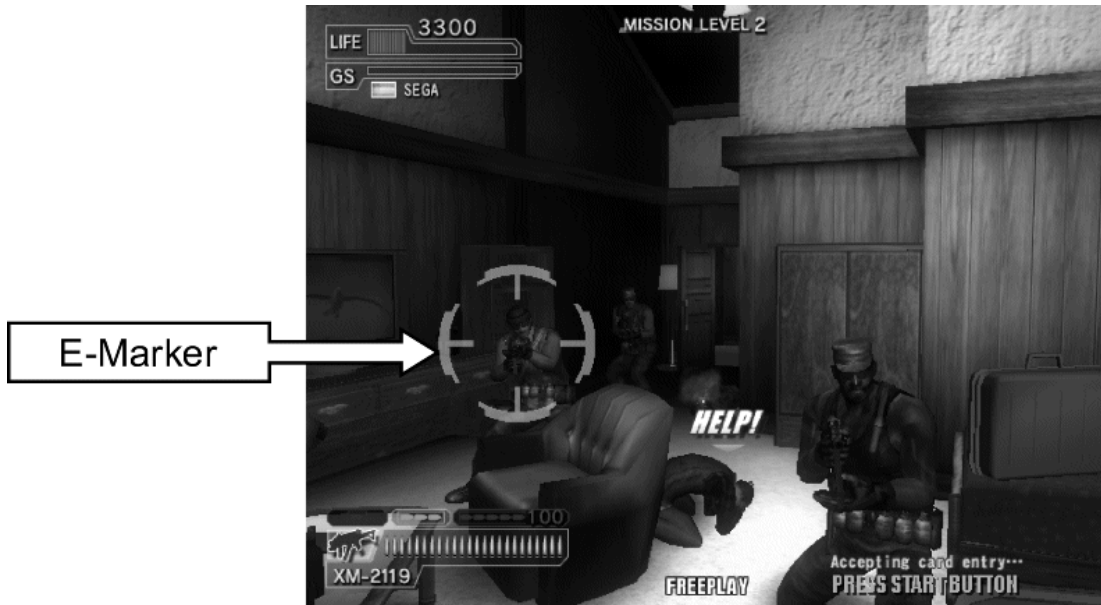
The time it takes between reloading and being able to shoot again varies between weapons.

E-Marker

When discovered, the terrorists commence fire upon the player.

However, not all shots result in injury. An "E-Marker" will be displayed on any enemy whose shots will inflict damage, serving as a warning to the player.

When under fire from multiple enemies, first defeating enemies marked with an E-Marker should help the player avoid damage.



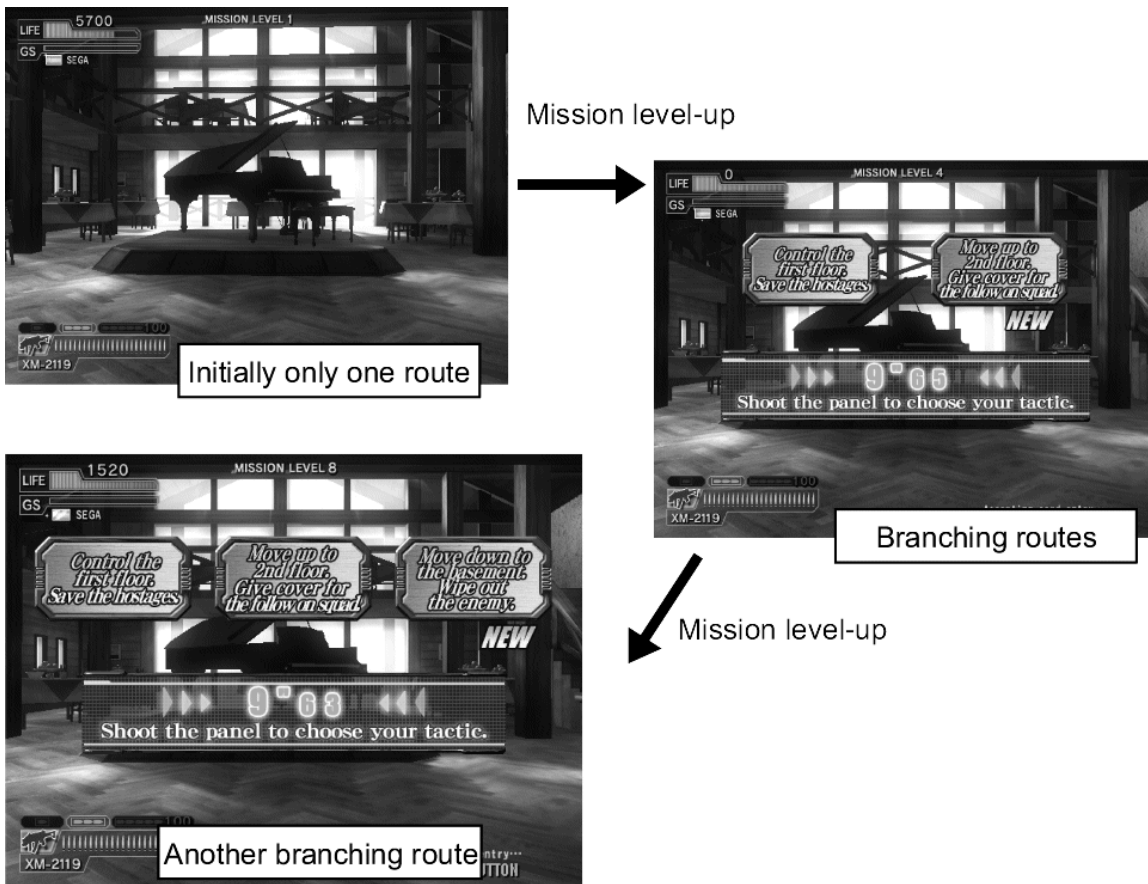
Tactic Selection

Proceeding through the game, "Tactic Selection" panels (as shown below) will appear.

The mission route will vary greatly depending on which panel is chosen.



The number of selectable tactics will increase along with the Mission Level.
 Also, a "NEW" label will be displayed on any newly appearing tactics panels.
 [When no IC Card is being used, the number of Tactics Selection panels will not increase.]



Events (Special Operations)

Besides normal terrorist suppression, this game includes additional "events", such as bomb removal or securing hostages.

A certain number of events are initially open for play, but by using an IC Card and levelling-up missions, a large number of additional events become available.

Some events allow use of specialized weapons.

For example, when attacking the enemy from a distance in a Sniper event, the weapon temporarily changes to a sniper rifle.



Auxiliary Items

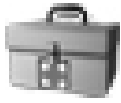
Auxiliary items appear in certain situations during the game.

There are two types of auxiliary items, items that are put to use and disappear immediately after picking up, and those that are stocked and continue to be effective over time. The latter type can be used only one at a time.

Some auxiliary items can be taken advantage of only when combined with certain weapons.

For example, the "Compensator" is effective only when using weapons that produce a bullet spread effect.

The auxiliary items appearing in this game consist of the following 7 types.



First-Aid Kit: Restores 1 life unit.



Dot Sight: Displays the gun's sight reticule as an illuminated point.



Hi-cap Magazine: Doubles magazine capacity.



Compensator: Eliminates bullet spread effects.



Body Armour I: Halves the amount of damage taken for up to 2 hits.



Body Armour II: Halves the amount of damage taken for up to 4 hits.



Medal: Increases experience points acquired following the game.
[When no IC Card is being used, it boosts the GS Meter.]

Experience Points

Experience points are accumulated during game play when playing with an IC Card.

The amount of experience points accumulated during play are determined by score, GS Meter level, the number of medals, and game progress. These points are awarded to the player on the Game Results Screen following the game.

The player is levelled up after reaching a certain experience level. Depending on the level increase, players are rewarded with promotions and new weapons. Any new weapons can be used from the next play.

[When no IC Card is being used, there are no experience points.]

Rank and Promotion

Ranks serve as a comprehensive evaluation of the player's ability.

If certain conditions are met when levelling up, the player's rank increases by a level. This is referred to as "promotion".

Promotions open up new costumes and high-level, rare weapons that can be used from the next play.

[When no IC Card is being used, the rank insignia is decided by the player's score.]

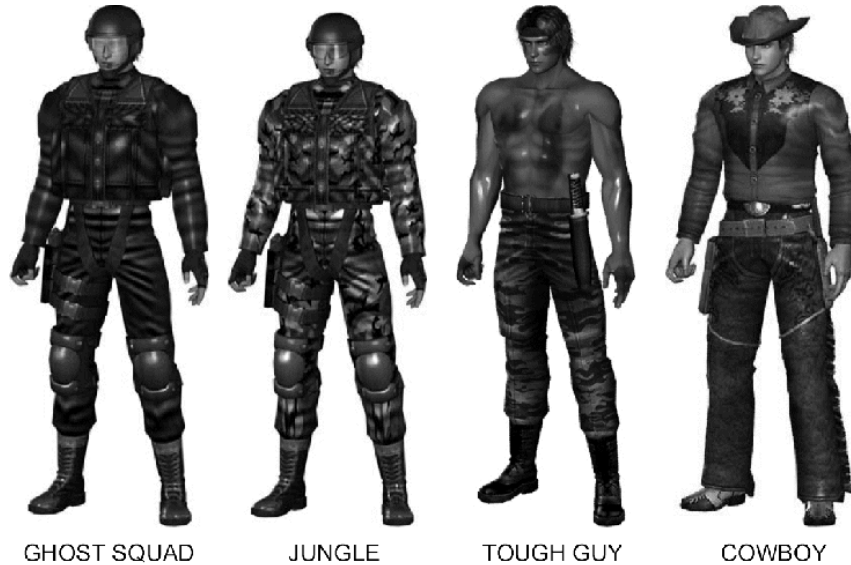
Costumes

This game has 14 different costumes.

Initially only 2 are available ("GHOST SQUAD" and "JUNGLE"), but that number increases with further play. The chosen costume can be viewed during in-game cut scenes.

Costumes have no direct effect on damage, score, or other game content.

[When no IC Card is being used, costumes are chosen from the 4 types shown below.]



Weapons

As the player's level and rank go up, new weapons become available.

After a weapon has been acquired, it can be selected from the Customize Screen before starting a game.

Once equipped, however, a weapon cannot be changed during play.

This game has 25 different types of weapons, each with varying characteristics and auxiliary weapon compatibility.

- | | |
|-------------------|---|
| Machinegun class: | A typical weapon, capable of rapid-fire shooting. |
| Shotgun class: | Blasts covering a wide area, a single shot is capable of taking out multiple enemies. |
| Handgun class: | Requires a high learning curve, suitable for expert players. |
| Rifle class: | Capable of piercing walls and obstacles, can take out hidden enemies. |
| Others: | Weapons not fitting in any of the above categories. |

[When no IC Card is being used, weapons are chosen from the 4 shown below before a game.]

- | | |
|------------|--|
| "XM-2119": | A standard sub-machinegun. Can toggle between Semi-auto, 3-Shot Burst, and Full-auto firing modes to best match the situation. There is, however, an ammunition restriction on Full-auto fire. |
| "TK1B": | A powerful machinegun. It has high firepower and no Full-auto ammunition restriction. It is also has penetration power, making hidden enemies vulnerable to its fire. Its lack of accuracy from bullet spread is its main weakness, along with a long reload time. |
| "P44M": | is extremely powerful and capable of penetration. |
| "M4E": | A shotgun, capable of hitting multiple enemies with a single shot. Despite its power, the danger of hitting hostages or fellow troops with friendly fire warrants caution. |

Mid-game Entry

It is possible for an additional player to join later, even if a player is in the middle of play. If the necessary number of credits has been inserted, a message (as shown below) is displayed on the bottom part of the screen.



Pressing the START button at this point will commence entry without the use of an IC Card. By first inserting a card before pressing the START button, play will commence using that IC Card. In that case, the player will be equipped with the same weapon and costume used in the previous play.

Mid-game Termination

In a 2-player game, if only 1 player (using an IC Card) ends the game, that player's information (experience points, rank, high score, etc.) is updated even though the Game Results Screen is NOT displayed. Details can be confirmed on the Player Data Screen before starting the next game.

4.1.6. IC CARDS [ONLY WITH THE IC CARD]

Number of Uses

The number of uses per IC Card is 100.

This number includes expenditure for starting or continuing games.

An IC Card with 0 remaining uses cannot be used to start a game.

However, if the remaining uses reaches 0 during play, it is possible to continue a game. A game can be continued until either the player ends the game (decides not to continue after running out of life) or all missions have been completed.

Updating (Data Transfer)

If an IC Card's remaining uses reaches 0, its data can be transferred to a new IC Card, allowing another 100 uses. This operation is referred to as "updating".

Updating is handled on the IC Card Insertion Screen when beginning a game.

Inserting the old card and a new, unused card together at the same time while this screen is displayed transfers saved data to the new card.

It is possible to update any card, regardless of the number of remaining uses.

However, even if the old card has remaining uses, the new, updated IC Card will always start with 100 remaining uses.

Card Recovery

If the data stored on an IC Card happens to be damaged, it may be possible to restore that data using Card Recovery.

To enter Card Recovery, on the advertisement screen, press the TEST button while holding down the PLAYER 1 and PLAYER 2 START buttons at the same time.

In Card Recovery, use the PLAYER 2 START button to move between panels and the PLAYER 1 START button to select. Selecting the "Try to restore your card." panel begins automatic data restoration.

Be warned that Card Recovery is not always successful in restoring data.

If recovery fails, the error message, "This card cannot be initialised." is displayed.



Card Recovery



Failed Recovery Error Message

5. EXPLANATION OF TEST AND DATA DISPLAY

By operating the switch unit, periodically perform the tests and data check. When installing the machine initially or collecting cash, or when the machine does not function correctly, perform checking 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.

The product supports, therefore, 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).

ITEMS	DESCRIPTION	REFERENCE SECTION
INSTALLATION OF MACHINE	When the machine is installed, perform the following: 1. Check to ensure each is the standard setting at shipment. 2. Check each Input equipment in the INPUT TEST mode. 3. Check each Output equipment in the OUTPUT TEST mode. 4. Test on-IC-Board IC's in the self-test mode.	5.2.3 5.2.1 5.2.2 5.1.3, 5.1.4
MEMORY TEST	This test is automatically executed by selecting MEDIA BOARD TEST or SYSTEM INFORMATION in the Menu mode.	5.1.3, 5.1.4
PERIODIC SERVICING	Periodically perform the following: 1. MEMORY TEST 2. Ascertain each setting. 3. To test each Input equipment in the INPUT TEST mode. 4. To test each Output equipment in the OUTPUT TEST mode.	5.1.3, 5.1.4 5.2.3, 5.2.4 5.2.1 5.2.2
CONTROL SYSTEM	1. To check each Input equipment in the INPUT TEST mode. 2. Adjust or replace each Input equipment. 3. If the problem still remains unsolved, check each equipment's mechanism movements.	5.2.1 5.2.4 6
MONITOR	In the Monitor Adjustment mode, check to see if Monitor (Projector) adjustments are appropriate.	8
IC BOARD	MEMORY TEST	5.1.3, 5.1.4
DATA CHECK	Check such data as game play time and histogram to adjust the difficulty level, etc.	5.2.7

5.1. SYSTEM TEST MODE



- 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.

5.1.1. 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

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

```
SYSTEM MENU
MEDIA BOARD TEST
SYSTEM INFORMATION
JVS TEST
SOUND TEST
C.R.T. TEST
COIN ASSIGNMENTS
CLOCK SETTING
NETWORK SETTING(CORE)
NETWORK SETTING(MEDIA)
ENTER GAME TEST
[*****]
EXIT
SELECT WITH SERVICE BUTTON
AND PRESS TEST BUTTON
```

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.

5.1.2. MEDIA BOARD TEST



- 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.

```
MEDIA BOARD TEST

DIMM BOARD (TYPE 3)
VERSION    ****
STATUS     GOOD
CHECKING   100%

DIMM TEST
DIMM0      GOOD
DIMM1      NONE
GD-ROM     GOOD

PRESS TEST BUTTON TO EXIT
```

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.

5.1.3. 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.

```

                SYSTEM INFORMATION

MAIN BOARD
REGION                ****                ( A )
BOOT VERSION          ****                ( B )
QC FIRM VERSION       ****                ( B )
SC FIRM VERSION       ****                ( B )
SERIAL NO.  *****                ( C )

MEDIA BOARD
DIMM BOARD + GDROM   ( D )
MEMORY SIZE          512MB                ( E )
FIRM VERSION         ****                ( F )
SERIAL NO.  *****                ( G )

PRESS TEST BUTTON TO EXIT
```

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.

5.1.4. 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
SWITCH                            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
BACKUP                            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.

INPUT TEST Screen

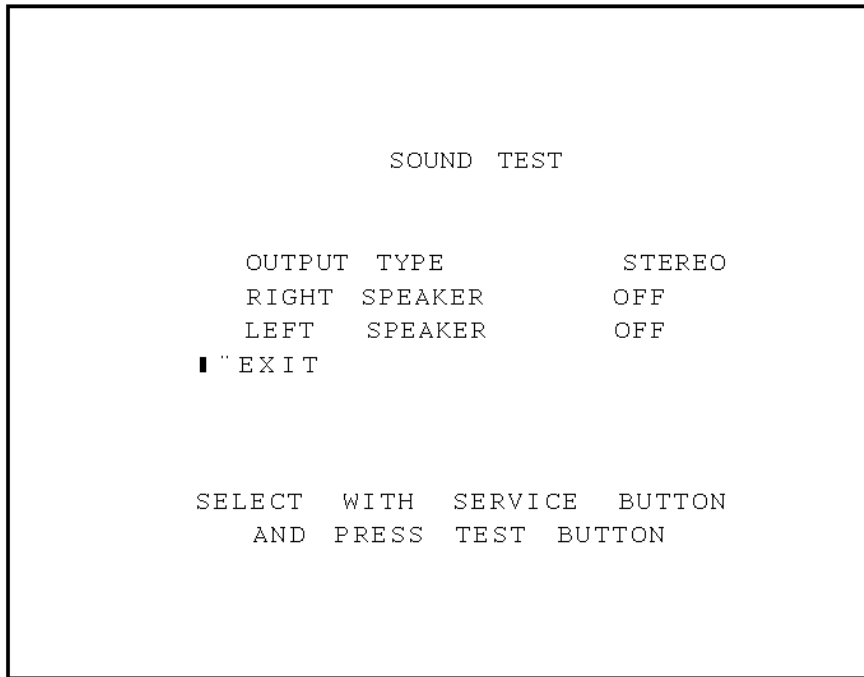
JVS TEST		
INPUT TEST		
NODE	1/1	
SYSTEM	00	(A)
PLAYER 1	0000	(A)
PLAYER 2	0000	(A)
COIN 1	0000	(B)
COIN 2	0000	(B)
ANALOG 1	0000	(C)
ANALOG 2	0000	(C)
ANALOG 3	0000	(C)
ANALOG 4	0000	(C)
ANALOG 5	0000	(C)
ANALOG 6	0000	(C)
ANALOG 7	0000	(C)
ANALOG 8	0000	(C)

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) **ANALOGUE**
Displays analogy values from "0000" to "FFFF".
6. Press the SERVICE and TEST Buttons simultaneously to return to the JVS TEST main screen.

5.1.5. SOUND TEST

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



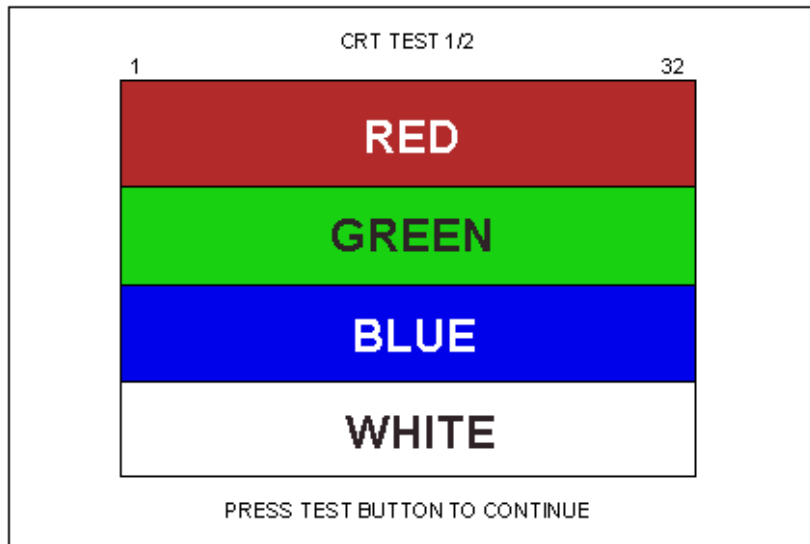
1. Use the SERVICE Button to move the cursor to the desired test item.
2. Press the TEST Button to enter the selected item.
 - A) OUTPUT TYPE: STEREO, MONO, SURROUND
Select the sound output from the I/O PANEL audio output interface setting among STEREO, MONO and SURROUND
 - B) RIGHT/LEFT SPEAKER: ON, 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.

5.1.6. CRT TEST

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

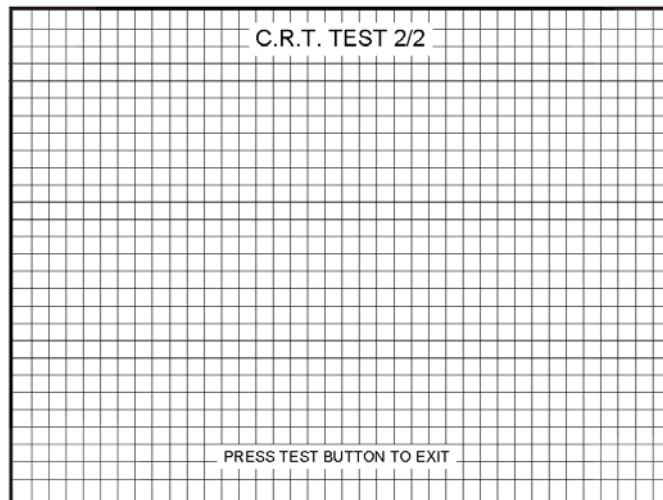
COLOUR CHECK Screen

- (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

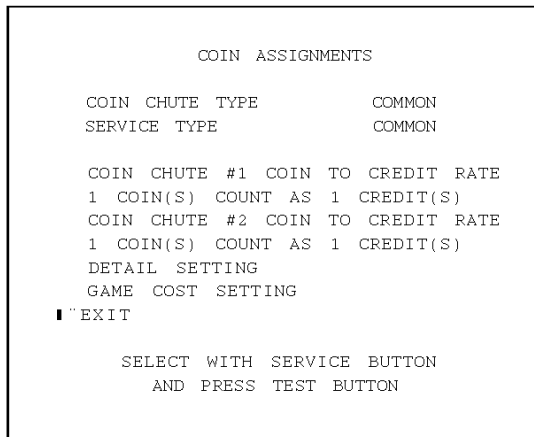


- (3) Adjust the CHECK GRID so that the entire GRID is displayed on the screen.
)
- (4) Press the TEST Button to return to the SYSTEM MENU screen.
)

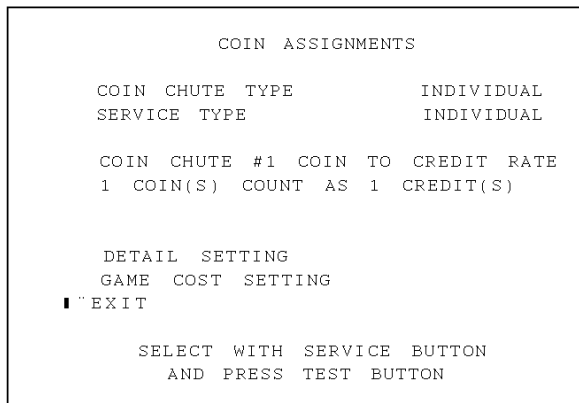
5.1.7. COIN ASSIGNMENTS

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.



COIN CHUTE TYPE: COMMON



COIN CHUTE TYPE: INDIVIDUAL

- 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 "1 COIN(S) COUNT AS 1 CREDIT(S)" setting indicates that "Inserting 1 coins equals 1 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 (E)
  1 COIN COUNT AS 1 COIN(S)
COIN CHUTE #2 MULTIPLIER (E)
  1 COIN COUNT AS 1 COIN(S)
BONUS ADDER                NO BONUS ADDER (F)
COIN TO CREDIT      1 COIN(S) 1 CREDIT (G)
█"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

```

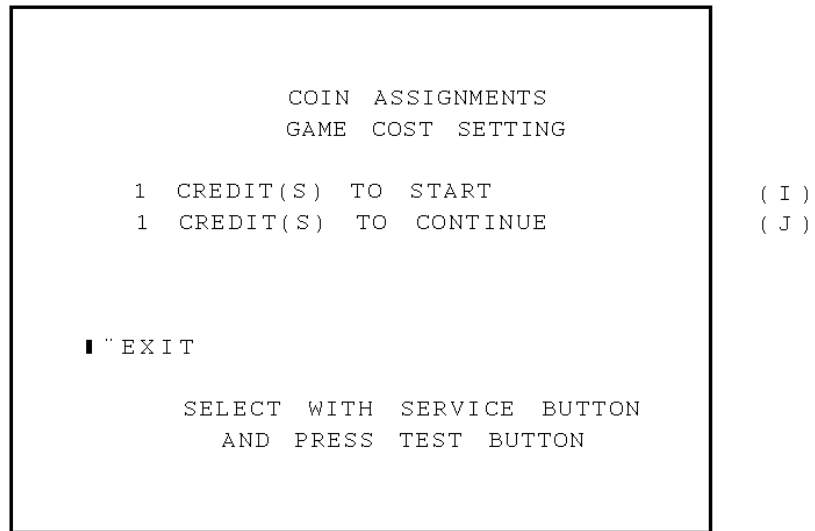
          COIN ASSIGNMENTS
          DETAIL SETTING
COIN CHUTE #1 MULTIPLIER
  1 COIN COUNT AS 1 COIN(S)
BONUS ADDER                NO BONUS ADDER
COIN TO CREDIT      1 COIN(S) 1 CREDIT
█"EXIT
COIN CHUTE #1 OPERATION
COIN   1  2  3  4  5  6  7  8  9
CREDIT 1  2  3  4  5  6  7  8  9
          SELECT WITH SERVICE 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 1 COIN(S)" setting indicates that "Each coin will be counted as 1 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 "1 COINS GIVE 1 EXTRA COIN" setting indicates that "For every 1 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 "□¢ COIN(S) 1 CREDIT" setting indicates that "Every □¢ coins equals 1 credit."

5.1.8. 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) Set the number of credits required to start a game
- J) Set the number of credits required to continue a game.

5.1.9. CLOCK SETTING

Use CLOCK SETTING to set the Chihiro internal clock.

CLOCK SETTING

20XX/XX/XX (XXX) XX:XX:XX

YEAR
MONTH
DAY
HOUR
MINUTE
█EXIT

SELECT WITH SERVICE BUTTON
AND PRESS TEST BUTTON

1. Use the SERVICE Button to move the cursor to the item to be set.
2. Move the cursor to the desired item and press the TEST Button to increase values. 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.

5.1.10.NETWORK SETTING (CORE)

Use the LAN PORT attached to the Main Board, and carry out the settings necessary for network communication. *Note: This function is not available with this product.*

```
NETWORK SETTING (CORE)

-> REMOTE (C)          ENABLE          ( A )
  IP ADDRESS (C)      ( B )
  -----
  SUBNET MASK (C)     ( C )
  -----
  GATE WAY (C)        ( D )
  -----
  PRIMARY DNS (C)     ( E )
  -----
  EXIT

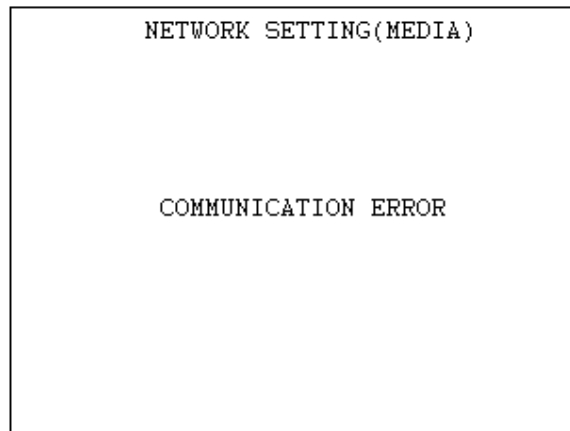
CURRENT *****          ( F )
  ***.***.***.***
SELECT WITH SERVICE BUTTON
AND PRESS TEST BUTTON
```

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 setup of each item [(B), (C), (D), (E)]. Pressing TEST Button on SET position, the settings are memorized and the screen is changed.

5.1.11.NETWORK SETTING MEDIA

Use NETWORK SETTING to establish and test network connections.
This is only displayed the following error message screen.
This game does not support network communication connections.



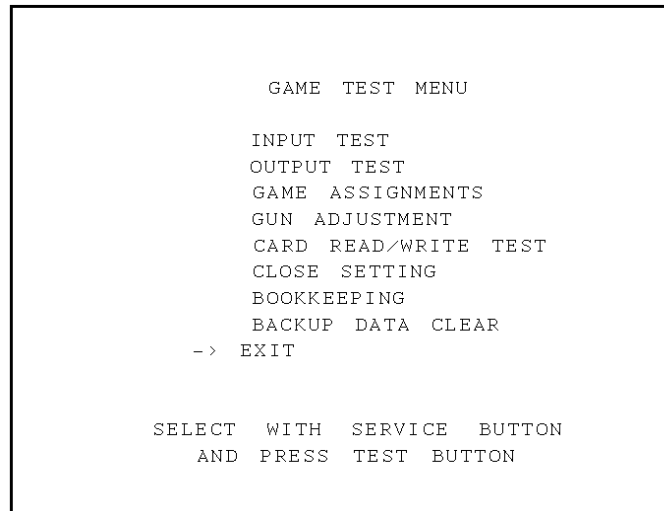
5.2. GAME TEST MODE



- 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.

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.

- | | |
|--------------------------|--|
| A. INPUT TEST: | Tests each input device used in the game. |
| B. OUTPUT TEST: | Tests each output device used in the game. |
| C. GAME ASSIGNMENTS: | Adjusts game settings. |
| D. GUN ADJUSTMENT: | Performs sight settings for the game's Control Unit (Gun). |
| E. CARD READ/WRITE TEST: | Tests the reading and writing of IC Cards. |
| F. CLOSE SETTING: | Sets store closing time. |
| G. BOOKKEEPING: | View all recorded game data. |
| H. 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.

5.2.1. 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.

INPUT TEST		
PLAYER	1	2
TRIGGER	OFF	OFF
ACTION	OFF	OFF
CHANGE	OFF	OFF
CARD IN	OFF	OFF
GUN-X	00H	00H
GUN-Y	00H	00H
SCREEN	OUT	OUT
START	OFF	OFF
SERVICE	OFF	
TEST	OFF	
PRESS TEST AND SERVICE BUTTON TO EXIT		

The items refer to the following input devices.

- TRIGGER: The controller's TRIGGER switch.
- ACTION: The controller's ACTION button.
- CHANGE: The controller's SHOT SELECTOR button.
- CARD IN: Whether an IC card is inserted into the slot or not.
- GUN-X: The current X-coordinate of the controller's target location. (range: 00-FF)
- GUN-Y: The current Y-coordinate of the controller's target location. (range: 00-FF)
- SCREEN: If the controller is facing the screen, this will be IN, otherwise it is OUT.
- START: The START button.
- 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.

5.2.2. 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.

```
                                OUTPUT TEST

PLAYER 1 START LAMP           OFF
PLAYER 2 START LAMP           OFF
PLAYER 1 HALOGEN LAMP         OFF
PLAYER 2 HALOGEN LAMP         OFF
PLAYER 1 HOLDER LAMP          OFF
PLAYER 2 HOLDER LAMP          OFF
PLAYER 1 GUN REACTION         OFF
PLAYER 2 GUN REACTION         OFF
COIN LED                       OFF
-> EXIT

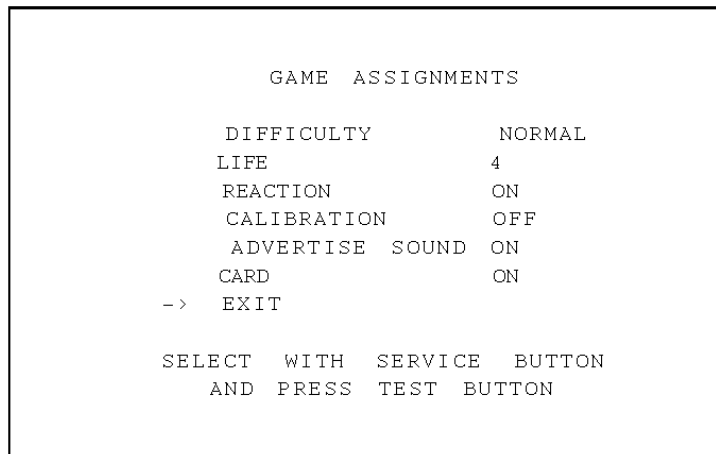
                                SELECT WITH SERVICE BUTTON
                                AND PRESS TEST BUTTON
```

- PLAYER 1 START LAMP: Lights up the 1P START button.
- PLAYER 2 START LAMP: Lights up the 2P START button.
- PLAYER 1 HALOGEN LAMP: Lights up the 1P halogen lamp.
- PLAYER 2 HALOGEN LAMP: Lights up the 2P halogen lamp.
- PLAYER 1 HOLDER LAMP: Lights up the 1P holder lamp.
- PLAYER 2 HOLDER LAMP: Lights up the 2P holder lamp.
- PLAYER 1 GUN REACTION: Vibrates the 1P gun.
- PLAYER 2 GUN REACTION: Vibrates the 2P gun.
- COIN LED: Lights up the coin slot LED.
- EXIT: Returns to the Game Test Menu.

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

5.2.3. GAME ASSIGNMENTS

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



Perform the following settings for each item.

DIFFICULTY: Choose the difficulty level of the game from EASY, NORMAL and HARD. The product is shipped with the default set at NORMAL.

LIFE: Choose the amount of life given for players starting a new game between 1 and 7. If the amount of damage sustained in the game equals this number, the game will be over. (Default: 4)

Note that these settings will not affect the appearance of the life gauge to the player. (refer to the "Life" section in "GAME RULES AND GAMEPLAY" for more information)

REACTION: Turn the gun controller vibration ON and OFF. (Default: ON)

CALIBRATION: Turn the initial gun controller calibration screen ON and OFF (Default: OFF).

ADVERTISE SOUND: Turn sounds ON and OFF during the demo screen (Default: ON).

CARD: Choose whether or not to use IC Cards. (In the U.S.A., the default is OFF, but elsewhere it is ON)

EXIT: Confirm the setting changes and return to the Game Test Menu.

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.

5.2.4. 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, CENTRE, 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.

GUN ADJUSTMENT					
PLAYER 1			PLAYER 2		
-> TOP	5	233	-> TOP	5	233
LEFT	-318	17	LEFT	-318	17
CENTER	-10	15	CENTER	-10	15
RIGHT	242	34	RIGHT	242	34
BOTTOM	-10	-204	BOTTOM	-10	-204
DEFAULT			DEFAULT		
CANCEL			CANCEL		
CURSOR			CURSOR		
SELECT WITH SERVICE BUTTON AND PULL TRIGGER PRESS TEST BUTTON TO EXIT					

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 (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 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 target 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 target 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.

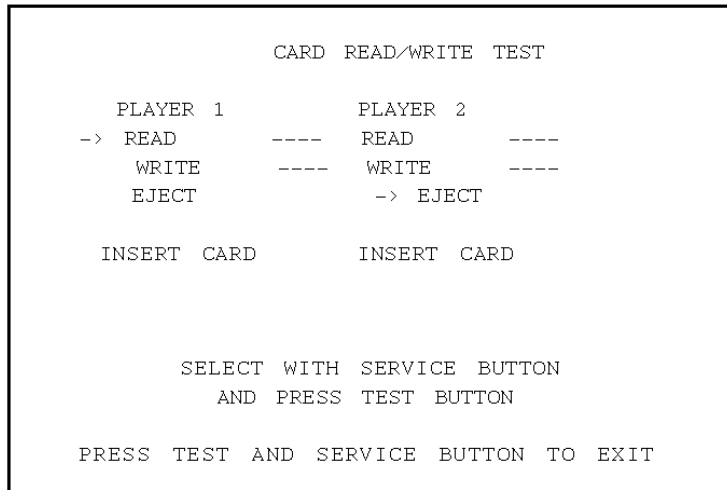
Changes to settings are not enabled until the Test Mode is exited. After changing settings, be sure to exit Test Mode.

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

5.2.5. CARD READ/WRITE TEST

Select CARD READ/WRITE TEST to display the following screen with testing options for the reading and writing of IC Cards. Use this screen regularly to test the functionality of the machine.

First, insert an IC Card into the slot, then press the SERVICE button to choose the item for testing. When the cursor is on the desired item, press the TEST Button.
If reading/writing was carried out successfully, "OK" will be displayed on the screen.



READ: Perform a read test on the inserted IC Card.

WRITE: Perform a write test on the inserted IC Card.

EJECT: Eject the IC Card.

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

5.2.6. CLOSE SETTING

Select CLOSE SETTING to display the following screen with a list of store closing time settings. When only 30 minutes is left until the set closing time, it will no longer be possible to use an IC Card to start the game.

CLOSE SETTING		
->	SCHEDULE	TYPE WEEK
		CLOSE
	SUN	00:00
	MON	00:00
	TUE	00:00
	WED	00:00
	THU	00:00
	FRI	00:00
	SAT	00:00
	EXIT	

SELECT WITH SERVICE BUTTON
AND PRESS TEST BUTTON

SCHEDULE TYPE: Choose between OFF(no closing time settings), EVERYDAY (same closing time everyday) and WEEK (same closing times every week) (Default: OFF)

EVERYDAY: The time the store closes everyday.

SUN: The time the store closes on Sundays.

MON: The time the store closes on Mondays.

TUE: The time the store closes on Tuesdays.

WED: The time the store closes on Wednesdays.

THU: The time the store closes on Thursdays.

FRI: The time the store closes on Fridays.

SAT: The time the store closes on Saturdays.

EXIT: Returns to the Game Test Menu.

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

5.2.7. 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.

BOOKKEEPING 1/3	
COIN CHUTE #1	0
COIN CHUTE #2	0
TOTAL COINS	0
COIN CREDITS	0
SERVICE CREDITS	0
TOTAL CREDITS	0
PRESS TEST BUTTON TO CONTINUE	

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.

BOOKKEEPING		2/3
NUMBER OF GAMES		3
NUMBER OF GAME START		3
NUMBER OF GAME JOIN		0
NUMBER OF CONTINUE		0
TOTAL TIME	0D	0H10M49S
PLAY TIME	0D	0H 1M55S
LONGEST PLAY TIME	0H	1M24S
SHORTEST PLAY TIME	0H	0M14S
AVERAGE PLAY TIME	0H	0M38S
PRESS TEST BUTTON TO CONTINUE		

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

- NUMBER OF GAMES: The total number of games played.
- NUMBER OF GAME START: Number of games started.
- NUMBER OF GAME JOIN: Number of times game has been joined in-progress.
- NUMBER OF CONTINUE: Number of times game has been continued.
- 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 average amount of time played per game.

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

BOOKKEEPING				3/3	
0M	00S	~	0M	29S	2
0M	30S	~	0M	59S	0
1M	00S	~	1M	29S	1
1M	30S	~	1M	59S	0
2M	00S	~	2M	29S	0
2M	30S	~	2M	59S	0
3M	00S	~	3M	29S	0
3M	30S	~	3M	59S	0
4M	00S	~	4M	29S	0
4M	30S	~	4M	59S	0
5M	00S	~	5M	29S	0
5M	30S	~	5M	59S	0
6M	00S	~	6M	29S	0
6M	30S	~	6M	59S	0
7M	00S	~	7M	29S	0
7M	30S	~	7M	59S	0
8M	00S	~	8M	29S	0
8M	30S	~	8M	59S	0
9M	00S	~	9M	29S	0
9M	30S	~	9M	59S	0
	OVER		10M	00S	0
PRESS	TEST	BUTTON	TO	EXIT	

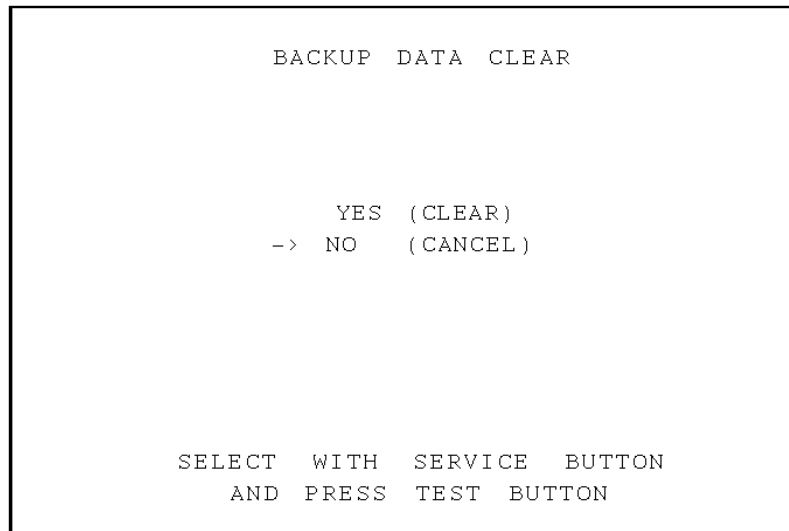
PLAY TIME HISTOGRAM shows the number of plays and the respective play times. This histogram should be referred to when setting the Game Difficulty.

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.

5.2.8. 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. CONTROL UNIT (GUN CONTROLLER)



- In order to prevent any electric shocks or short circuits, be sure to turn the power off before performing any work that involves touching the interior parts of the product.
- Be careful not to damage the wires. Damaged wires may cause electric shocks or short circuits, or present a risk of fire.
- 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 do this may damage the parts, and fragments resulting from damage may cause injury.
- When reassembling the Gun Controller, be sure to check the connecting portion and the trigger, etc. If the reassembly work is insufficient and/or incorrect, fingers may be caught and result in injury.
- The solenoid on the Control Unit (Gun Controller) may become hot. Take care as there is a risk of accidental burns.



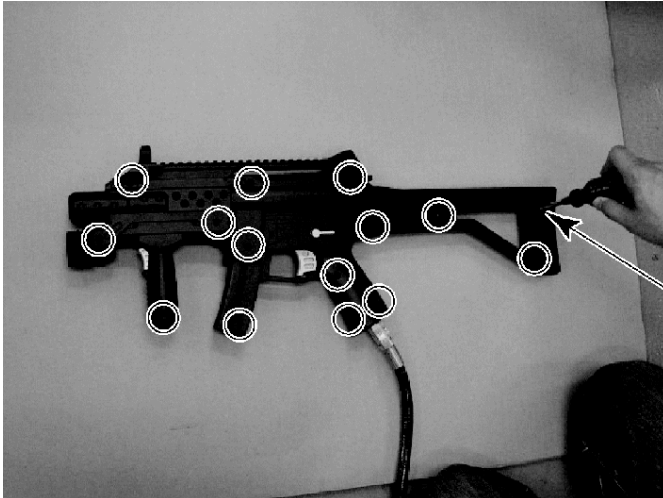
- Do not cut the tie belt securing the wires in the Control Unit (Gun Controller). Cutting the tie belt may cause malfunctioning of the wire connection. If you cut the tie belt when replacing the wire etc., be sure to secure the wires using a new tie belt as before.
- Follow these directions carefully to avoid damaging or losing small parts.

In cases where the gun's operation is unsatisfactory 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 with the procedure described below. Also, be sure to perform a sighting check in the test mode when the gun parts are replaced.

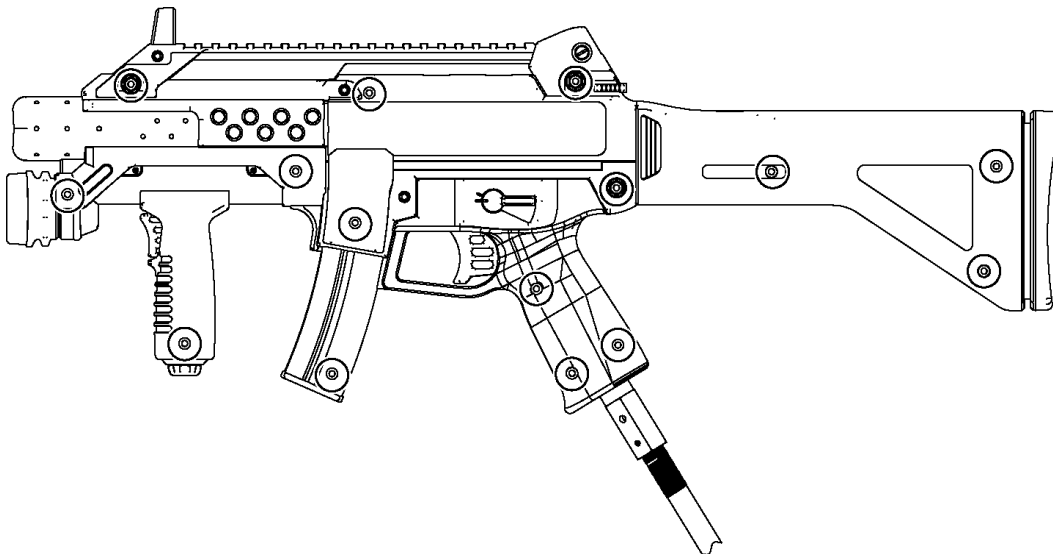
6.1. REPLACING THE MICROSWITCH

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 Shot Selector button microswitch, first remove the Shot Selector button from the right shell.

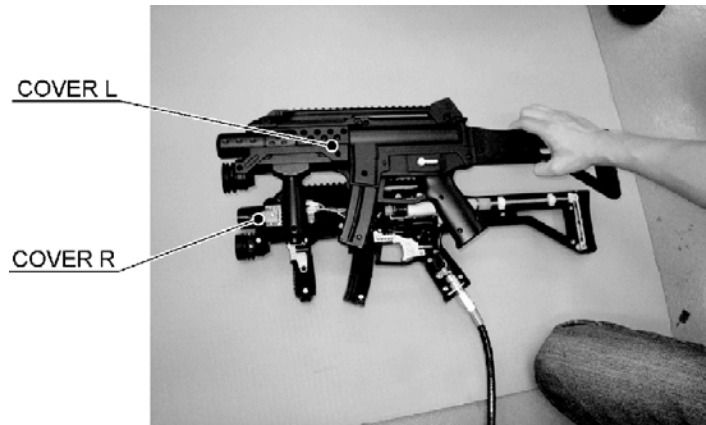
1. Turn power off.
2. Remove the 15 screws to separate the two shells.



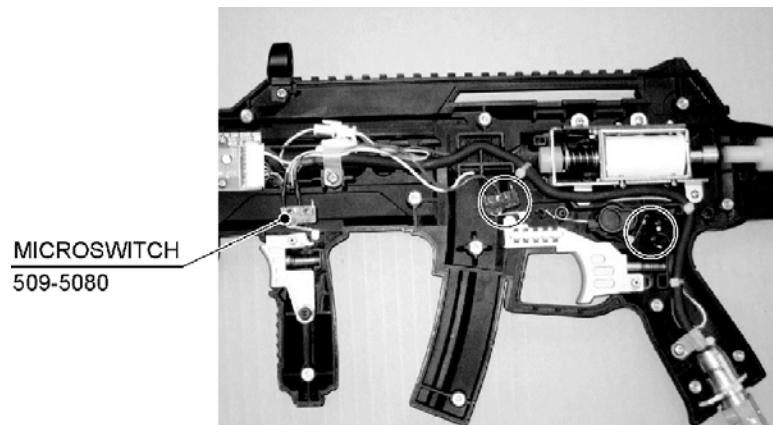
SCREW BLACK (15)
M3 X 12 W/SMALL FLAT AND SPRING WASHER



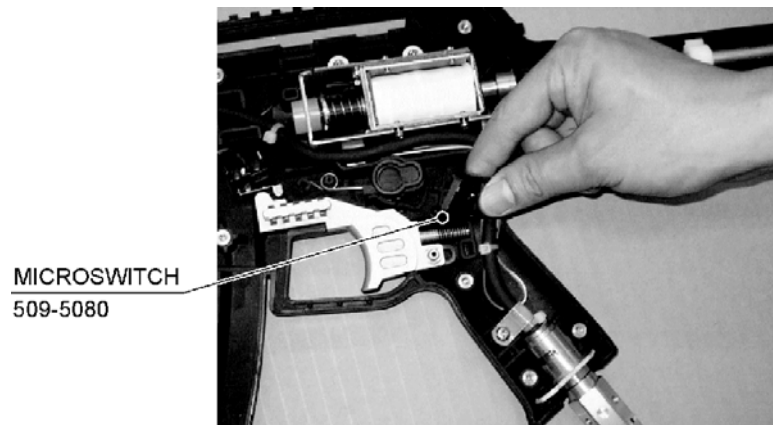
3. With the right shell lying flat, carefully lift the left shell from the right shell.



4. Remove the microswitch to be replaced from Cover R. There are a total of three microswitches.

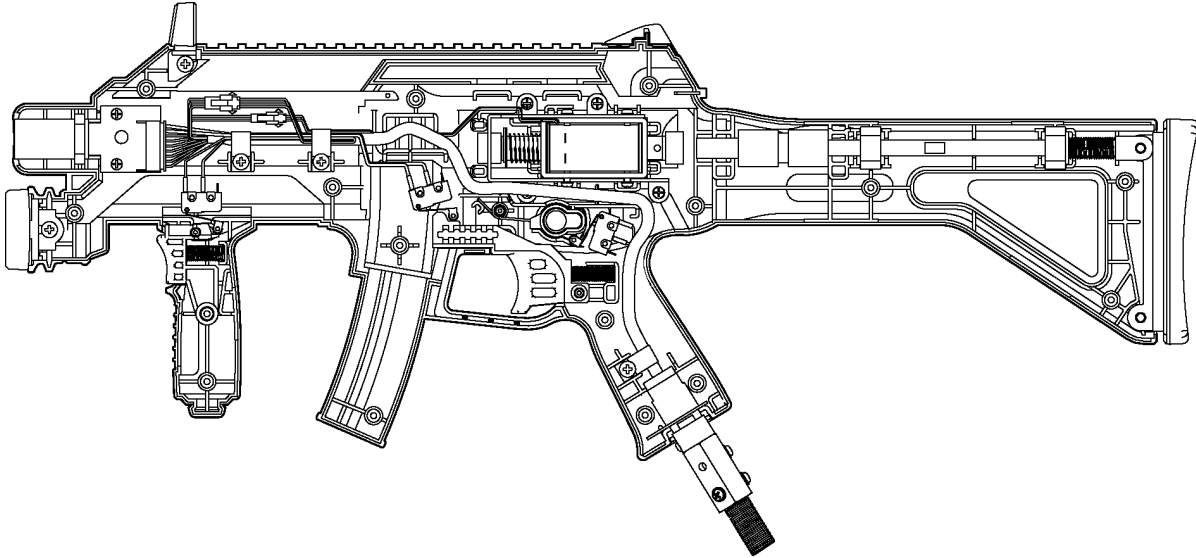


5. Remove the soldering to take out the microswitch.



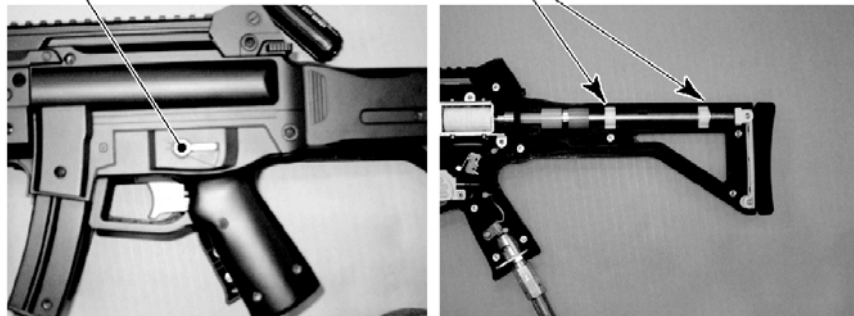
6. Solder the new microswitch in place to reconstruct the gun controller. When performing this step, verify the points listed below before reattaching Cover L and Cover R.

- The wires and connectors are laid out correctly in Cover R.
- The bearing holder is securely in place when the pad assembly spring is compressed.
- The selector is laid out horizontally.
- The selector joint and selector spring are set properly.



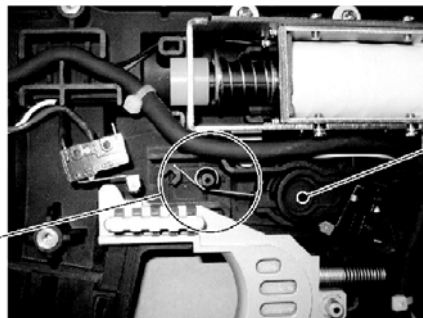
SELECTOR

BEARING HOLDER

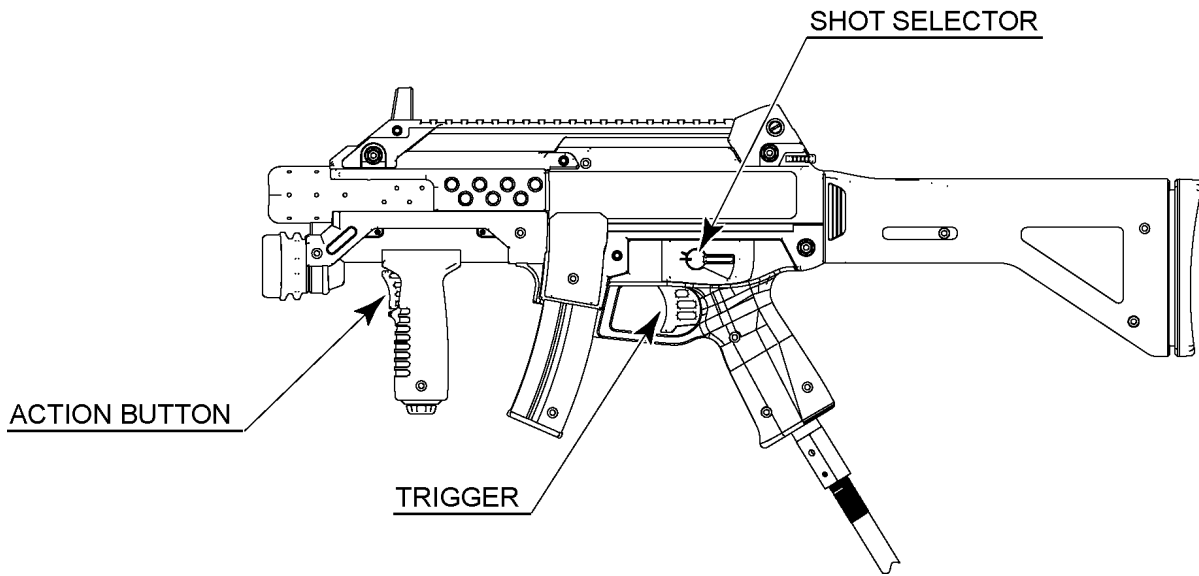


SELECTOR SPRING

SELECTOR JOINT



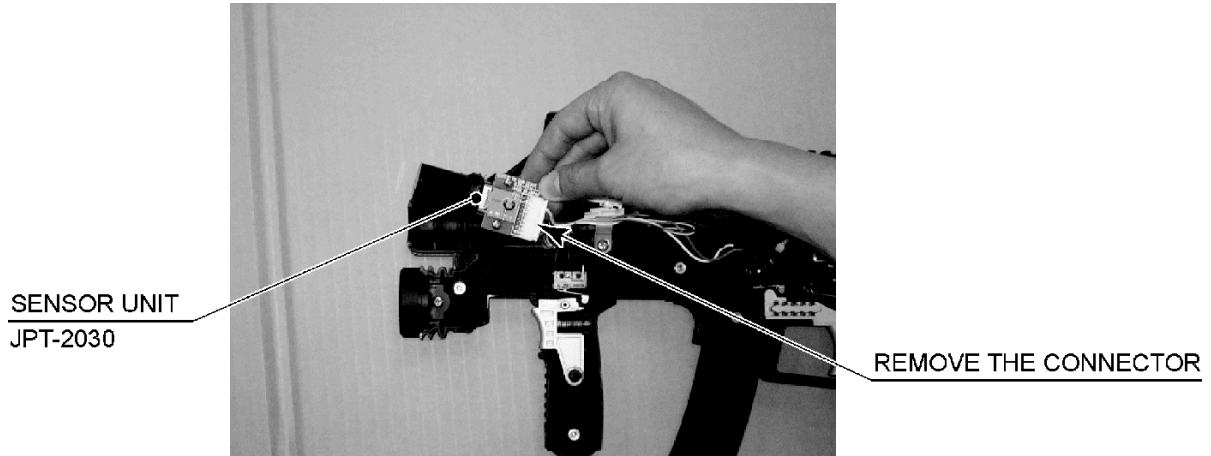
7. Operate the TRIGGER, SHOT SELECTOR and ACTION buttons to make sure that the microswitches turn ON/OFF correctly.



8. After replacement, perform an INPUT TEST, referring to the instructions in "Game Test Mode".

6.2. **REPLACING THE SENSOR UNIT**

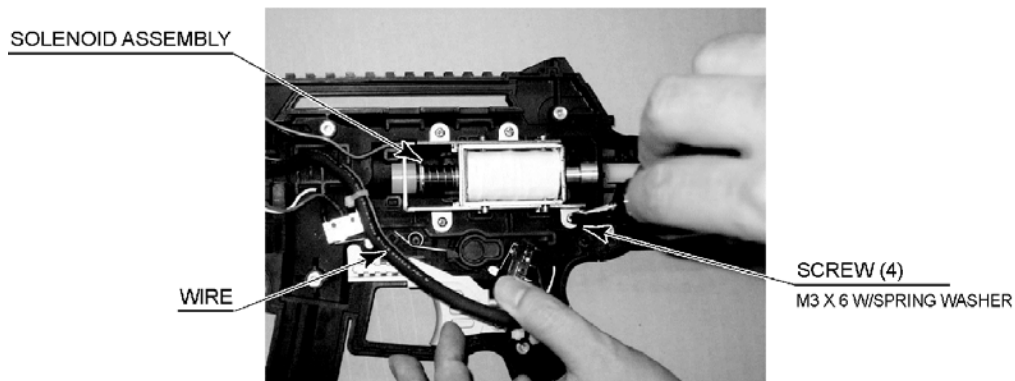
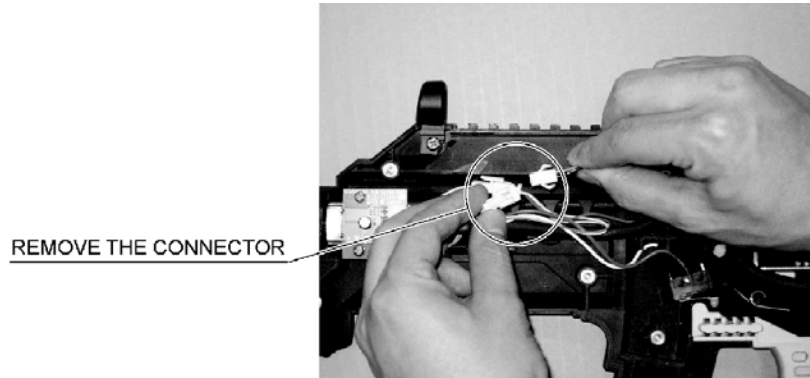
1. Follow instructions 1 - 3 of "Replacing the Microswitch" to remove the cover L.
2. Remove the connector to replace the sensor unit.



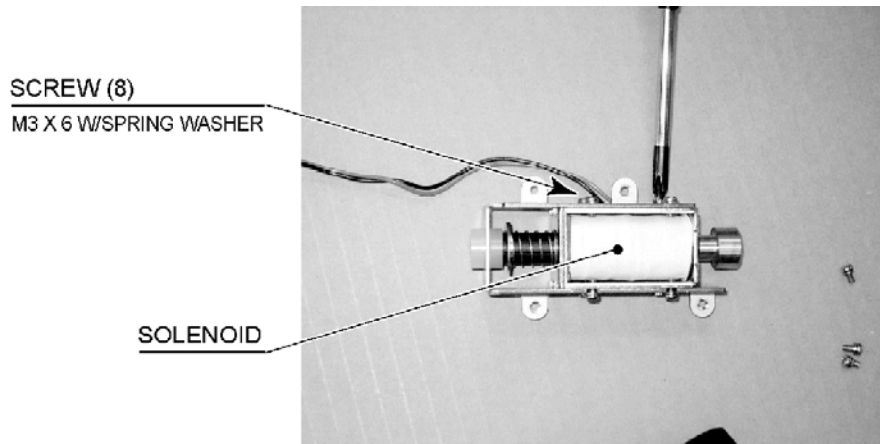
3. Refer to the previous item, then attach COVER R while being careful of each of the parts.
4. After replacement, perform a GUN ADJUSTMENT, referring to the instructions in "Game Test Mode".

6.3. REPLACING THE SOLENOID

1. Follow instructions 1 - 3 of "Replacing the Microswitch" to remove the cover L.
2. Remove the 2P connector, wire and 4 screws to take off the solenoid assembly.



3. Remove the 8 screws and replace the solenoid.



4. Secure the solenoid assembly with 4 screws and replace the connector. When doing this, make sure not to damage the wiring.
5. Refer to the previous item, then attach COVER R while being careful of each of the parts.
6. After replacement, perform an OUTPUT TEST, referring to the instructions in "Game Test Mode".

7. IC CARD UNIT



- When working with the product, be sure to turn the power off. Working with the power on can cause an electric shock or short circuit accident.
- Be careful not to damage the wires. Damaged wires may cause electric shock, short circuit or present a risk of fire.
- Be careful not to lose the fasteners for the screws and nuts. Contact between metal fasteners and electrically live parts can cause electric shock, short circuit or fire.



- Be careful not to trap your fingers when opening or closing the control panel.
- The solenoid on the IC card unit may become hot. Take care as there is a risk of accidental burns.

7.1. HOW TO CLEAN THE CARD UNIT



- Observe the following points to prevent damage when cleaning accessory surfaces.
- Remove smears using a dry, soft cloth (flannel, etc.). Do not use coarse gauze or other harsh materials.
 - For smear removing solvent, alcohol (ethanol) is recommended. When using chemical detergent, be sure to follow the instructions below:
 - Soak a soft cloth in a neutral household detergent diluted with water. Wring the cloth well then clean down the surface.
 - Do not use bleach or detergent that contains abrasive agents.
 - Do not use alkaline chemical detergents such as "glass cleaner" available on the market or solvents such as thinner, etc.
 - Do not scrape or scratch surfaces using brushes, scouring pads or other hard cleaning utensils.

Clean the interior of the IC card unit once a month.

At the same time, check to make sure that no intentional damage has been done to the game unit.

Because IC cards are inserted into the IC card unit for each play, it may become dirty and foreign matter may collect in the unit.

1. Turn the power off.
2. Unlock the coin chute door using the master key.

COIN CHUTE DOOR



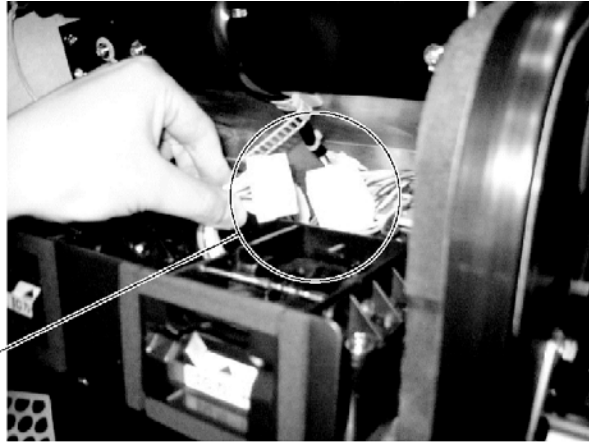
3. Lift the control panel by pulling it up while you pull on the internal ceiling flap. Make sure that the stay remains hooked in place.

CONTROL PANEL



4. Disconnect the single connector.

Disconnect the connector



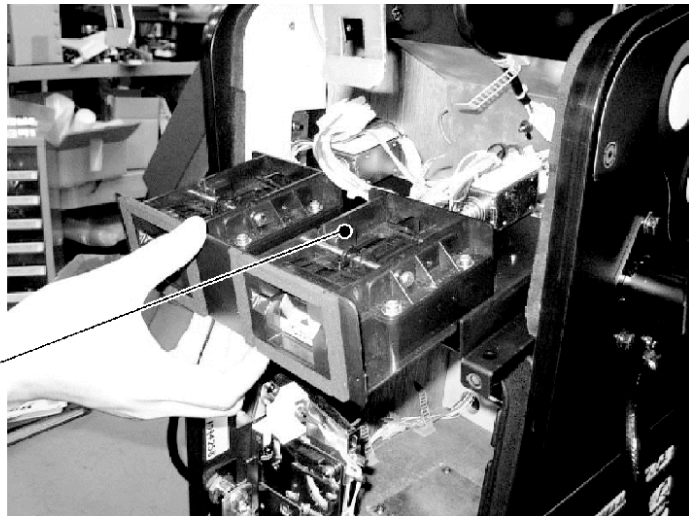
5. Remove the 2 truss screws.

TRUSS SCREW (2) BLACK
M4 X 8

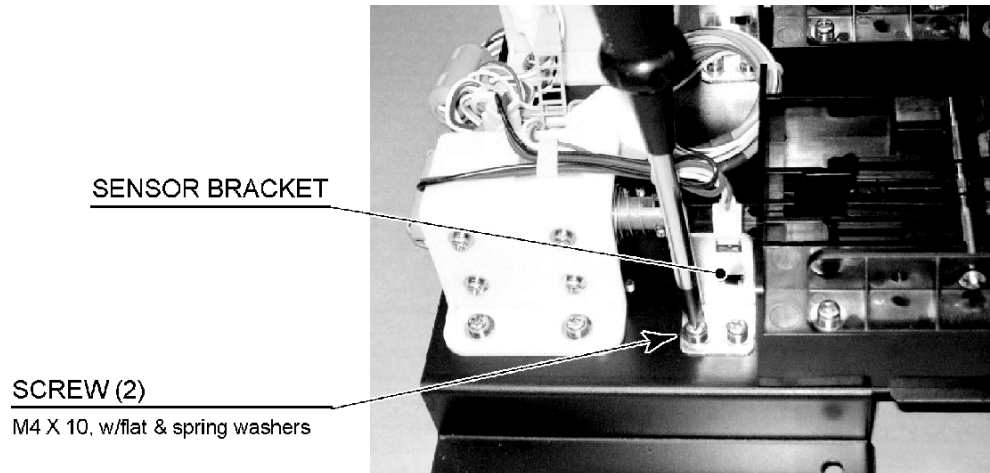


6. Pull the IC card unit towards you to remove it.

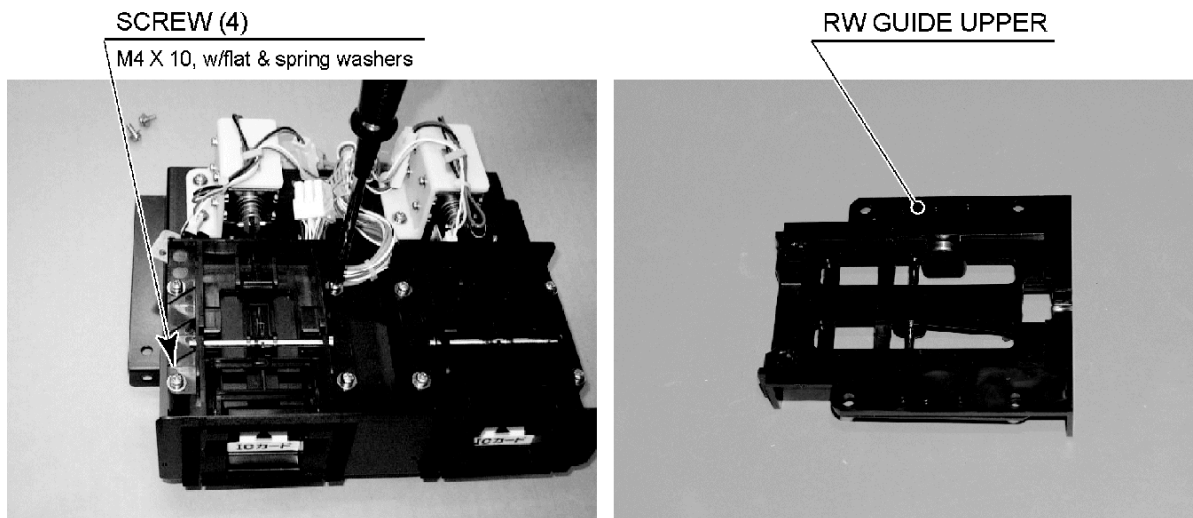
IC CARD UNIT



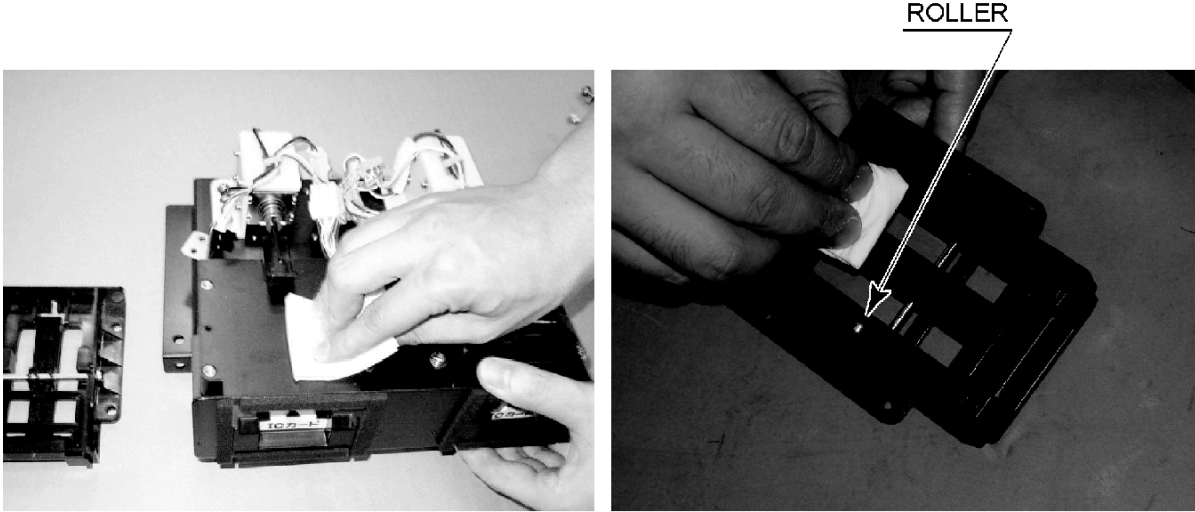
7. Undo the 2 screws and remove the sensor bracket.



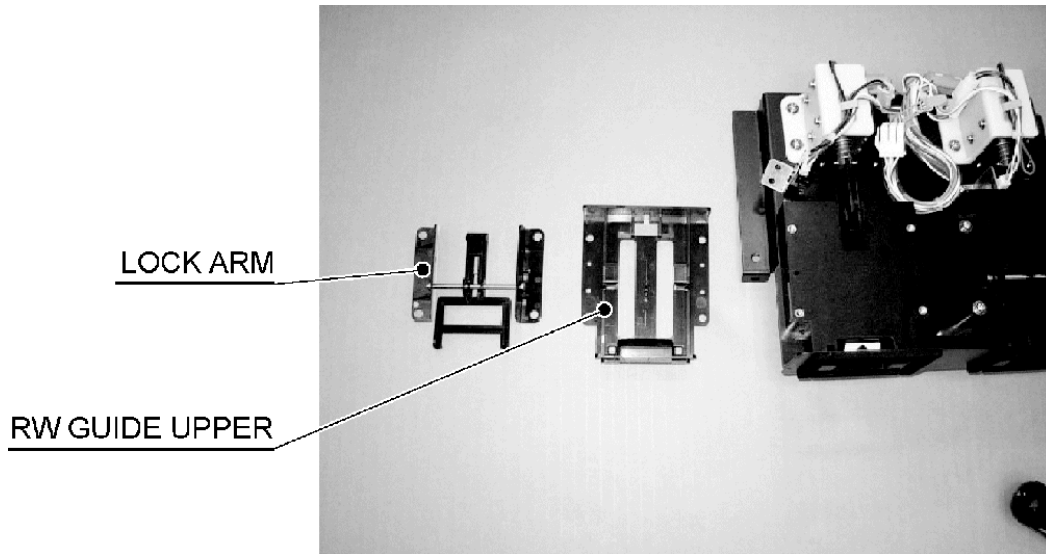
8. Undo the 4 screws, and remove the RW guide upper.



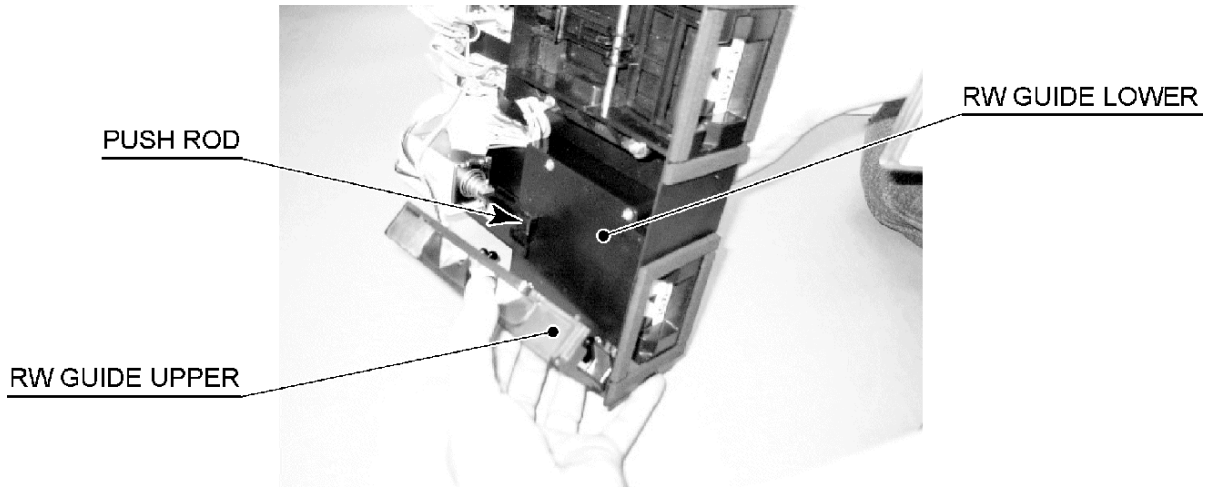
9. Wipe any dirt off the surfaces that touch the IC cards. Clear any foreign matter that has collected in the unit. The roller is a small component, so take the same precautions that you would for the screws to avoid losing it.



10. If you wipe the unit using a moist cloth, make sure that the unit is completely dry.
11. When you are reattaching the RW guide upper, attach the lock arm to the RW guide upper.

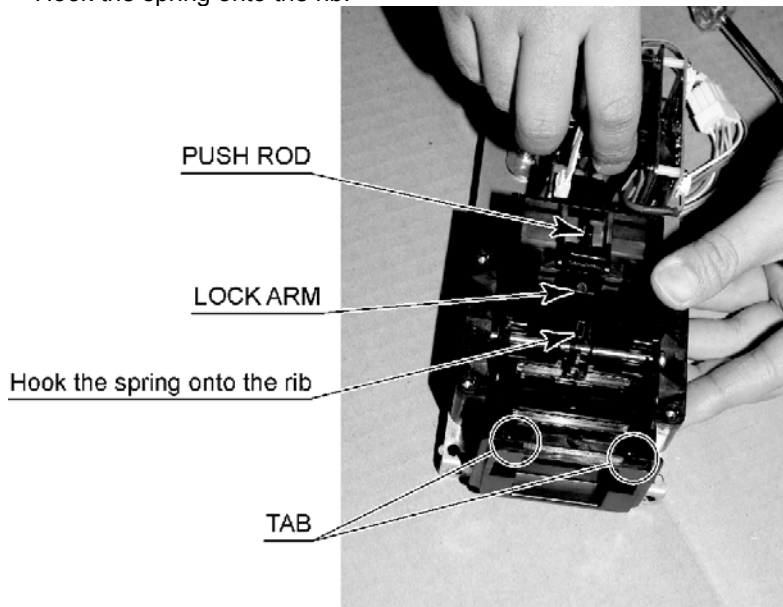


12. Attach the RW guide upper by inserting the push rod from the RW guide lower into the hole in the RW guide upper. Take care not to lose the roller at this time.



13. Attach the RW guide upper. Take note of the following points when you are attaching this component. Additionally, after attaching the RW guide upper, move the push rod with your hand to make sure that it works correctly and that the tab passes through the hole.

- Insert the lock arm into the lower side of the push rod.
- Hook the spring onto the rib.



14. Attach the sensor bracket by reversing the previously described procedure, and attach the IC card unit, connect the connector and close the control panel.

15. Lock the coin chute door.

7.2. FIXING JAMMED CARDS

If an IC card becomes jammed, push out the IC card using your fingertips through the square hold in the RW guide.



If an IC card becomes jammed, it may be due to one of the following various reasons.

- Foreign matter other than the IC card has entered the slot.
- A thread or other foreign matter is stuck to the IC card.
- 3 or more cards have been inserted at once.

If there is a sticker attached to the IC card, although it may be possible to continue to play games normally, the card may become jammed when 2 cards are inserted together, such as when renewing the card.

After removing the jammed card, make sure you find the cause of the jam.

8. PROJECTOR



- Since the Projector has been adjusted at the time of shipment, avoid making further adjustments without good reason.



- The Projector is subject to colour deviation due to Convergence deviation caused by the geomagnetism at the installation location and peripheral magnetic field. After the installation of machine, and before commencing operation, check for Convergence deviation and if deviated, make adjustments.

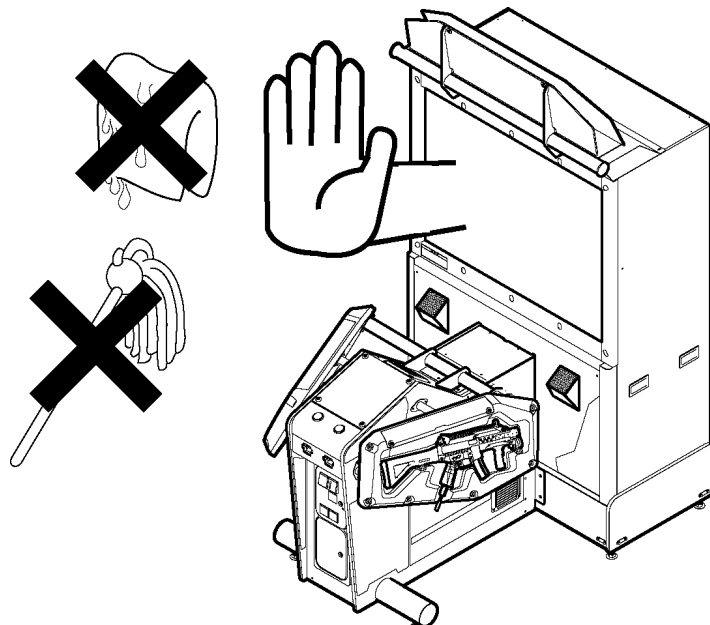
Projector adjustments are stored. Due to distortion or colour deviation in the TEST mode, if an adjustment is necessary, use the Remote Control to make adjustments.

8.1. CLEANING THE SCREEN



- Since the Projector screen is susceptible to damage, pay careful attention to its handling. When cleaning, refrain from using water or volatile chemicals.

When the screen surface becomes dirty with dust, etc., clean it by using a soft cloth such as gauze. When water, and volatile chemicals such as benzene, thinner, etc., spill on the screen surface, it may be subject to damage, therefore, do not use them. Also, since the surfaces are susceptible to damage, refrain from rubbing them with a hard material or using a duster.

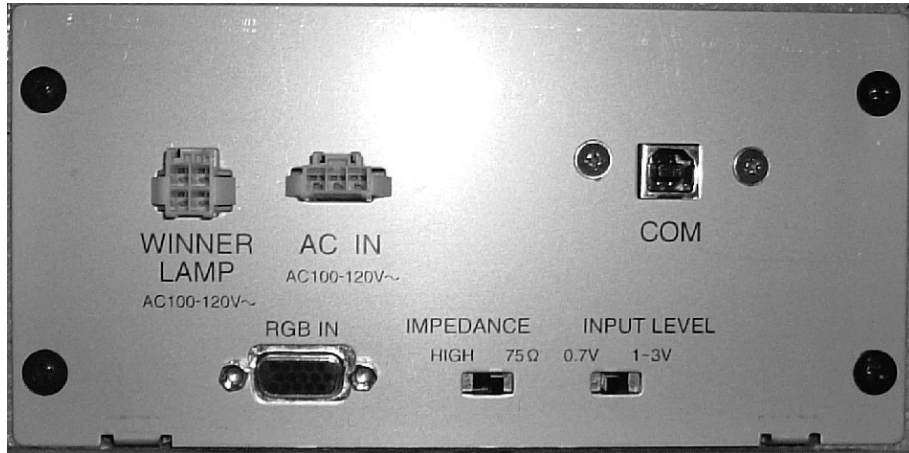


8.2. SETTING THE INTERFACE



- In this product, set to INPUT LEVEL: 0.7 V and IMPEDANCE: 75 Ohms. Failure to observe this can cause CRT membrane to burn or Shutdown device to function resulting in power off.

The Projector's Connector Panel contains the Interface setting SW.

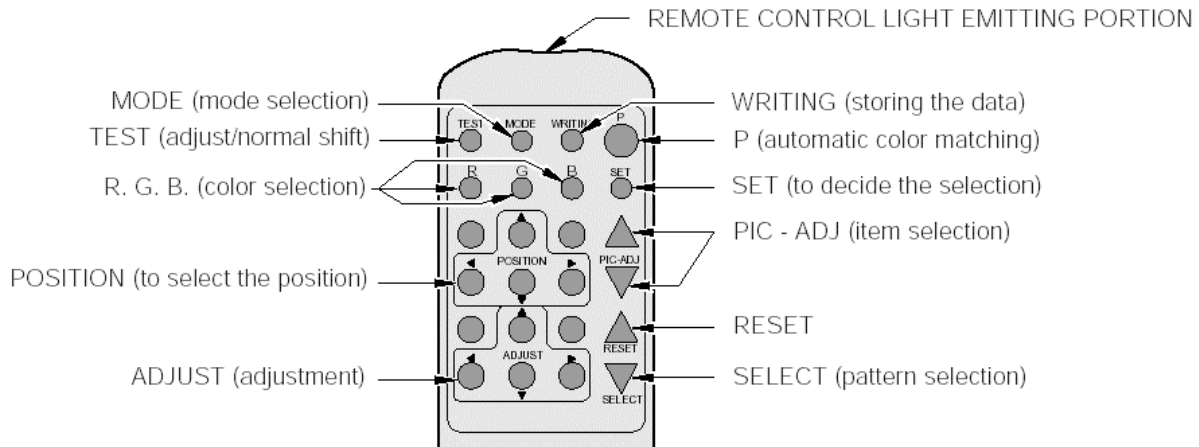


8.2.1. REMOTE CONTROL BUTTONS



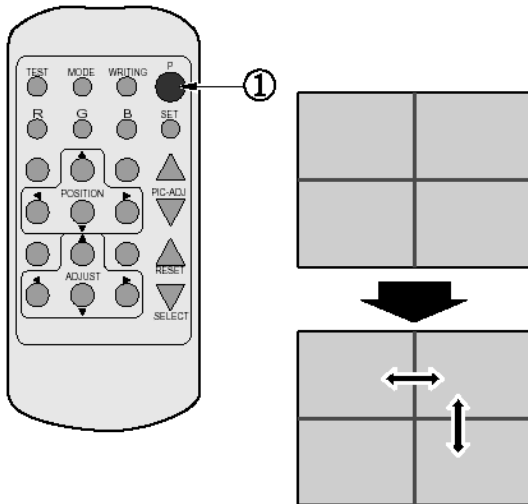
IMPORTANT

When adjusting the Projector, direct the Remote Control's light emitting portion towards the Projector Screen.



8.2.2. AUTOMATIC COLOUR MATCHING

The Projector may be subject to colour deviations affected by earth magnetism, the building steel frames, etc. When the Projector is initially installed or the Projector's installation position is changed, have the colour matching performed automatically.



Keep pressing the P button (red) for approximately 3 seconds to have the ensuing movements performed automatically.

The Projector will shift to the colour deviation correction mode from the game mode, with the green cross pattern appearing on the screen.

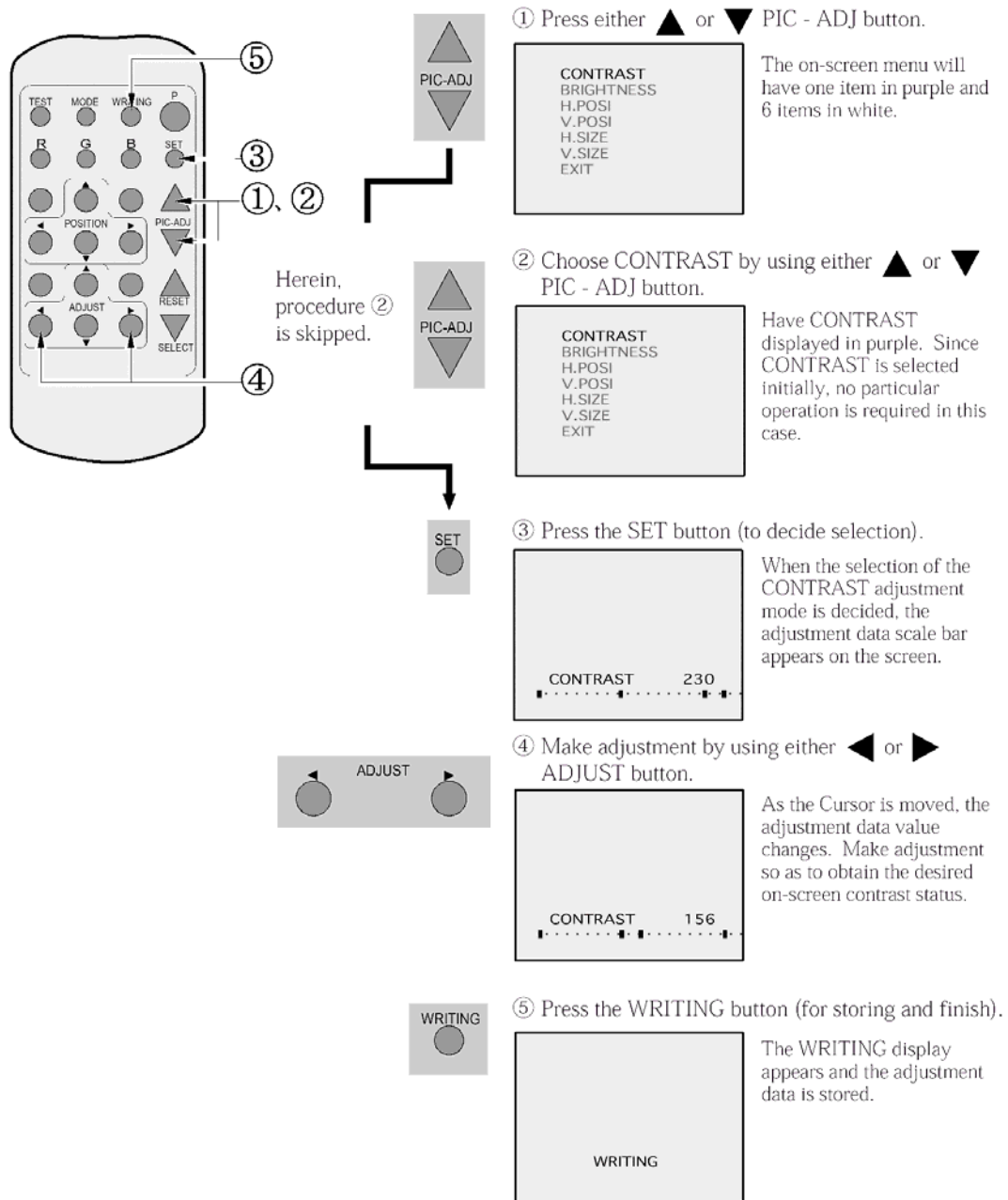
The cross pattern moves up/down and right/left to start the movement of searching the correct screen position and inclination.

When the green cross pattern movements are finished, similar detection is performed sequentially in order of red and then blue cross movements. After detecting by green, red and blue cross movements, the game mode returns with the colour deviation status being corrected.

- Although very rarely, the TRY AGAIN error display in red may appear. At this time, press the P button (red) for approximately 3 seconds. Even after the above operation is repeated, if the error condition still exists, then the display shifts to PLEASE ADJ. In this case, the auto colour matching function can not be used. Contact the place of contact herein stated or where the product was purchased from.
- If the automatic colour matching indicates an error, colour matching can manually be performed. Refer to CONVERGENCE ADJUSTMENT (manual colour matching).

8.2.3. ADJUSTING THE ON-SCREEN CONTRAST

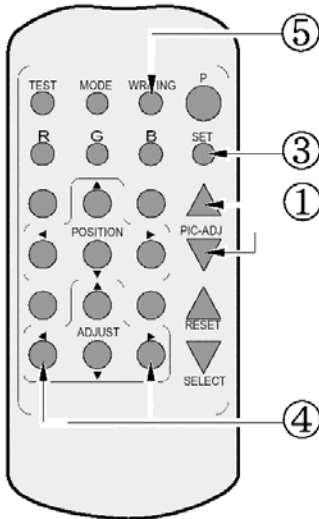
Although the on-screen picture quality has been adjusted at the time of shipment from the factory, the on-screen contrast can be readjusted if desired. When the Game Board is replaced, readjustment may be necessary. Changing the CONTRAST causes the light and shade of the on-screen images to be changed.



- When discontinuing the adjustment, choose EXIT from the menu at the stage of procedure 2 and press the SET button.
- To continue adjusting other menu items, repeat procedure 2-4.
- Unless the adjustment data is stored, the data in the adjusted status will be erased at the time the power is turned off and the pre-adjustment status will remain when the power is turned on next time.

8.2.4. ADJUSTING THE SCREEN BRIGHTNESS

Although the on-screen picture quality has been adjusted at the time of shipment from the factory, readjustment can be made if desired. When the Game Board is replaced, readjustment may be necessary. Changing the BRIGHTNESS causes the brightness of the on-screen images of black portions to be changed.



① Press either ▲ or ▼ PIC - ADJ button.

The on-screen menu will have one item in purple and 6 items in white.

```

CONTRAST
BRIGHTNESS
H.POSI
V.POSI
H.SIZE
V.SIZE
EXIT
    
```

② Choose BRIGHTNESS by using either ▲ or ▼ PIC - ADJ button.

Have the BRIGHTNESS displayed in purple.

```

CONTRAST
BRIGHTNESS
H.POSI
V.POSI
H.SIZE
V.SIZE
EXIT
    
```

③ Press the SET button (to decide selection).

When the selection of the BRIGHTNESS adjustment mode is decided, the adjustment data scale bar appears on the screen.

```

BRIGHTNESS 128
█.....█.....█
    
```

④ Make adjustment by using either ◀ or ▶ ADJUST button.

As the Cursor is moved, the adjustment data value changes. Make adjustment so as to obtain the desired on-screen brightness status.

```

BRIGHTNESS 156
█.....█.....█
    
```

⑤ Press the WRITING button (for storing and finish).

The WRITING display appears and the adjustment data is stored.

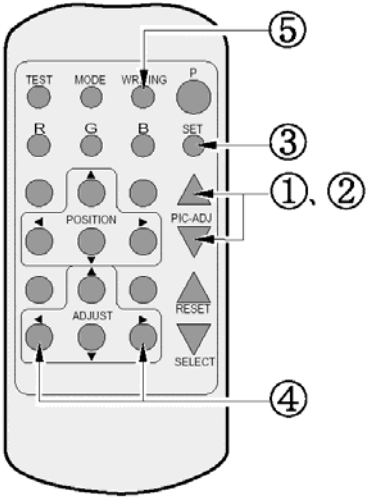
```

WRITING
    
```

- When discontinuing the adjustment, choose EXIT from the menu at the stage of procedure 2 and press the SET button.
- To continue adjusting other menu items, repeat procedure 2-4.
- Unless the adjustment data is stored, the data in the adjusted status will be erased at the time the power is turned off and the pre-adjustment status will remain when the power is turned on next time.

8.2.5. ADJUSTING THE ON-SCREEN DISPLAY POSITION

Although the on-screen display position (H. POSI, V. POSI) has been adjusted at the time of shipment from the factory, readjustment can be made if desired. When the Game Board is replaced, readjustments may be necessary.



① Press either ▲ or ▼ PIC - ADJ button.

The on-screen menu will have one item in purple and 6 items in white.

```

CONTRAST
BRIGHTNESS
H.POSI
V.POSI
H.SIZE
V.SIZE
EXIT
    
```

② Choose H. POSI or V. POSI by using either ▲ or ▼ PIC - ADJ button.

Have the H. POSI or V. POSI displayed in purple. The Figure shows the status in which H. POSI is selected.

```

CONTRAST
BRIGHTNESS
H.POSI
V.POSI
H.SIZE
V.SIZE
EXIT
    
```

③ Press the SET button (to decide selection).

When the selection of the H. POSI or V. POSI is decided, the adjustment data scale bar appears on the screen.

```

H.POSI 128
┌-----┴-----┐
└-----┬-----┘
    
```

④ Make adjustment by using either ◀ or ▶ ADJUST button.

As the Cursor is moved, the adjustment data value changes. Make adjustment so as to obtain the desired on-screen position status.

```

H.POSI 156
┌-----┴-----┐
└-----┬-----┘
    
```

⑤ Press the WRITING button (for storing and finish).

The WRITING display appears and the adjustment data is stored.

```

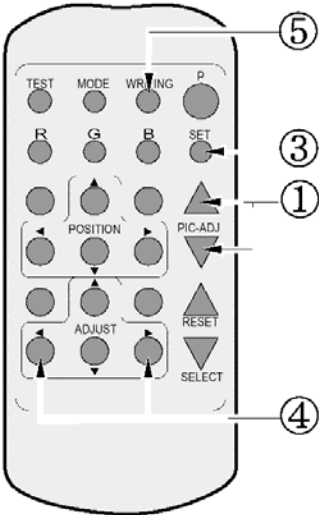
WRITING
    
```

When making adjustments in vertical directions, also use either ◀ or ▶ ADJUST button.

- When discontinuing the adjustment, choose EXIT from the menu at the stage of procedure 2 and press the SET button.
- To continue adjusting other menu items, repeat procedure 2-4.
- Unless the adjustment data is stored, the data in the adjusted status will be erased at the time the power is turned off and the pre-adjustment status will remain when the power is turned on next time.

8.2.6. ADJUSTING THE SCREEN SIZE

Although the on-screen size (H. SIZE, V. SIZE) has been adjusted at the time of shipment from the factory, readjustment can be made if desired. When the Game Board is replaced, readjustments may be necessary.



① Press either ▲ or ▼ PIC - ADJ button.

The on-screen menu will have one item in purple and 6 items in white.

```

CONTRAST
BRIGHTNESS
H.POSI
V.POSI
H.SIZE
V.SIZE
EXIT
    
```

② Choose H. SIZE or V. SIZE by using either ▲ or ▼ PIC - ADJ button.

Have the H. SIZE or V. SIZE displayed in purple. The Figure shows the status in which H. SIZE is selected.

```

CONTRAST
BRIGHTNESS
H.POSI
V.POSI
H.SIZE
V.SIZE
EXIT
    
```

③ Press the SET button (to decide selection).

When the selection of the H. SIZE or V. SIZE adjustment mode is decided, the adjustment data scale bar appears on the screen.

```

H.SIZE 128
┌───────────┴───────────┐
└───────────┬───────────┘
    
```

④ Make adjustment by using either ◀ or ▶ ADJUST button.

As the Cursor is moved, the adjustment data value changes. Make adjustment so as to obtain the desired on-screen position status.

```

H.SIZE 156
┌───────────┴───────────┐
└───────────┬───────────┘
    
```

⑤ Press the WRITING button (for storing and finish).

The WRITING display appears and the adjustment data is stored.

```

WRITING
    
```

When making adjustments in vertical directions, also use either ◀ or ▶ button.

- When discontinuing the adjustment, choose EXIT from the menu at the stage of procedure 2 and press the SET button.
- To continue adjusting other menu items, repeat procedure 2-4.
- Unless the adjustment data is stored, the data in the adjusted status will be erased at the time the power is turned off and the pre-adjustment status will remain when the power is turned on next time.

8.2.7. CONVERGENCE ADJUSTMENT (manual colour matching)



To avoid circuitry malfunctioning due to electrical load increase, never utilize CONVERGENCE ADJUSTMENT (Line Convergence Adjustment in particular) for adjusting screen size changes.

There is no means to restore the Convergence Adjustment data once stored, to its original state. To avoid changing the screen size by erroneously using convergence adjustment, do not perform the green Line Convergence Adjustment.

As such, be sure to perform the adjustment work from this page onward by the Technical staff and the Location's Maintenance Man who are well versed in such adjustment work. In the Static Convergence Adjustments, if satisfactory adjustments can not be performed, do not make another convergence adjustments inadvertently. Contact the office herein stated or where the product was purchased from.

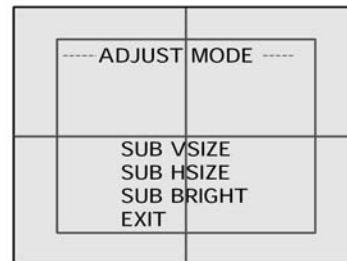


- To avoid making the adjustment work ineffective, do not press the RESET button during adjustment.
- To discontinue adjustment work, keep pressing the TEST button for approximately 3 seconds at the stage before storing the adjustment data by pressing the WRITING button.
- Should the screen be abnormally disturbed by noise due to static electricity, etc., turn the power off without storing the adjustment data.

- Pressing the ▲ or ▼ PIC - ADJ button in the Convergence Adjustment mode status will display the Adjustment Menu shown right. Do not utilize this Adjustment Menu as this is the one applied at the factory.

Adjusting this menu causes the Customer's adjustment range to be deviated.

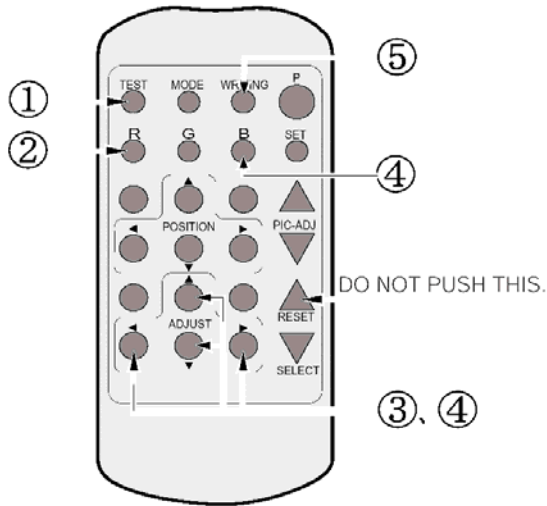
Should the menu shown right be displayed by mistake, first choose EXIT by using either ▲ or ▼ PIC - ADJ button and then press the SET button.



Adjustment menu used in the factory.

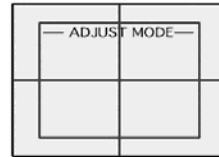
8.2.8. STATIC CONVERGENCE ADJUSTMENT

In the STATIC CONVERGENCE adjustment, each of red and blue images is comprehensively moved to and superimposed on the green colour. If automatic colour matching function is not sufficiently satisfactory, perform this adjustment. Be sure to perform automatic colour matching before starting the above adjustment.



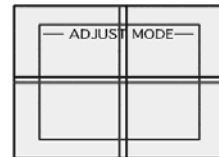
When either of ② ④ COLOR SELECT buttons (R, B) is pressed, if the color desired to be adjusted disappears, press that particular button again. For example, if the red color needs to be adjusted again at the stage of ④, the R button need to be pressed twice.

- ① Keep pressing the TEST button for approximately 3 seconds.



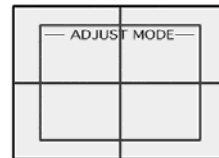
The screen will change to ADJUST MODE from the Game mode to cause the green test pattern to be displayed on the screen.

- ② Press the R button to have the red adjustment mode.



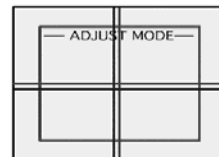
The red test pattern is added to the display. The frame color turns red and this signifies the red adjustment mode.

- ③ Make adjustment by using the ▲ ▼ ◀ ▶ ADJUST buttons.



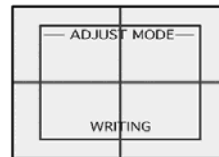
Make adjustment so as to have red superimposed on green. When red is superimposed on green, the color becomes yellow.

- ④ Press the B button to have the blue adjustment mode.



Similarly as in the case of red, adjust the blue color. When green, red, and blue are superimposed, the color becomes white.

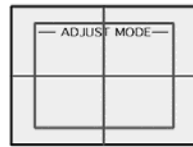
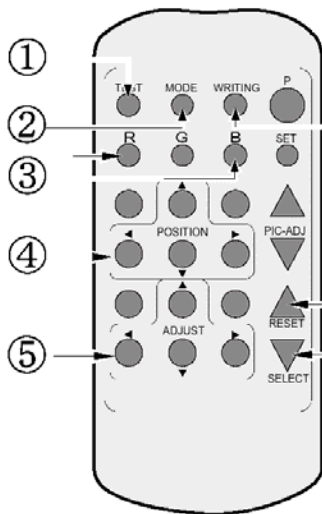
- ⑤ Press the WRITING button (for storing and finish).



The WRITING display appears and the adjustment data is stored. After the data is stored, the Game mode returns.

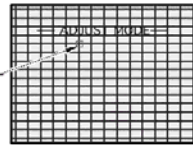
8.2.9. POINT CONVERGENCE ADJUSTMENT

In the POINT CONVERGENCE adjustment, each of red, green and blue images is partially moved for colour matching. The adjustment may be necessary when the Game Board is replaced or changed, or screen size is changed. Be sure to perform automatic colour matching before starting the adjustment.



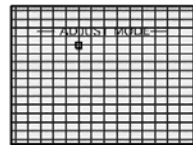
The screen changes to ADJUST MODE from the Game mode and displays the green test pattern.

- ② Press the MODE button twice to have the POINT ADJUSTMENT mode. (Note 1)



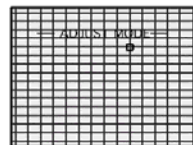
The crosshatch test pattern appears and the MARKER indicating the adjustment point is displayed.

- ③ Using either R or B button, select the desired color to be adjusted. (Note 2) By using the G button, the green color can also be selected.



The selected color is displayed by superimposing on green. The MARKER will be in the color selected.

- ④ By using the ▲ ▼ ◀ ▶ POSITION buttons, move the MARKER to the position to be adjusted.



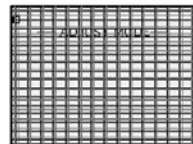
The MARKER moves in the direction of the button's arrow. However, the movable point is predetermined.

- ⑤ Make adjustment by using the ▲ ▼ ◀ ▶ ADJUST buttons.



Although the direct vicinity of the MARKER's center moves most conspicuously, make adjustment by paying attention to the periphery area also. Shown left is the magnified MARKER periphery.

- ⑥ Press the SELECT button as necessary to superimpose Game Board images. (Note 3)



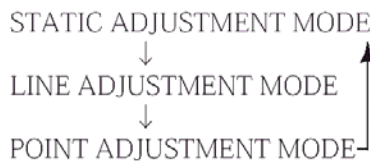
If the test pattern is not displayed in the periphery of the screen, adjustments can be made by pressing the SELECT button to superimpose the test pattern and the Game Board's CRT test screen.

- ⑦ Press the WRITING button (for storing and finish).



WRITING is displayed and the adjustment data is stored. After the data is stored, the Game Board screen returns.

(Note 1) When the MODE button is repeatedly pressed, the adjustment modes will circulate as follows:

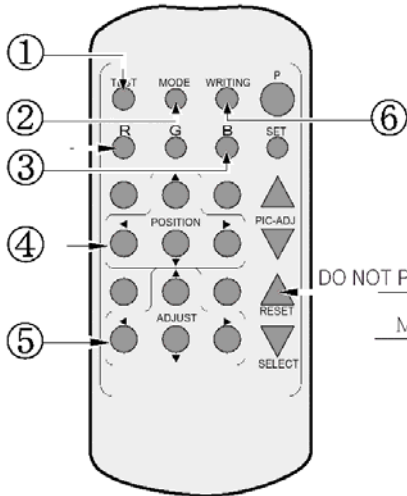


(Note 2) When either of the COLOR SELECT buttons (R, B) is pressed, if the desired color to be adjusted disappears, press that particular button again.

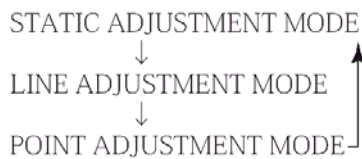
(Note 3) By repeatedly pressing the SELECT button, only the Projector's TEST pattern screen and the screen superimposing the Game Board Test pattern can be alternately displayed.

8.2.10.LINE CONVERGENCE ADJUSTMENT

In the LINE CONVERGENCE adjustment, the adjustment point of the column line (vertical) or row line (horizontal) is comprehensively moved for colour matching. It is convenient to utilize this adjustment when the colour of the column line or row line is uniformly deviated.

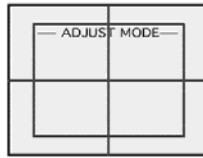


(Note 1) When the MODE button is repeatedly pressed, the adjustment modes will circulate as follows:



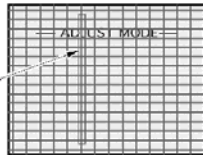
(Note 2) When either of the COLOR SELECT buttons (R, B) is pressed, if the desired color to be adjusted disappears, press that particular button again.

- ① Keep pressing the TEST button for approximately 3 seconds.



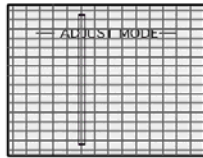
The screen changes to ADJUST MODE from the Game Board mode and displays the green test pattern.

- ② Press the MODE button once to have the POINT ADJUSTMENT mode. (Note 1)



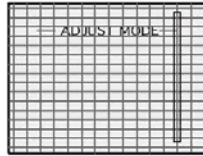
The crosshatch test pattern appears and the vertically long MARKER is shown.

- ③ Using either R or B button, select the desired color to be adjusted. (Note 2) Although the green color can also be selected by using the G button, to avoid the screen size change adjustment, do not choose green.

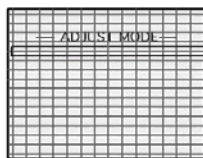


The selected color is displayed by superimposing on green. The MARKER will be in the color selected.

- ④ By using the ▲ ▼ ◀ ▶ POSITION buttons, move the MARKER to the position to be adjusted.

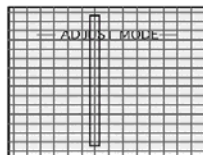


Use the ◀ ▶ buttons to select the column line, and the MARKER moves in the right/left direction. However, the movable range is predetermined.



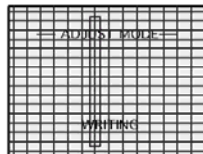
Use the ▲ ▼ buttons to select the row line and the MARKER moves in the up/down direction. However, the movable range is predetermined.

- ⑤ Make adjustment by using the ▲ ▼ ◀ ▶ ADJUST buttons.



The selected column line or row line (shown left is the column line) can be moved in the desired up/down or right/left directions as applicable.

- ⑥ Press the WRITING button (for storing and finish).



WRITING is displayed and the adjustment data is stored. After the data is stored, the Game Board screen returns.

9. PERIODIC INSPECTION

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

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



- Be sure to check once a year to see if Power Cords are damaged, the plug is securely inserted, dust is accumulated between the Socket Outlet and the Power Plug, etc. Using the product with dust as is accumulated can cause fire and electric shock hazards.
- Never use a water jet, etc. to clean inside and outside the cabinet. If wetness occurs for any reason, do not use the product until it has completely dried.
- Periodically once a year, request the place of contact herein stated or the Distributor, etc. where the product was purchased from, as regards the internal cleaning. Using the product with dust as is accumulated in the interior without cleaning can cause a fire or accident. Note that cleaning the interior parts can be performed on a pay-basis.

PERIODIC INSPECTION TABLE

	Description	Period	Reference
CABINET	Checking adjuster grounding	Daily	3.3
CONTROL UNIT (GUN CONTROLLER)	Cleaning	As necessary	/
	Checking sight	Weekly	6
	Inspecting switches	Monthly	6
	Inspecting solenoids	Monthly	6
IC CARD UNIT	Cleaning	Monthly	7.1
	Checking for foreign matter	Daily	7.2
COIN CHUTE DOOR	Inspecting coin switches	Monthly	5.1
	Testing coin insertion	Monthly	/
	Cleaning the coin selector	Tri-monthly	/
PROJECTOR	Screen cleaning	Weekly	8.1
	Checking adjustments	Monthly or after moving	3, 8, 5.1
GAME BOARD	Performing memory test	Monthly	5.1
	Checking settings	Monthly	5
POWER SUPPLY PLUG	Inspecting and cleaning	Annually	See above
INTERIOR	Cleaning		
CABINET SURFACES	Cleaning	As necessary	See below

9.1. CLEANING THE CABINET SURFACES

When the cabinet surfaces become dirty, remove stains with a soft cloth soaked in water or diluted (with water) chemical detergent and then wrung dry. To avoid damaging the finish, do not use such solvents as thinner, benzene, etc. (other than ethyl alcohol) or abrasives (bleaching agent and chemical dust-cloth).

Some general-purpose household, kitchen, and furniture cleaning products may contain strong solvents that degrade plastic components, coatings, and print. Before using any cleaning product, read the product's cautionary notes carefully and test the product first on a small area that is not highly visible.

10. TROUBLESHOOTING

10.1. PROBLEMS NOT INVOLVING THE GAME BOARD

In case a problem occurs, first check wiring connector connections.

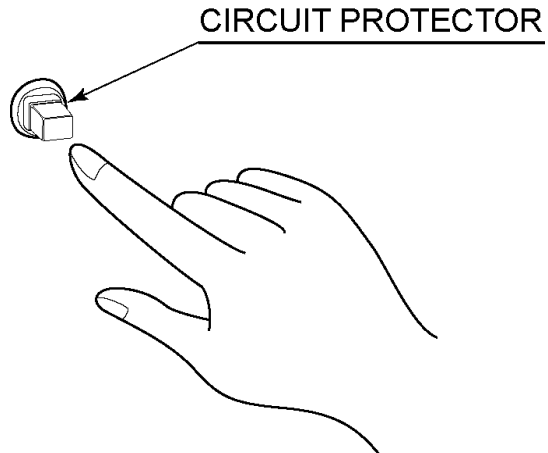


- In order to prevent electric shock and short circuit, be sure to turn power off before performing work.
- Be careful not to damage the wires. Damaged wires may cause electric shock or short circuit or present a fire risk.
- After removing the cause of the functioning of the Circuit Protector, reinstate the Circuit Protector. Depending on the cause of the functioning, using the Circuit Protector as is without removing the cause can cause generation of heat and fire hazard.

PROBLEMS	CAUSE	COUNTERMEASURES
With Main SW ON, no activation.	Power is not supplied.	Securely insert the power plug into the plug socket.
	Power supply/voltage is not correct.	Make sure that power supply/voltage is correct.
	The Circuit Protector functioned due to the momentary overload.	After eliminating the cause of overload, reinstate the AC Unit's Circuit Protector (see below).
The colour on PTV screen is incorrect.	Image adjustment is inappropriate.	Adjust appropriately (see Sec.8).
Colour deviation on PTV screen.	Affected by peripheral machines or the building's steel frames.	Perform convergence adjustment (see Sec. 8).
		Change installation direction or position.
		Move the machine which causes the problem.

10.1.1.CIRCUIT PROTECTOR

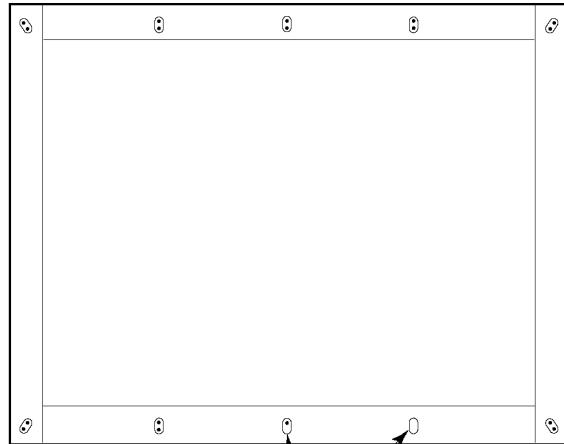
The Circuit Protector functions due to a bi-metallic strip. To restore power, wait for approximately 1 minute or longer until the unit cools then press the button.



PROBLEMS	CAUSE	COUNTERMEASURES
No sound is emitted. Control Unit sighting is not satisfactory.	Sound volume adjustment is not appropriate.	Adjust sound volume (see Sec. 5).
	Board and amplifier malfunctioning	Perform the sound test and confirm (see Sec. 5).
During game play, the control unit is not operable for shooting. The operation of the ACTION button and SHOT SELECTOR are unsatisfactory. The gun controller does not vibrate. The FL does not light up. The lamp does not light up.	Sights are not aligned due to changes in the surrounding environment.	Perform sighting adjustment in the test mode (see Sec. 5).
	LED board malfunctioning.	Check to ensure that the LED lights up. If it does not light up, replace (see next page).
	Sensor unit malfunctioning	Replace the sensor unit (see Sec. 6).
	LED board and LED board cover are contaminated.	Wipe off soiled surfaces (see next page).
	Fuse on the connector board has blown due to a momentary electrical overload.	Fix the source of the overload, then replace the fuse. <Fuse: 250V 200mA, 514-5086-200> (see Sec. 10)
Cannot read properly from an IC card or the IC card is not detected. No sound is emitted. Control Unit sighting is not satisfactory.	Microswitch malfunctioning	Check that the switches turn off and on using test mode. Replace the switch if it does not operate (see Sec. 6).
	LED board malfunctioning	If does not light up, replace (see next page).
	Sensor board malfunctioning	Replace the sensor board.
	Fuse on the connector board has blown due to a momentary electrical overload.	Fix the source of the overload, then replace the fuse. <Fuse: 250V 200mA, 514-5086-200> (see Sec. 10)
During game play, the control unit is not operable for shooting.	Microswitch malfunctioning	Check that the switches turn off and on using test mode. Replace the switch if it does not operate (see Sec. 6).
The operation of the ACTION button and SHOT SELECTOR are unsatisfactory. The gun controller does not vibrate.	Solenoid is broken.	Replace the solenoid (see Sec. 6).
	Fuse on the connector board has blown due to a momentary electrical overload.	Fix the source of the overload, then replace the fuse. <Fuse: 250V 200mA, 514-5086-200> (see Sec. 10)
The FL does not light up.	The FL has burnt out.	Replace the fluorescent light.
The lamp does not light up.	Lamp has burnt out.	Replace the lamp.
Cannot read properly from an IC card or the IC card is not detected. No sound is emitted. Control Unit sighting is not satisfactory. During game play, the control unit is not operable for shooting.	Using an unsupported card	Correct the settings using Test mode(see Sec. 5). Check the operation using Test mode. Check the connector connection.
	Card reader settings are incorrect.	
	Connector is not connected properly.	Clean the IC card unit (see Sec. 7).
	IC card unit is dirty.	Contact your supplier
	IC card unit is broken.	Clear out the foreigner matter (see Sec. 7).
The operation of the ACTION button and SHOT SELECTOR are unsatisfactory.	Foreign matter has entered the reader/writer.	Adjust sound volume (see Sec. 7).

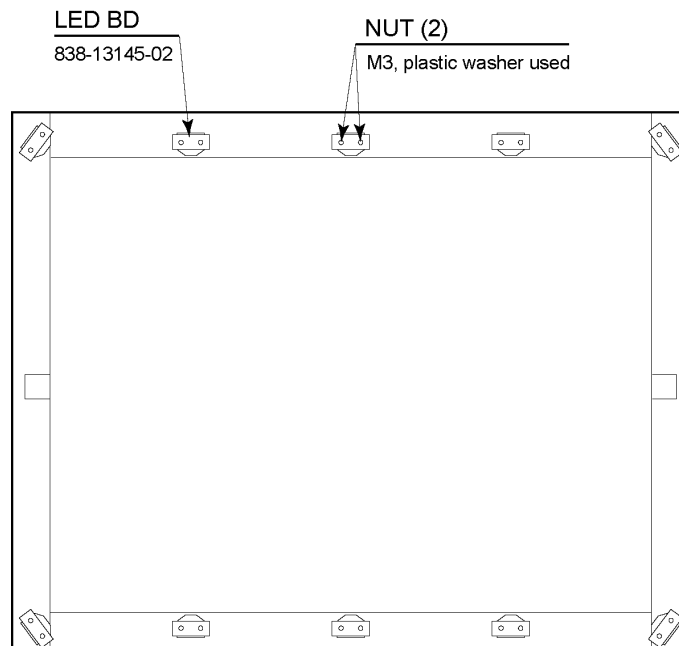
10.1.2.REPLACING THE LED BD

In case two of LEDs do not emit light, failure and malfunctioning may be considered. Replace in the following procedure. When removing surface soils, also use the following procedure.



Replace if the light emission
from the 2 LEDs cannot be seen

1. Turn the power off.
2. By referring to Section 3, demount the PTV from Cabinet DX.
3. By referring to Section 3, remove the Mask from the PTV.
4. The Mask has the LED Board. Disconnect the Connectors from both ends of LED Board, remove 2 U Nuts, take out and replace the LED Board. At this time, pay attention to the direction of the LED Board, and install it.
5. After replacing the LED Board, be sure to perform sighting check according to the test mode of Section 9.



10.2. 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
514-5078-6300	838-11856CE-02	5 X 20mm HBC SB 6.3A CERAMIC	1
514-5078-6300	EP1302	5 X 20mm HBC SB 6.3A CERAMIC	1
514-5078-3150	838-13616	5 X 20mm HBC SB 3.15A CERAMIC	2
514-5578-10A	560-5377-01UK	6.3 X 32mm HBC SB 10A CERAMIC	1

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

10.2.1.REPLACING THE GUN SENSOR FUSES



- Fuse replacements other than those specified can cause accidents and are strictly forbidden. In case fuse replacements other than those stated in this manual are necessary, contact where you purchased the product from for inquiries regarding this matter.
- To prevent accidents due to electrical shock, always turn the power off and disconnect the power plug from the power outlet before performing any task that involves touching the interior of the product.
- Be careful not to damage the wires. Damaged wires may cause electric shock, short circuit or present a risk of fire.
- Be sure to use fuses meeting the specified rating. Using fuses exceeding the specified rating can cause fire and electric shock accidents.
- After eliminating the cause of a blown fuse, replace the fuse. Depending on the cause of the fuse blow, continued use with the blown fuse can cause generation of heat and present a risk of fire.
- There is a risk of burns due to heat of the globe-shaped fluorescent light. Take the appropriate precautions when you are replacing the light.

1. Turn the power off.
2. Undo the 4 screws using the supplied L-wrench and remove the instruction panel.

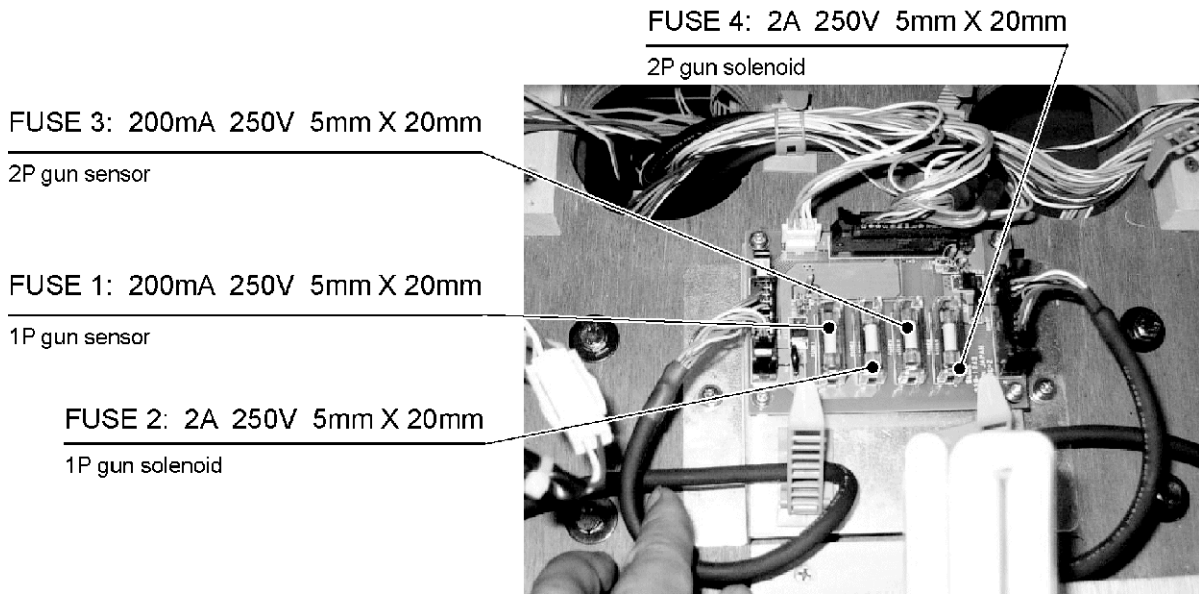
INSTRUCTION PANEL

HEXAGON SOCKET SCREW (4)

M5 X 10 special washer used



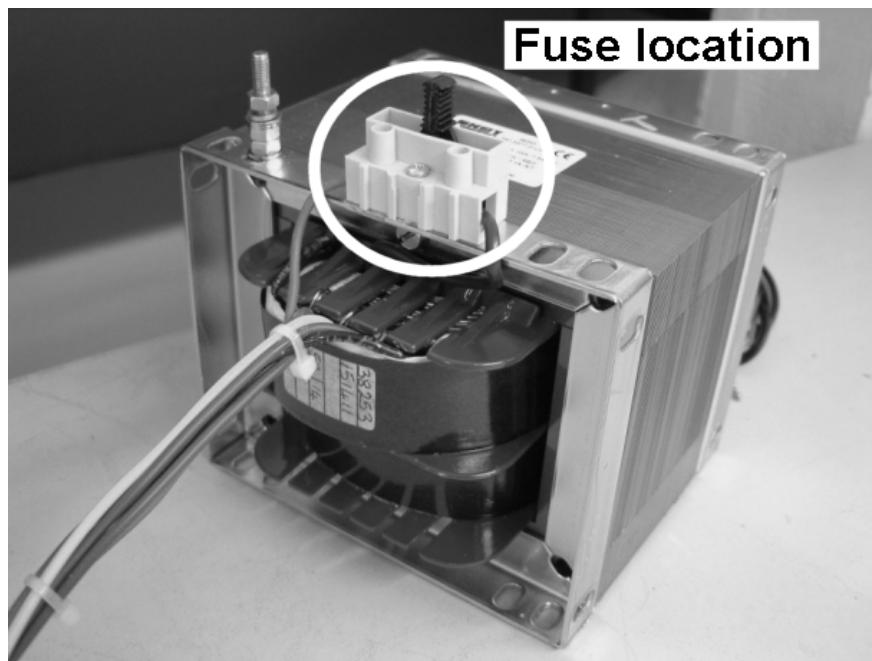
3. Replace the fuse. There are 200mA (for the sensors) and 2A (for the solenoids) fuses.



10.2.2.REPLACING THE MAIN FUSE

The main fuse is located on the main transformer (Part No 560-5377-01UK) inside the PTV Base.

Note: This can only be accessed by removing the PTV from the PTV Base.



The fuse is a 10Amp 250v (32mm x 6.3mm) Ceramic Fuse and must only be replaced with the same type

10.3. ERROR CODES



- If an error code is displayed, have a Location's Maintenance Man or Serviceman resolve it. If someone without specialized or technical knowledge attempts to rectify the problem, electric shock, short circuits or fire may result. If there is no store maintenance person or technician available, turn the power OFF immediately, and contact your retailer or the office listed in this manual.
- If problems other than those noted in this manual occur, or the countermeasures suggested result in no improvement, do not try to rectify the problem by other means. Turn the power OFF immediately, and contact your retailer or the office listed in this manual. Careless countermeasures can result in unexpected accidents.



- If error No. 20 is generated, the power must be turned OFF and ON again in order to clear it.
- When requesting replacement or repair of the Game Board or Media Board, put the board in the special purpose packing box specified in this manual for transportation.

Chihiro displays error messages on the screen to indicate various problems.

If an error message is displayed, the game cannot be started. In this case, refer to the following section on causes and countermeasures.

In the text for this product below, "Media Board" and "DIMM" are one and the same.

Error 02

[DISPLAY]

Error 02

[CAUSE]

Main board malfunctioning.

[COUNTERMEASURES]

MAIN BOARD is inoperative.

Verify that the MAIN BOARD is connected properly.

Error 03

[DISPLAY]

Error 03

[CAUSE]

Bad serial number on main board.

[COUNTERMEASURES]

Unable to read MAIN BOARD serial ID.

the MAIN BOARD for repair.

Disconnect the MEDIA BOARD from the MAIN BOARD and send

Error 04

[DISPLAY]

Error 04

[CAUSE]

Bad serial number on media board.

[COUNTERMEASURES]

Unable to read MEDIA BOARD serial ID.

the Chihiro for repair.

With the MEDIA BOARD still attached to the MAIN BOARD, send

Error 05

[DISPLAY]

Error 05

[CAUSE]

This game is not acceptable by main board.

[COUNTERMEASURES]

The game is a foreign edition.

Use the domestic version of the game.

Error 11

[DISPLAY]

[CAUSE]

[COUNTERMEASURES]

Error 11

JVS I/O board is not connected to main board.

(1)I/O BOARD is not connected.

(2)Unreliable connection between MAIN BOARD and I/O BOARD.

(1)Connect the I/O BOARD to the MAIN BOARD.

Verify that the power cable is connected to I/O BOARD.

(2)Reconnect or replace the JVS CABLE that connects the I/O BOARD to the MAIN BOARD.

Error 12

[DISPLAY]

[CAUSE]

[COUNTERMEASURES]

Error 12

JVS I/O board does not fulfil the game spec.

Correct I/O BOARD is not connected.

Use an I/O BOARD that provides the proper input/output for the game.

Error 14

[DISPLAY]

[CAUSE]

[COUNTERMEASURES]

Error 14

Network firmware version does not fulfil the game Spec.

Required version XX.XX.

The firmware version installed on either the NETWORK BOARD or the DIMM MEDIA BOARD is older than the required version.

Use a NETWORK BOARD or DIMM MEDIA BOARD with firmware that meets or exceeds the required version.

Error 21

[DISPLAY]

[CAUSE]

[COUNTERMEASURES]

Error 21

This game is not acceptable by main board.

Game data loaded from the GD-ROM to the DIMM BOARD is corrupted.

Verify the GD-ROM DRIVE and Chihiro connection.

Check the GD-ROM disc for scratches, dust or dirt.

Error 22

[DISPLAY]

[CAUSE]

[COUNTERMEASURES]

Error 22

Communication error occurred between main board and media board.

No response from DIMM BOARD to MAIN BOARD.

Ensure that the DIMM BOARD and the GD INTERFACE BOARD are properly connected.

Should the problem persist, the DIMM BOARD or GD INTERFACE BOARD may be damaged.

Error 23

[DISPLAY]

[CAUSE]

[COUNTERMEASURES]

Error 23

GD-ROM drive cover is open.

The GD-ROM DRIVE cover is open.

Ensure the GD-ROM DRIVE cover is firmly closed.

Error 24

[DISPLAY]

[CAUSE]

[COUNTERMEASURES]

Error 24

GD-ROM is not found.

GD-ROM disc is not found.

Insert the GD-ROM disc correctly.

Verify that the disc is a Chihiro GD-ROM disc.

Check the GD-ROM disc for scratches, dust or dirt.

Error 25

[DISPLAY]

[CAUSE]

[COUNTERMEASURES]

Error 25

Cannot access GD-ROM drive.

(1)Unable to access GD-ROM DRIVE.

(2)The GD-ROM DRIVE cover is open.

(1)Verify that the GD CABLE and the power cable are properly connected to the GD-ROM DRIVE.

(2)Close the GD-ROM cover securely.

Should the problem persist, the GD-ROM DRIVE may be damaged.

Error 26

[DISPLAY]

[CAUSE]

[COUNTERMEASURES]

Error 26

Media board malfunctioning.

KEY CHIP is not found.

Attach the proper KEY CHIP for the game.

Insert the KEY CHIP securely.

Error 27

[DISPLAY]

[CAUSE]

[COUNTERMEASURES]

Error 27

DIMM memory is not enough.

(1)Insufficient DIMM MEMORY on DIMM BOARD.

(2)DIMM MEMORY is not connected securely.

(1)Provide a suitable amount of DIMM MEMORY for the software.

(2)Verify that the DIMM MEMORY is connected securely to the DIMM BOARD.

Error 31

[DISPLAY]

[CAUSE]

BOARD

[COUNTERMEASURES]

Error 31

This game is not acceptable by main board.

The game has not been downloaded into the DIMM MEDIA

from the Server (Hub).

Check the connection between the Server (Hub) and the Chihiro.

Make sure that the TEST MODE in the NETWORK SETTING is suitable for the game.

Restart the main power first, and then restart the satellite power once the game appears on the main screen.

Attach the proper KEY CHIP for the game.

Check the internal DIMM BOARD battery is functioning correctly.

Should the problem persist, either the network equipment, the DIMM MEDIA BOARD, or the Server (Hub) may be damaged.

Error 32

[DISPLAY]

[CAUSE]

[COUNTERMEASURES]

DIMM BOARD.

Error 32

DIMM memory is not enough.

(1)Insufficient DIMM MEMORY on DIMM MEDIA BOARD.

(2)DIMM MEMORY is not connected securely.

(1)Provide a suitable amount of DIMM MEMORY for the software.

(2)Verify that the DIMM MEMORY is connected securely to the

Error 33

[DISPLAY]

[CAUSE]

[COUNTERMEASURES]

Error 33

Gateway is not found.

The Server (Hub) is not found.

Check the power of the Server (Hub).

Check the NETWORK SETTING for the Chihiro.

Attach the proper KEY CHIP for the game.

Check the connection between the Server (Hub) and the Chihiro.

Should the problem persist, the Server (Hub) may be damaged.

Error 34

[DISPLAY]

[CAUSE]

[COUNTERMEASURES]

Error 34

Gateway cannot be found.

No connection to the Server (Hub) at startup.

Check the connection between the Server (Hub) and the Chihiro.

Caution 51

[DISPLAY]

[CAUSE]

[COUNTERMEASURES]

Caution 51

Wrong video output setting of horizontal scanning frequency.

The game does not support horizontal sync frequency setting.

Change the DIPSW correctly on the CONNECTOR BOARD.

The monitor must support these frequencies.

Caution 52

[DISPLAY]

[CAUSE]

[COUNTERMEASURES]

Caution 52

Wrong video output setting of horizontal/vertical screen.

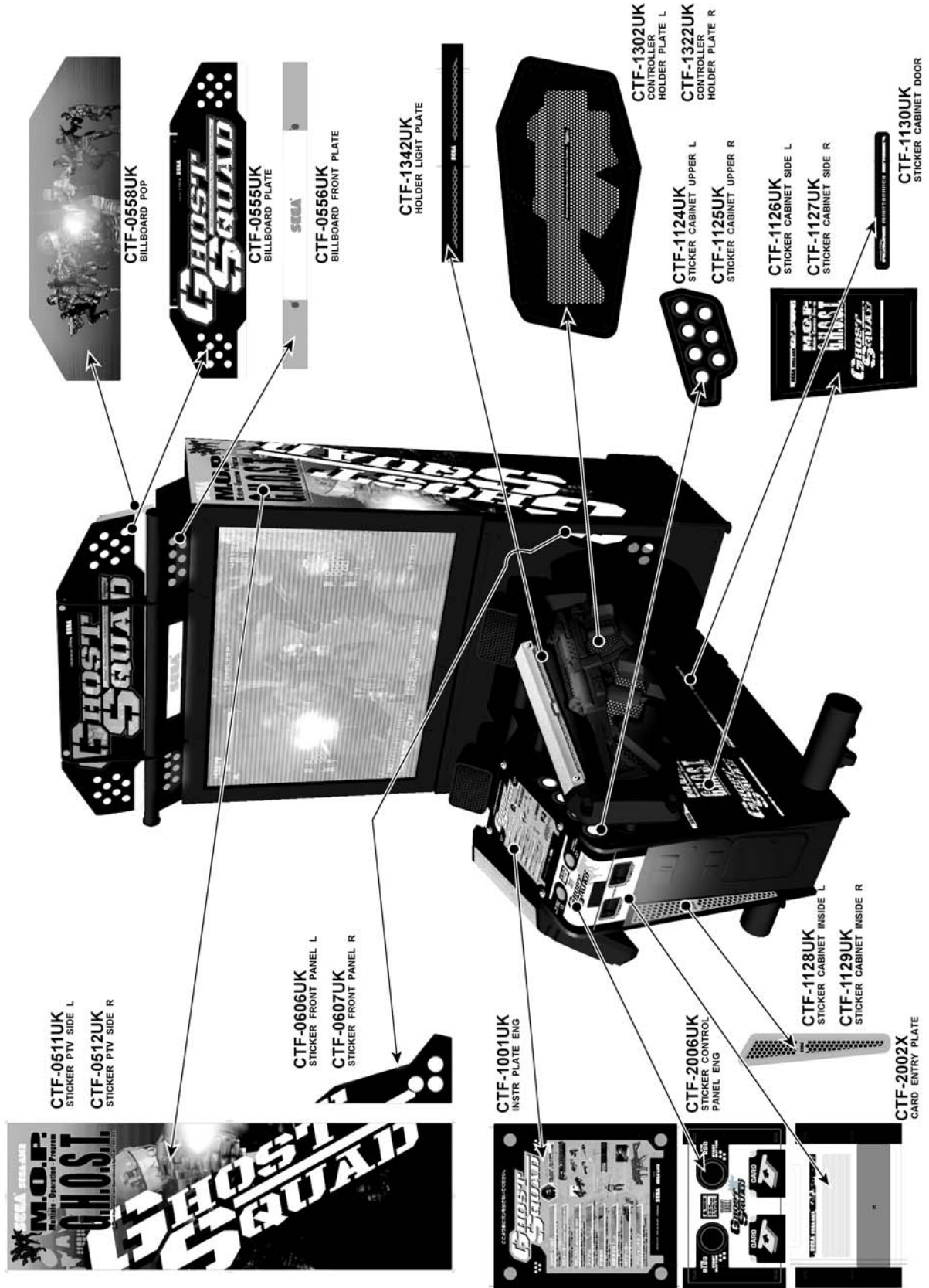
The game does not support the vertical/horizontal screen settings.

Change the No. 1 DIPSW on the CONNECTOR BOARD.

ON is for vertically placed monitor screens, OFF is for horizontally placed monitor screens.

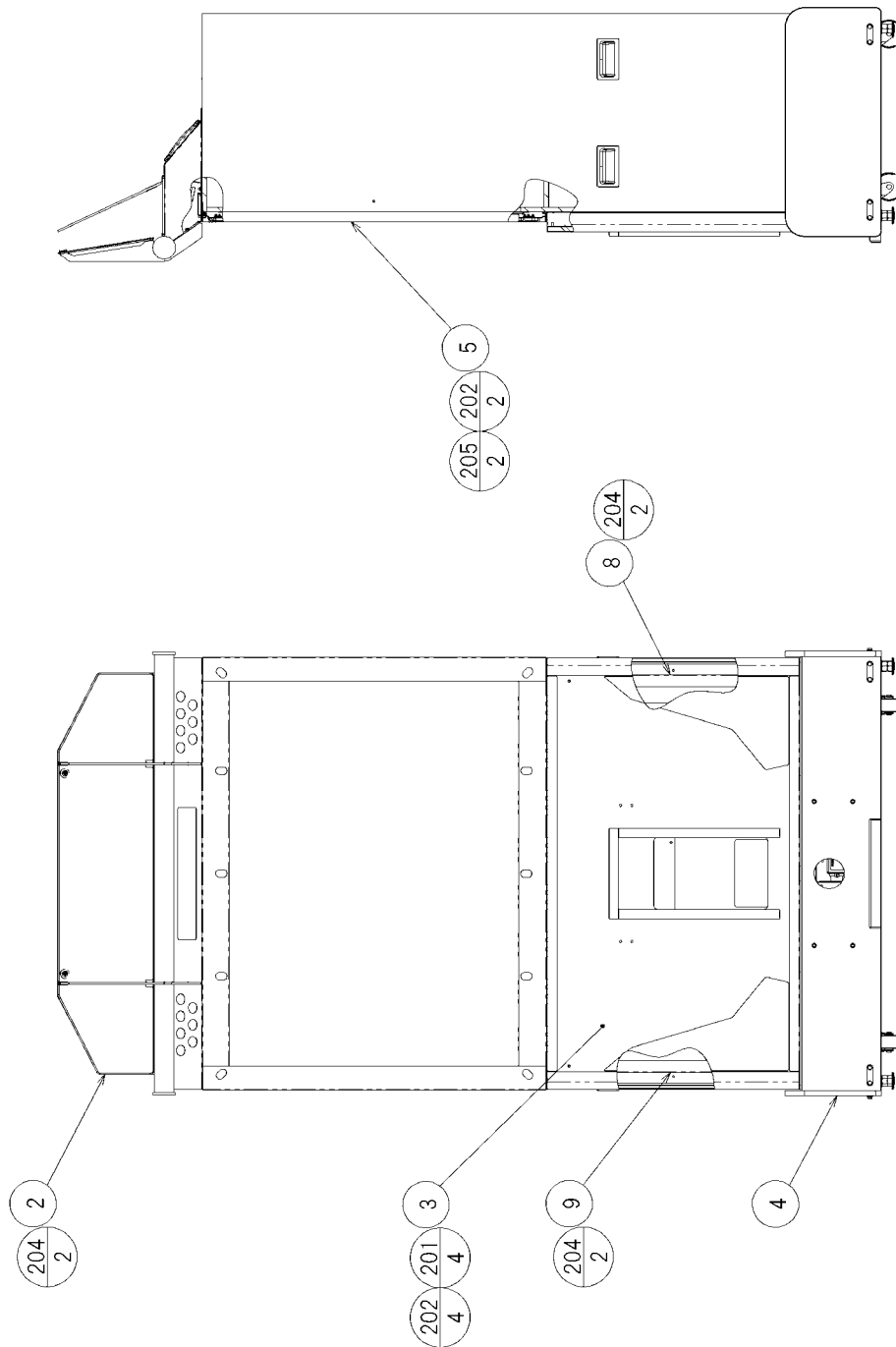
Change the monitor placement from vertical to horizontal or vice versa if necessary.

11. DESIGN RELATED PARTS



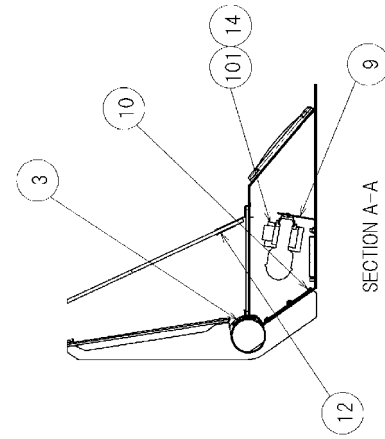
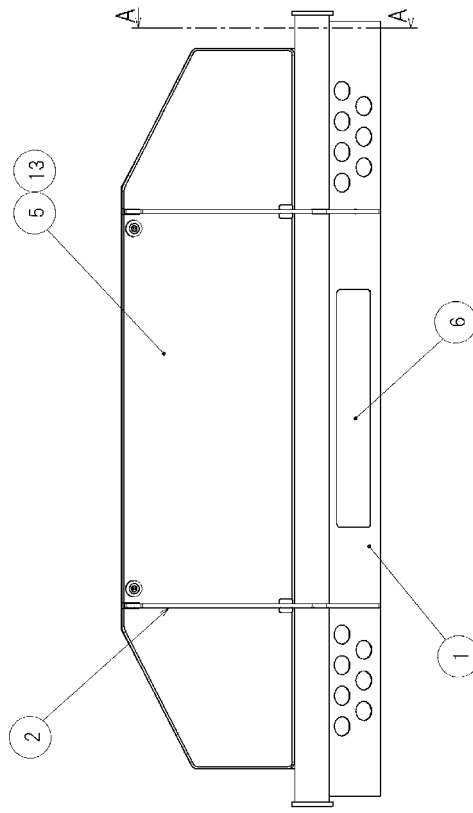
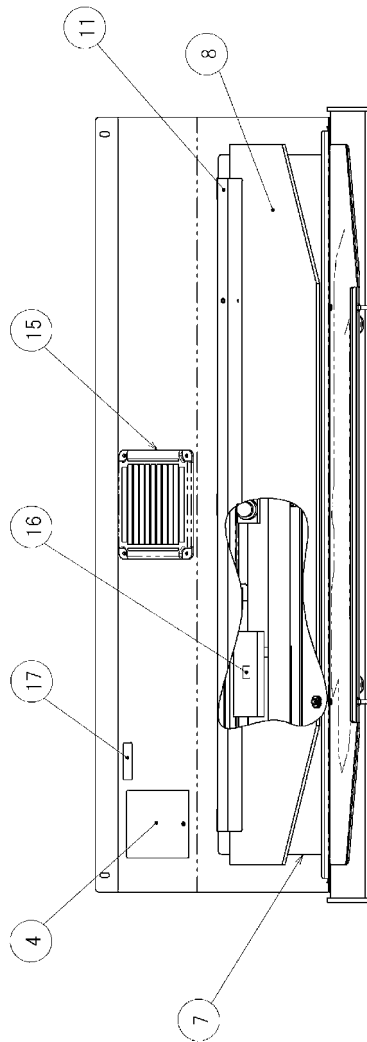
12. PARTS LIST

12.1. ASSY PTV (CTF-0500)UK



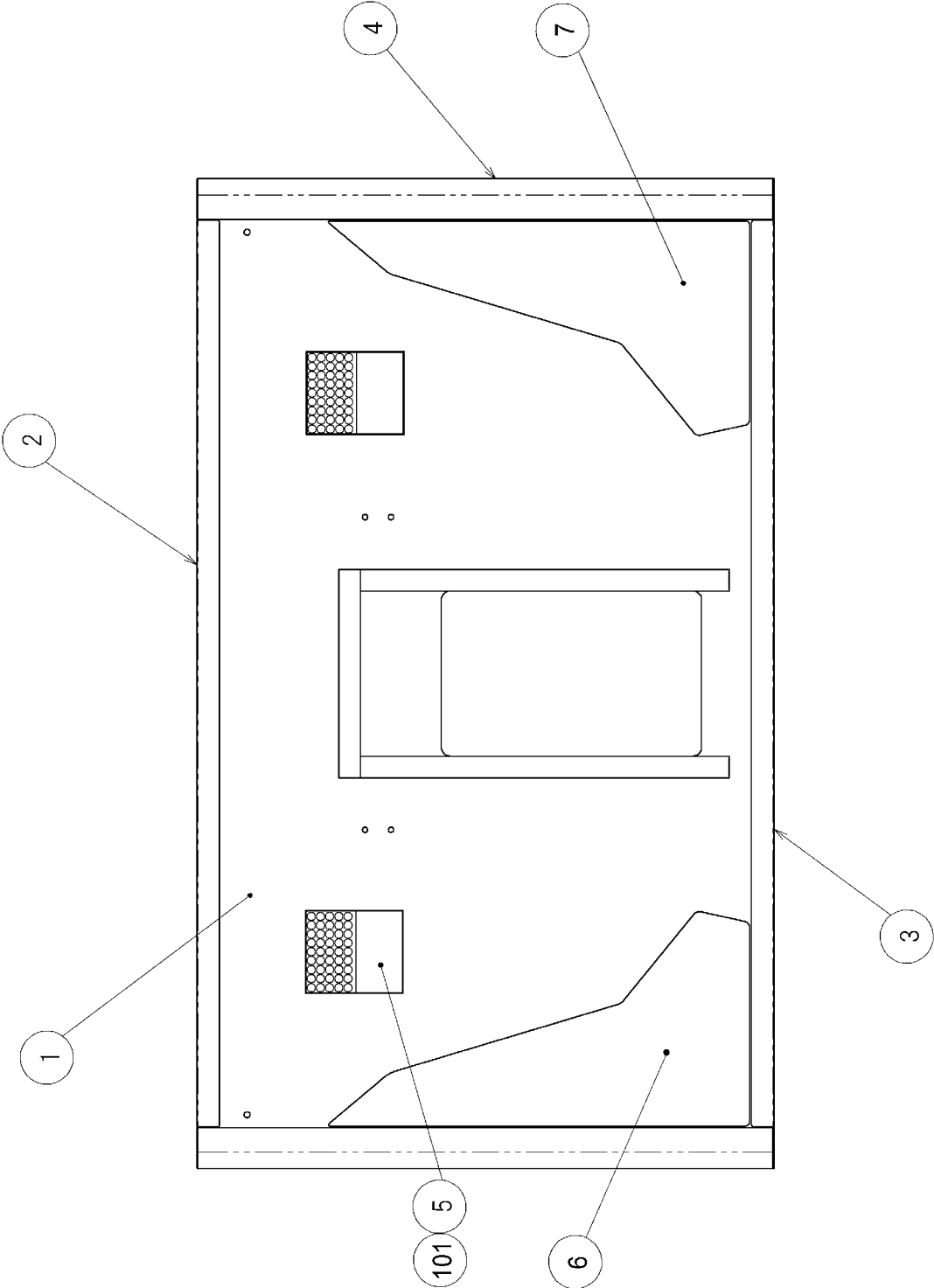
ITEM	PART NO.	QTY	DESCRIPTION	COMPONENT REF.
2	CTF-0550UK		ASSY BILLBOARD DX	
3	CTF-0600UK		ASSY FRONT PANEL	
4	CTF-0650UK		ASSY PTV BASE	
5	SPX-0530		ASSY MASK	
8	DYN-0501		PANEL MOUNT BRKT L	
9	DYN-0502		PANEL MOUNT BRKT R	
201	000-T00520-0B		M SCR TH BLK M5x20	
202	068-552016-0B		FLT WSHR BLK 5.5-20x1.6	
205	000-T00525-0B		M SCR TH BLK M5x25	

12.2. ASSY BILLBOARD DX (CTF-0550UK)



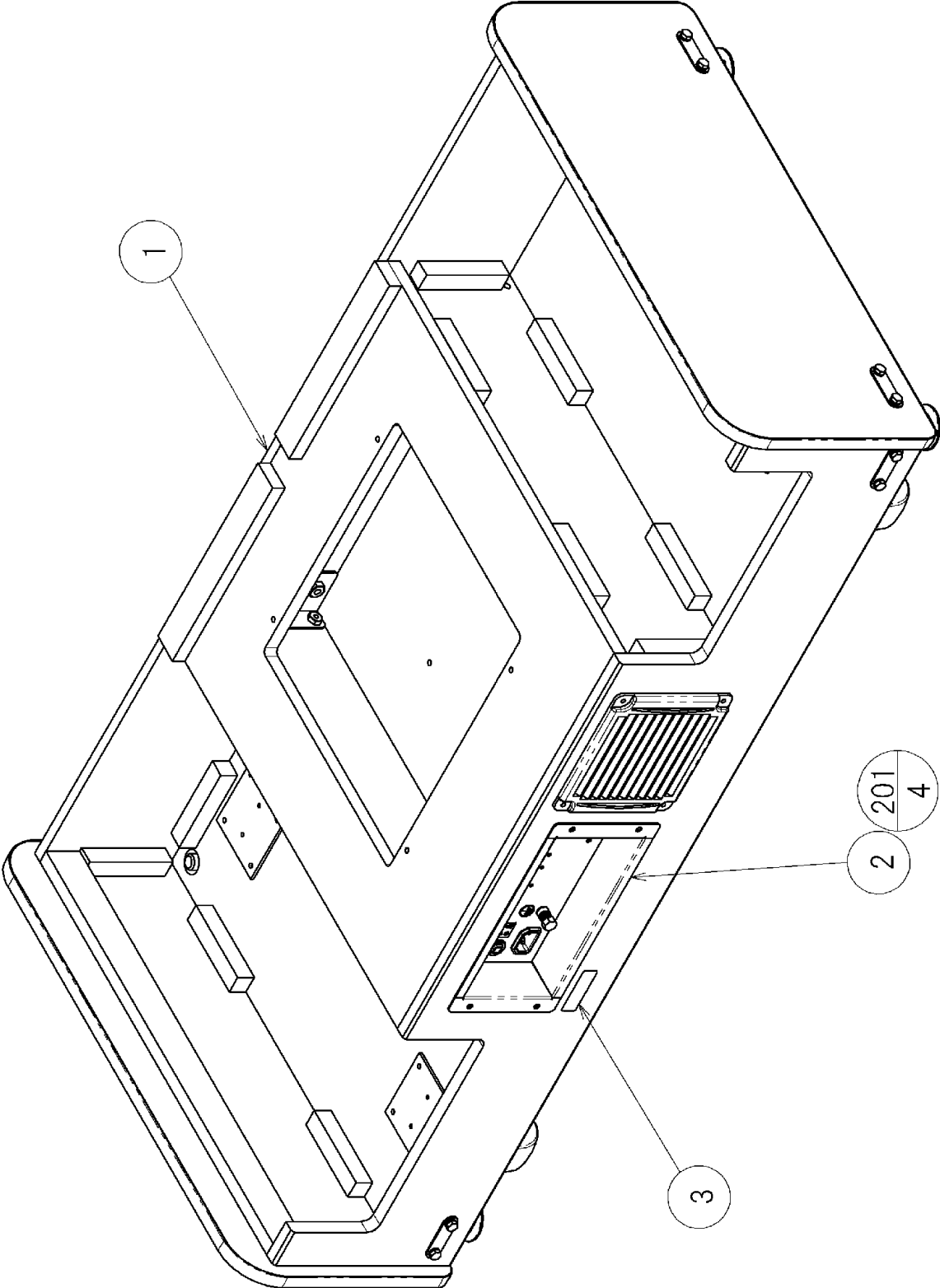
ITEM	PART NO.	QTY	DESCRIPTION	COMPONENT REF.
1	CTF-0551UK		BILLBOARD BOX	
2	CTF-0552UK		BILLBOARD STAY	
3	CTF-0553UK		BILLBOARD STAY HOLDER	
4	CTF-0554UK		CONNECTOR LID	
5	CTF-0555UK		BILLBOARD PLATE	artwork
6	CTF-0556UK		BILLBOARD FRONT PLATE	artwork
7	CTF-0557UK		BILLBOARD LID	Clear perspex
8	CTF-0558UK		BILLBOARD POP	artwork
9	CTF-0559UK		BILLBOARD FL BRKT	
10	CTF-0560UK		FRONT PLATE SASH	
11	CTF-0561UK		POP BRKT	
12	CTF-0562UK		POP HOLDER	
13	CTF-1002UK		WASHER CTF	
15	253-5460-01		AIR VENT BLACK	
16	LB1119		STICKER 100W 30W	was 421-7501-18 soj version
17	LB1104		STICKER CAUTION, HOT SURFACE	new item
18	LB1102		STICKER DANGER VOLTAGE	new item
101	390-5695-30-AUK		FL TRAY 100V 30W	was 390-6659-32EX soj version
102	LT1014		TUBE FL 30W 36" DIA 25MM	NEW ITEM
205	FAS-290034		M5X15 LH CAP SCR STN	(2)-2
206	000-T00408		M4X8 MSCR CSK PAS	(3)-4
207	000-T00410-OB		M4X10 MSCR TH BLK	(2)-6, (4)-1,(7)-2, (9)-2, (11)-5, (12)-3
208	068-441616-OB		M4 WSHR 160D FLT BLK	(2)-2
210	050-F00400		M4 FLANGE NUT	(10)-3, (2)-2
301	CTF-60035UK		WH FL BILLBOARD	

12.3. ASSY FRONT PANEL(CTF-0600UK)



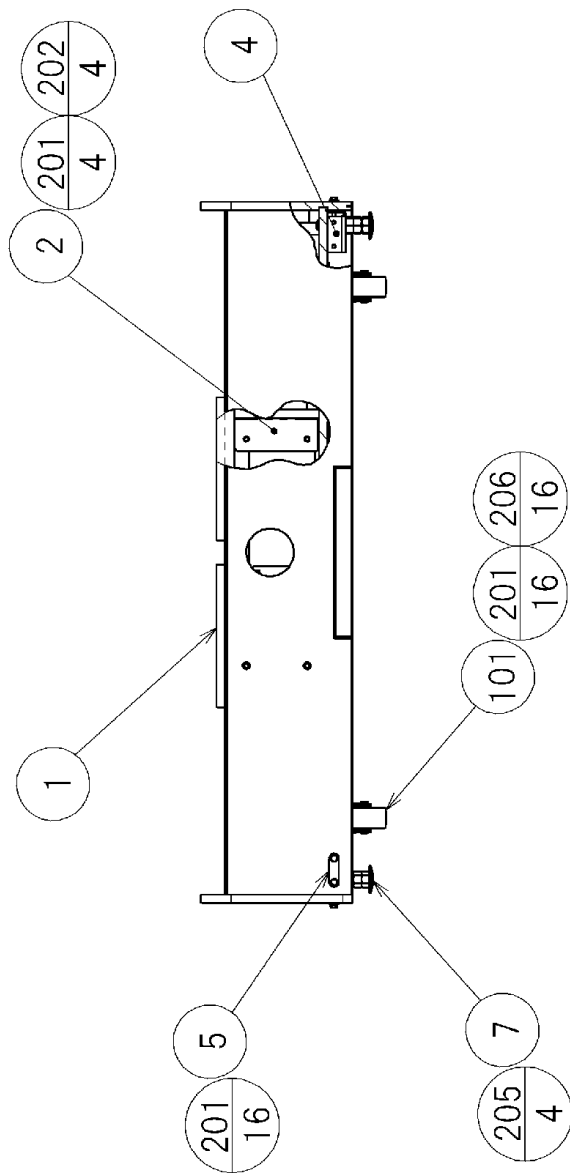
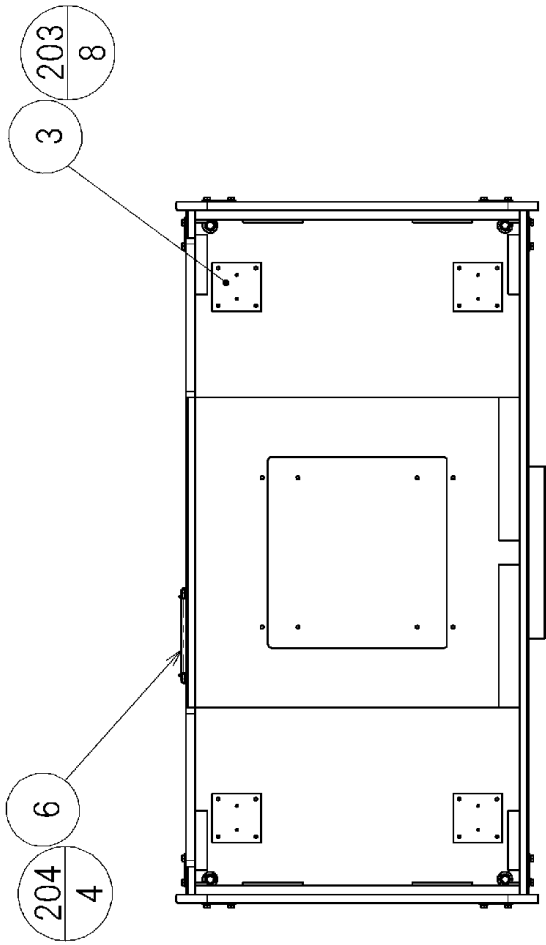
ITEM	PART NO.	QTY	DESCRIPTION	COMPONENT REF.
1	CTF-0601-01UK		FRONT PANEL	
2	CTF-0602UK		PANEL BRKT UPPER	
3	CTF-0603UK		PANEL BRKT LOWER	
4	EZT-0603UK		SIDE BRKT	
5	CTF-0604UK		SPEAKER BOX PTV	
6	CTF-0606UK		STICKER FRONT PANEL L	
7	CTF-0607UK		STICKER FRONT PANEL R	
101	130-5205		SPEAKER 10W 100 W/SHIELD	

12.4. ASSY PTV BASE (CTF-0650UK)



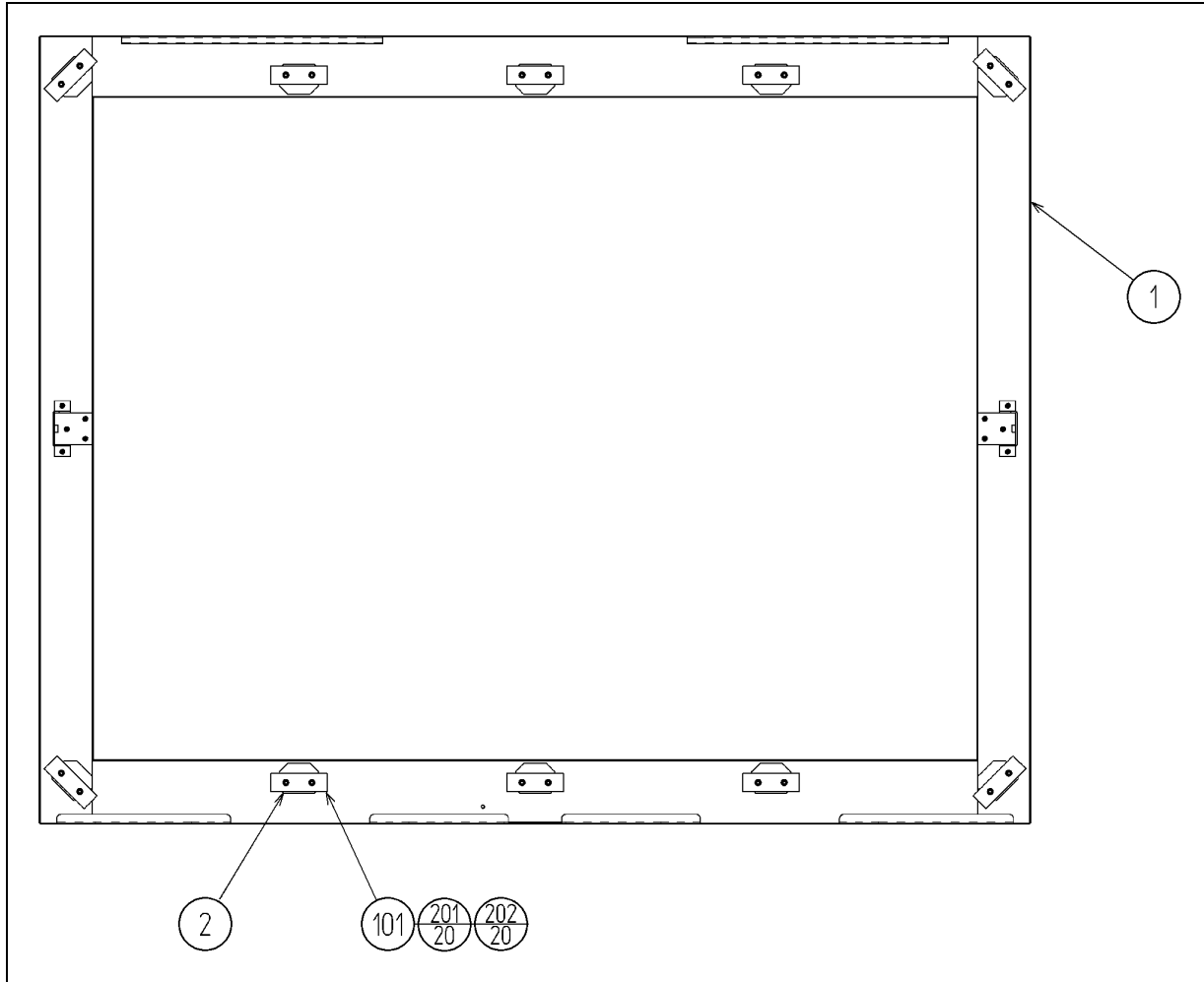
ITEM	PART NO.	QTY	DESCRIPTION	COMPONENT REF.
1	CTF-0660UK		ASSY SUB PTV BASE	
2	CTF-0670UK		AC UNIT	
201	000-T00420-0B		M SCR TH BLK M4x20	
/	000-P00430-S		M SCR PH W/S M4x30	
/	068-441616		FLT WSHR 4.4-16x1.6	

12.5. ASSY SUB PTV BASE (CTF-0660UK)



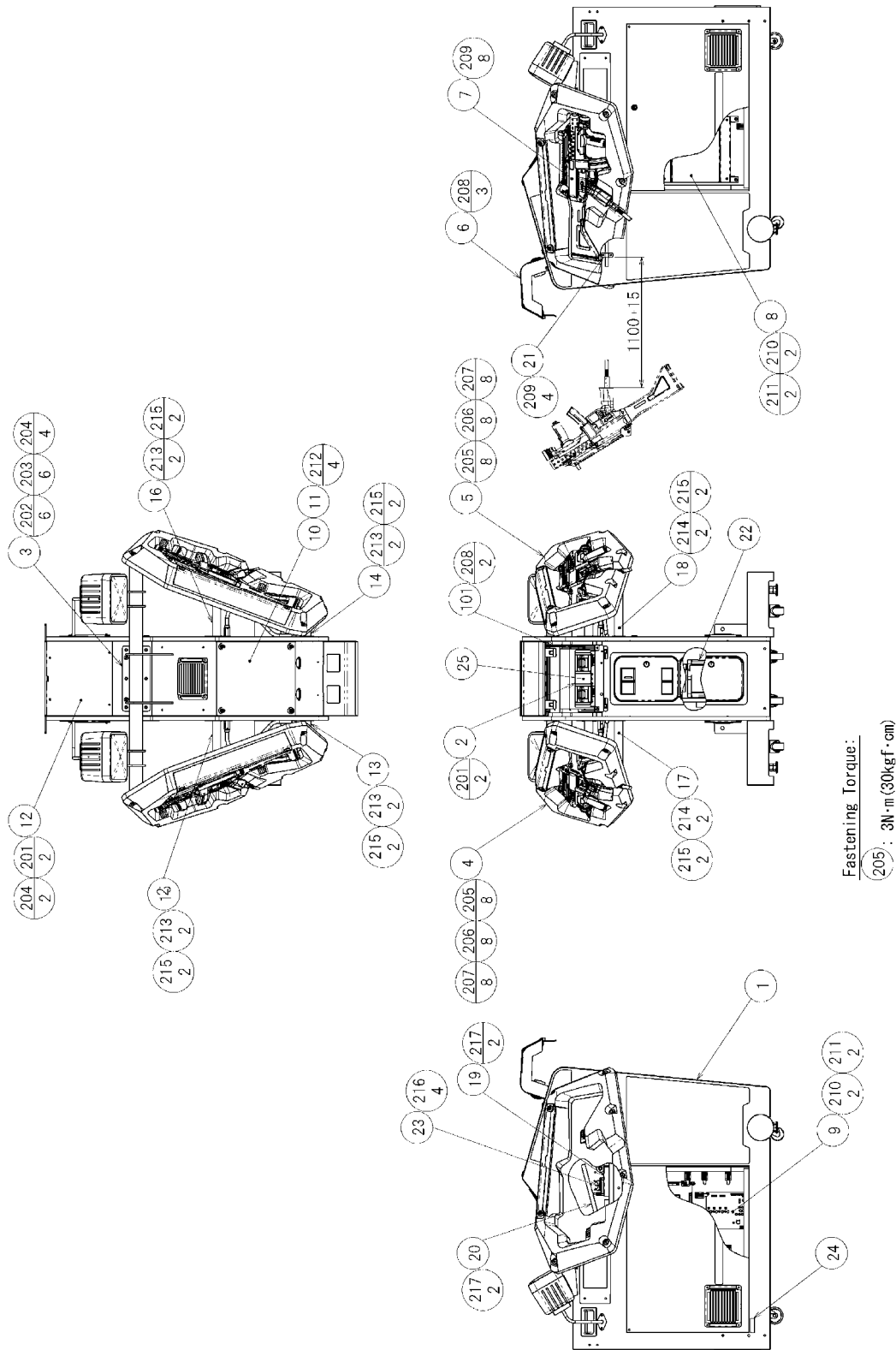
ITEM	PART NO.	QTY	DESCRIPTION	COMPONENT REF.
1	CTF-0661UK		PTV BASE	
2	CTF-0662UK		BASE NUT BRKT	
3	SCR-1008UK		NUT PLATE FOR CASTER	
4	ARC-1006UK		LEG BRACKET	
5	117-5233		PLATE LEG BRACKET BLACK	
6	253-5460-01		AIR VENT BLACK	
7	601-5699X		LEG ADJUSTER BOLT M16x75	
101	601-6224		CASTER 75	
101	601-9377		CASTER FAI=75	
102	280-5009-01		CORD CLAMP 21	
201	030-000630-SB		HEX BLT BLK W/S M6x30	
202	068-652016		FLT WSHR 6.5-20x1.6	
203	011-T03512		TAP SCR TH 3.5x12	
204	000-T00420-0B		M SCR TH BLK M4x20	
205	050-H01600-0B		HEX NUT BLK M16	
206	060-F00600		FLT WSHR M6	
207	011-F00312		TAP SCR #1 FH 3x12	

12.6. 8.4. SPX-0530UK ASSY MASK



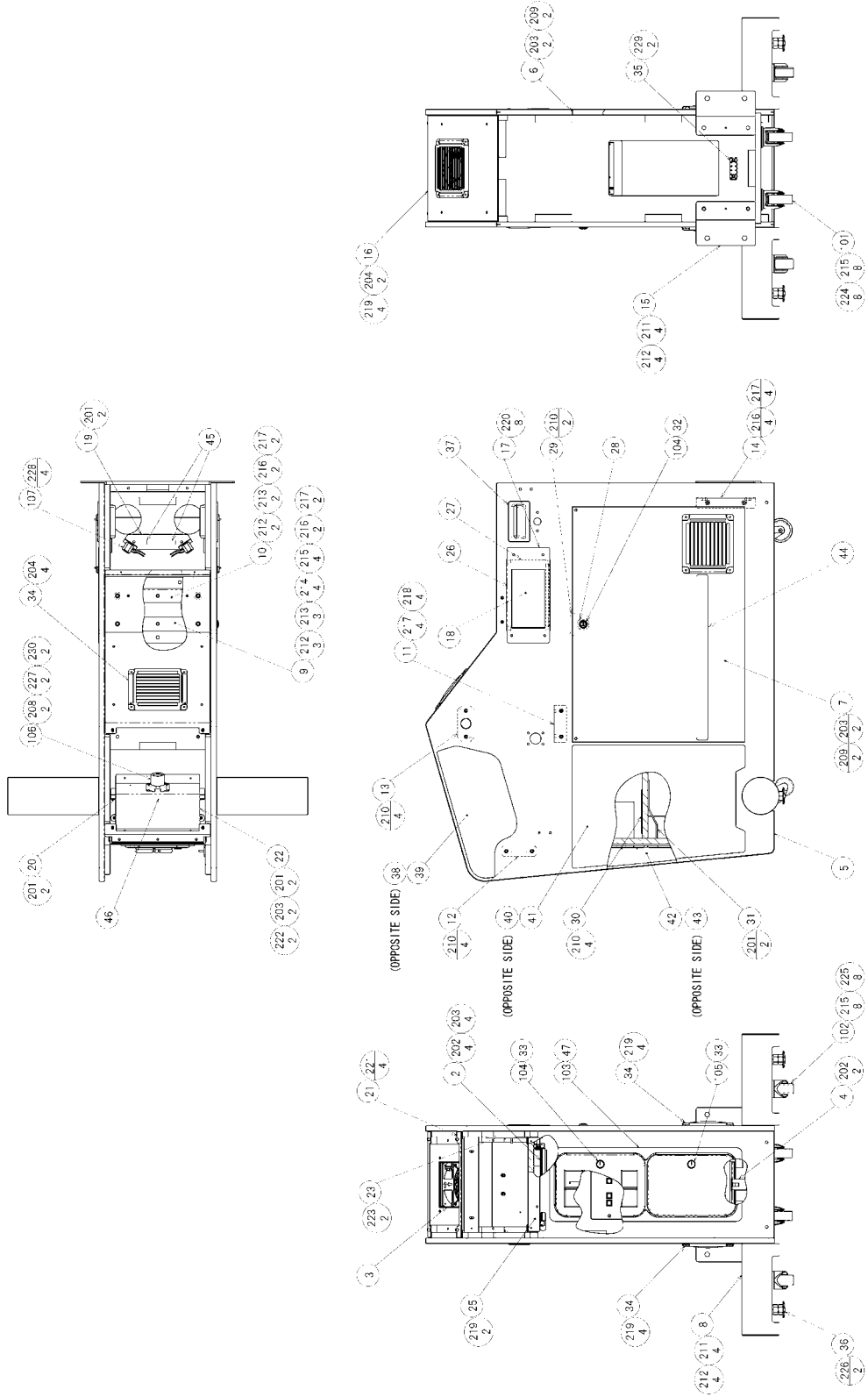
ITEM	PART NUMBER	QTY	DESCRIPTION	COMPONENT REF
1	HOD-1151	1	MASK BASE	
2	JPT-1082	10	IR COVER	
101	838-13145-02	10	LED BD GUN SENSE HOD	
201	050-U00300	20	M3 NUT NYLOK PAS	(101)-20
202	068-330808-PN	20	M3 WSHR 8OD FLT NYLON	(101)-20
203	050-F00400	1	M4 NUT FLG SER PAS	EARTH-1
301	SPY-60024	7	WIRE HARN 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

12.7. ASSY CABINET DX (CTF-1000)



ITEM	PART NO.	QTY	DESCRIPTION	COMPONENT REF.
1	CTF-1100UK		ASSY SUB CABI DX	
2	CTF-1150		IC RW UNIT	
3	CTF-1200-01UK		ASSY SPEAKER PIPE	
4	CTF-1300UK		ASSY CONTROLLER HOLDER L	
5	CTF-1320UK		ASSY CONTROLLER HOLDER R	
6	CTF-2000UK		ASSY CONTROL PANEL	
7	CTF-2100		CONTROL UNIT	
8	CTF-4000UK		ASSY MAIN BD	
9	CTF-4100UK		ASSY ELEC	
10	CTF-1001UK		INSTR PLATE ENG	
11	CTF-1002UK		WASHER CTF	
12	CTF-1003UK		LAMP LID	
13	CTF-1004UK		JOINT PIPE FRONT L	
14	CTF-1005UK		JOINT PIPE FRONT R	
15	CTF-1006UK		JOINT PIPE UPPER L	
16	CTF-1007UK		JOINT PIPE UPPER R	
17	CTF-1008UK		JOINT PIPE LOWER L	
18	CTF-1009UK		JOINT PIPE LOWER R	
19	CTF-1010UK		FUSE BD BRKT	
20	CTF-1011UK		FUSE BD COVER	
21	CPT-1017UK		CABLE CLAMP	
22	253-5366		CASH BOX	
23	839-1243		FUSE BD CTF	
25	421-11871-01		STICKER IC CARD RECOVERY ENG	
101	601-11440		STAY (SUGATSUNE L-140S)	
102	280-5169		CORD CLAMP TL-20S	
201	000-T00408-0B		M SCR TH BLK M4x8	
202	030-000820-SB		HEX BLT W/S BLK M8x20	
203	060-F00800-0B		FLT WSHR BLK M8	
204	000-T00420-0B		M SCR TH BLK M4x20	
205	FAS-500015		CAP NUT BLK M6	
206	060-S00600-0B		SPR WSHR BLK M6	
207	060-F00600-0B		FLT WSHR BLK M6	
208	050-F00400		FLG NUT M4	
209	000-T00420-0C		M SCR TH CRM M4x20	
210	032-000430		WING BLT M4x30	
211	068-441616		FLT WSHR 4.4-16x1.6	
212	FAS-290038		HEX SKT LH CAP SCR STN M5x10	
213	030-000630-SB		HEX BLT BLK W/S M6x30	
214	030-000645-SB		HEX BLT W/S BLK M6x45	
215	060-F00600-0B		FLT WSHR BLK M6	
216	000-P00320-W		M SCR PH W/FS M3x20	
217	000-P00420-W		M SCR PH W/FS M4x20	
218	000-P00408		M SCR PH M4x8	
219	050-H00400		HEX NUT M4	
220	060-S00400		SPR WSHR M4	
221	060-F00400		FLT WSHR M4	
301	CTF-60039-0120		WH 40K ID5 0120MM	

12.8. 13.7. ASSY SUB CABI DX (CTF-1100UK)

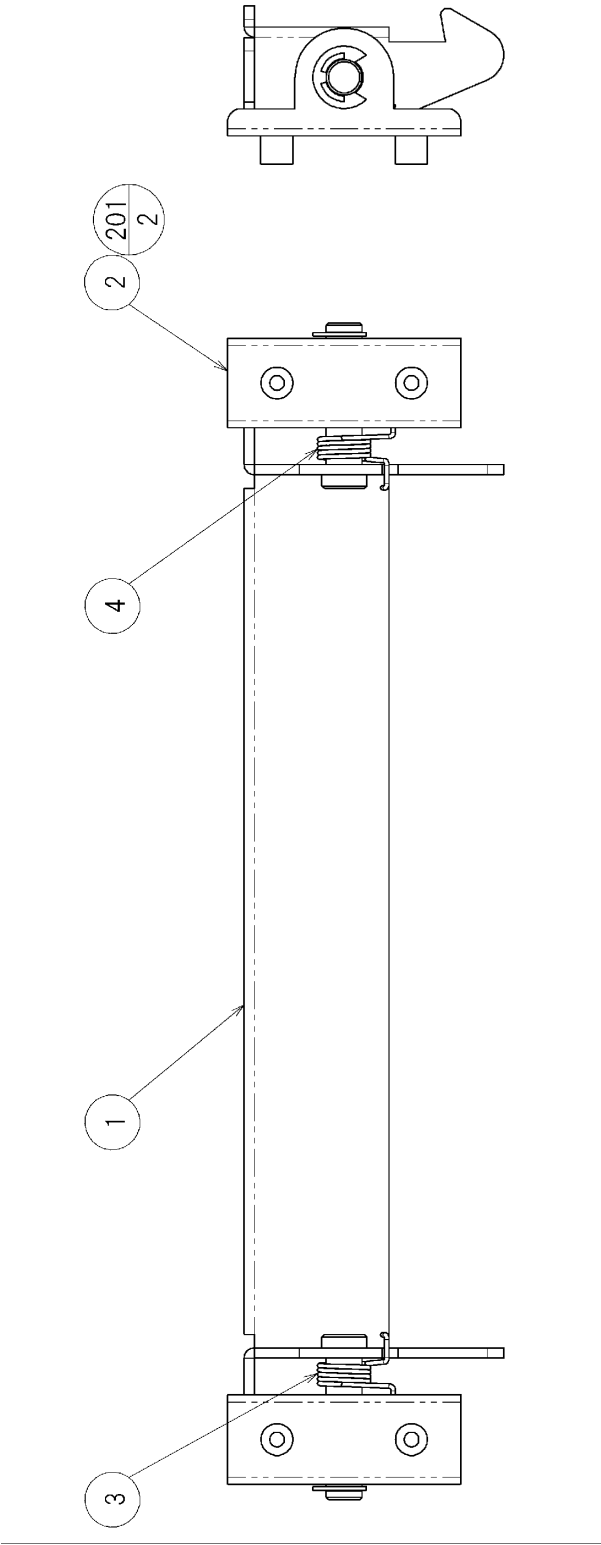


ITEM	PART NO.	QTY	DESCRIPTION	COMPONENT REF.
2	CTF-1170UK		ASSY LATCH	
3	STR-1070		FAN UNIT	
5	CTF-1101UK		CABINET DX	
6	CTF-1102UK		SIDE DOOR L	
7	CTF-1103UK		SIDE DOOR R	
8	CTF-1106UK		FOOT BASE	
9	CTF-1107UK		PIPE SUPPORT A	
10	CTF-1108UK		PIPE SUPPORT B	
11	CTF-1109UK		PIPE NUT BRKT	
12	CTF-1110UK		PIPE NUT PLATE A	
13	CTF-1111UK		PIPE NUT PLATE B	
14	CTF-1112UK		CORNER BRKT	
15	CTF-1113UK		JOINT BRKT LOWER	
16	CTF-1114UK		CABI TOP LID	
17	CTF-1115UK		GLASS HOLDER	
18	CTF-1116UK		LAMP GLASS	
20	CTF-1118UK		RW UNIT HOLDER	
21	CTF-1119UK		CONTROL PANEL HOLDER	
22	CTF-1120UK		PARTITION PLATE	
23	CTF-1121UK		STAY PLATE	
25	CTF-1123UK		RW NUT PLATE	
26	601-10562-0170		RUBBER PACKING NO.96 L=170MM	
27	601-10562-0095		RUBBER PACKING NO.96 L=95MM	
34	253-5460-01		AIR VENT BLACK	
35	CFB-4003UK		EARTH TERMINAL PLATE 12P	
36	601-5699X		LEG ADJUSTER BOLT M16X75	
37	253-5396-91		CABINET HANDLE	
38	CTF-1124UK		STICKER CABINET UPPER L	
39	CTF-1125UK		STICKER CABINET UPPER R	
40	CTF-1126UK		STICKER CABINET SIDE L	
41	CTF-1127UK		STICKER CABINET SIDE R	
42	CTF-1128UK		STICKER CABINET INSIDE L	
43	CTF-1129UK		STICKER CABINET INSIDE R	
44	CTF-1130UK		SICKER CABINET DOOR	
45	421-7501-34		STICKER 110V 40W	
46	421-7501-71		STICKER FL LAMP 13W	
47	421-7501-02		STICKER 6.3V 0.15A	
101	601-5471		CASTER	
102	601-6056-01		CASTER 50 PH	

ITEM	PART NO.	QTY	DESCRIPTION	COMPONENT REF.
104	220-5575		CAM LOCK MASTER W/O KEY	
105	220-5574		CAM LOCK W/KEYS	
106	214-0123		BULB SOCKET E-26 (ES-T250-E26)	
107	214-0199-04		SOCKET E11 W/CONN VL WH	
108	310-5029-F20		SUMITUBE F F 20MM	
109	280-5009-01		CORD CLAMP 21	
110	280-5275-SR10		CORD CLAMP SR10	
111	280-0419		HARNESS LUG	
201	000-P00420-W		M SCR PH W/FS M4x20	
202	000-P00412-W		M SCR PH W/FS M4x12	
203	068-441616-0B		FLT WSHR BLK 4.4-16x1.6	
204	000-T00408-0B		M SCR TH BLK M4x8	
205	000-P00408		M SCR PH M4x8	
206	050-H00400		HEX NUT M4	
207	060-S00400		SPR WSHR M4	
208	060-F00400		FLT WSHR M4	
209	000-T00440-0B		M SCR TH BLK M4x40	
210	011-T03512		TAP SCR TH 3.5x12	
211	030-000835-S		HEX BLT W/S M8x35	
212	060-F00800		FLT WSHR M8	
213	030-000825-S		HEX BLT W/S M8x25	
214	030-000635-S		HEX BLT W/S M6x35	
215	060-F00600		FLT WSHR M6	
216	030-000645-SB		HEX BLT W/S BLK M6x45	
217	068-652016-0B		FLT WSHR BLK 6.5-20x1.6	
218	030-000630-S		HEX BLT W/S M6x30	
219	000-T00420-0B		M SCR TH BLK M4x20	
220	000-T00416-0B		M SCR TH BLK M4x16	
221	000-F00412		M SCR FH M4x12	
222	000-P00408-W		M SCR PH W/FS M4x8	
223	000-F00416		M SCR FH M4x16	
224	030-000630-S		HEX BLT W/S M6x30	
225	030-000612-S		HEX BLT W/S M6x12	
226	050-H01600-0B		HEX NUT BLK M16	
227	000-P00430		M SCR PH M4x30	
228	000-P00308-S		M SCR PH W/S M3x8	
229	011-F03516		TAP SCR FH 3.5x16	
230	FAS-500009		KURATITE NUT M4	
231	011-F00312		TAP SCR #1 FH 3x12	

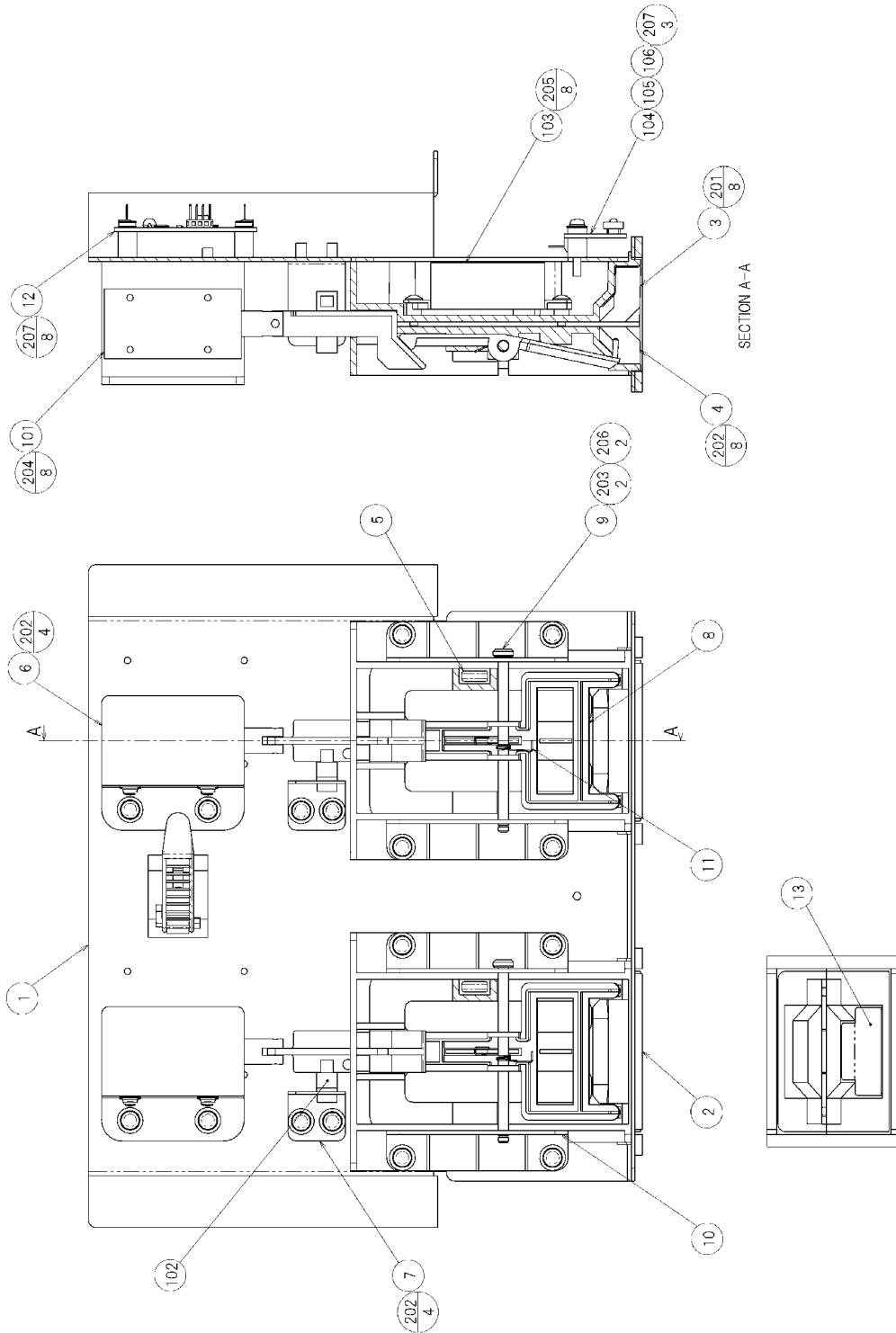
ITEM	PART NO.	QTY	DESCRIPTION	COMPONENT REF.
301	CTF-6001UK		ASSY WIRE SUBCABI AC	
302	CTF-6002UK		ASSY WIRE SUBCABI DC	
304	600-6972-0100		WIRE HARN EARTH ID5 0100MM	
305	600-6455-02		WIRE HARN C.C DOOR SINGLE	
307	CTF-60019UK		WH AC FAN	
308	CTF-60020UK		WH AC FL LAMP	
309	CTF-60034UK		WH COIN EXT	
310	CTF-60039-0120		WH 40K ID5 0120MM	
311	CTF-60039-0200		WH 40K ID5 0200MM	

12.9. ASSY LATCH (CTF-1170UK)



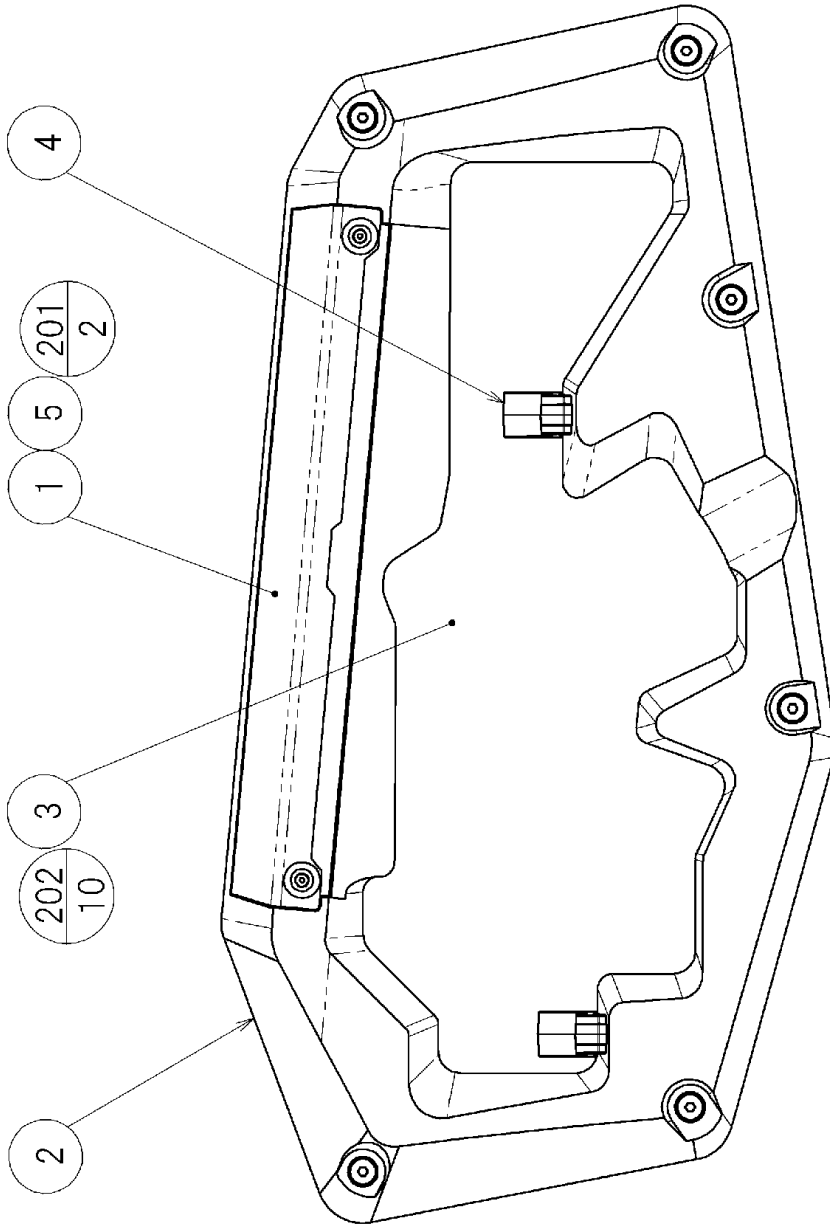
ITEM	PART NO.	QTY	DESCRIPTION	COMPONENT REF.
1	CTF-1171UK		LATCH	
2	CTF-1172UK		LATCH BRKT	
3	CTF-1173		LATCH SPRING L	
4	CTF-1174		LATCH SPRING R	
201	065-E00700		E RING 7MM	

12.10. ASSY RW UNIT (CTF-1150)



ITEM	PART NO.	QTY	DESCRIPTION	COMPONENT REF.
1	CTF-1151		RW BASE	
2	CTF-1152		CUSHION SPONGE RW	
3	TBA-1662		RW GUIDE LOWER	
4	TBA-1663		RW GUIDE UPPER	
5	CFB-1664		ROLLER	
6	CFB-1665		SOL BASE	
7	CFB-1666		SENSOR BRKT	
8	TBA-1667		LOCK ARM	
9	TBA-1668		SHAFT	
10	TBA-1669		SHAFT GUIDE	
11	125-5225		TOR SPRING LOCK ARM	
12	839-1204-02		SERIAL I/F BD CTF	
13	CTF-1153-01		STICKER IC CARD ENG	
101	610-0680		SOLENOID UNIT	
102	370-5161		PHOTO INTERRUPTER GP1A71A	
103	601-11132		IC CARD READER HW210 (TAMURA)	
104	838-14463		LED BAR BD GREEN	
105	280-5247		ONE TOUCH BUSHING	
106	280-5248-7.5		ONE TOUCH COLLOR M3 L=7.5	
107	280-5009-01		CORD CLAMP 21	
108	280-5275-SR10		CORD CLAMP SR10	
201	FAS-120001		TAP SCR #2 TH BLK 4x10	
202	000-P00410-W		M SCR PH W/FS M4x10	
203	060-F00400		FLT WSHR M4	
204	000-P00308-W		M SCR PH W/FS M3x8	
205	FAS-120017		TAP SCR #2 TH 3x6	
206	065-E00300		E RING 3MM	
207	000-P00320-W		M SCR PH W/FS M3x20	
301	CTF-60028		WH CARD RW 1	<Others>
	CTF-60028-01		WH CARD RW 1 W/FUSE	<Australia & Korea>
302	CTF-60029		WH CARD RW 2	

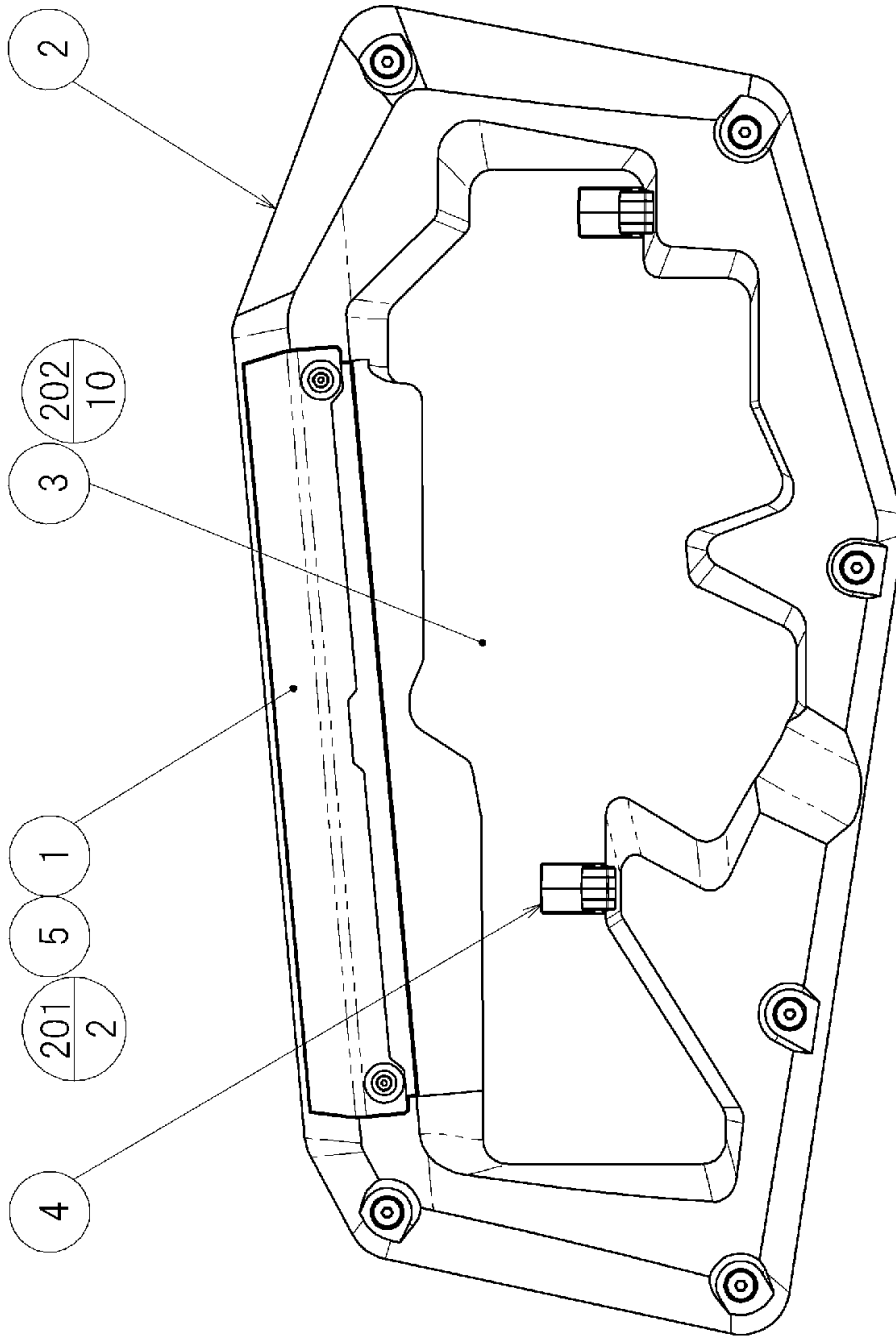
12.11. ASSY CONTROLLER HOLDER L (CTF-1300UK)



Note:
Fastening torque for item 201 is 1.4Nm (14Kgf cm)

ITEM	PART NO.	QTY	DESCRIPTION	COMPONENT REF.
1	CTF-1340UK		ASSY HOLDER LIGHT	
2	CTF-1301		CONTROLLER HOLDER L	
3	CTF-1302UK		CONTROLLER HOLDER PLATE L	
4	CTF-1303		CONTROLLER HOOK	
5	CTF-1002UK		WASHER CTF	
201	FAS-290037		HEX SKT LH CAP SCR STN M5x20	
202	FAS-120031		TAP SCR P-TITE TH BLK 4x16	

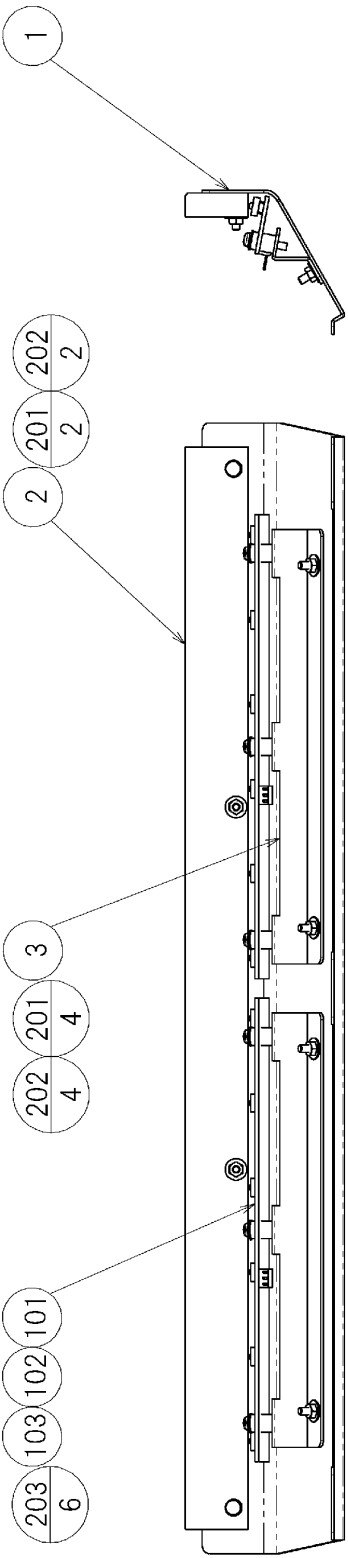
12.12. ASSY CONTROLLER HOLDER R (CTF-1320UK)



Note:
Fastening torque for item 201 is 1.4Nm (14Kgf cm)

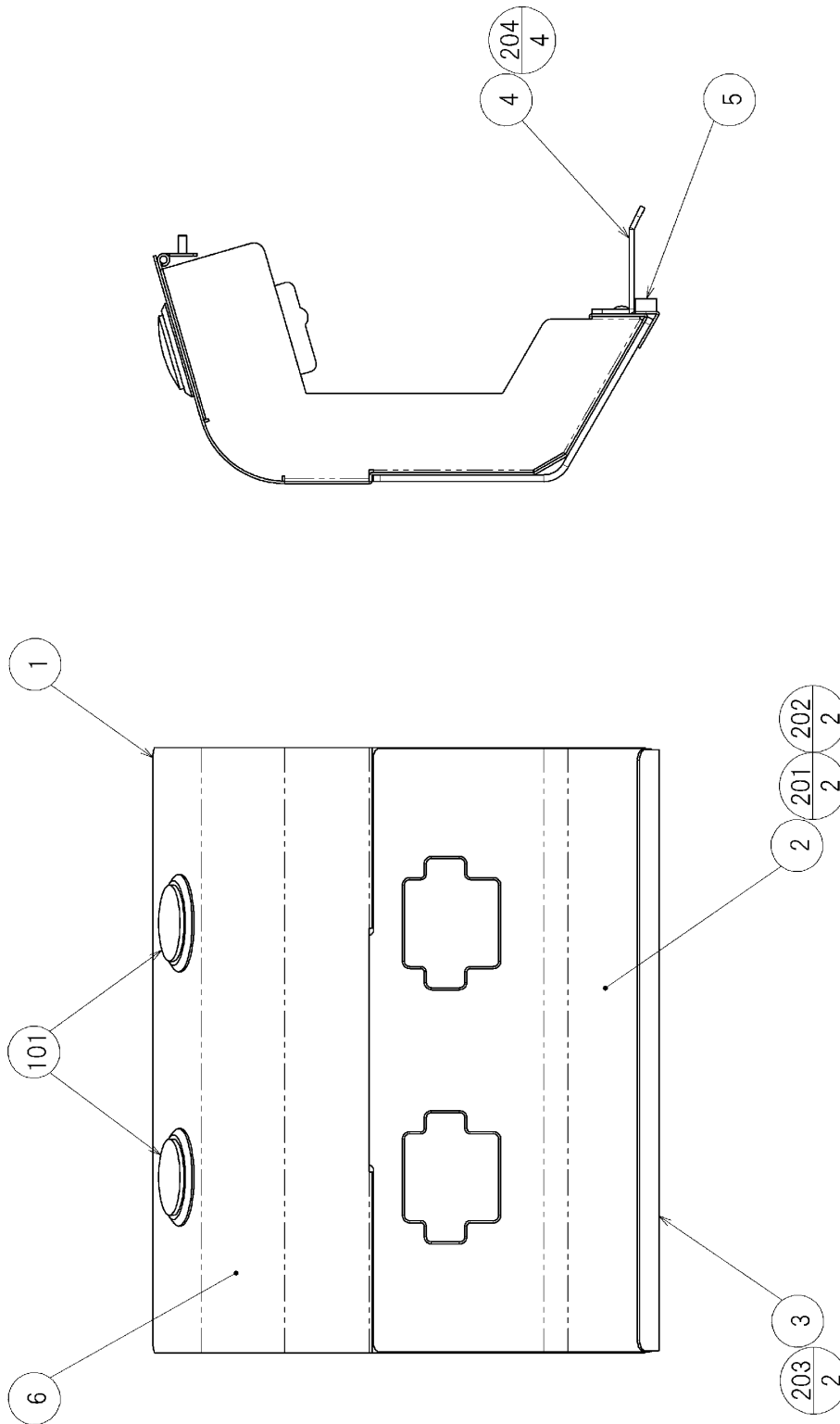
ITEM	PART NO.	QTY	DESCRIPTION	COMPONENT REF.
1	CTF-1340UK		ASSY HOLDER LIGHT	
2	CTF-1321		CONTROLLER HOLDER R	
3	CTF-1322UK		CONTROLLER HOLDER PLATE R	
4	CTF-1303		CONTROLLER HOOK	
5	CTF-1002UK		WASHER CTF	
201	FAS-290037		HEX SKT LH CAP SCR STN M5x20	
202	FAS-120031		TAP SCR P-TITE TH BLK 4x16	

12.13. ASSY HOLDER LIGHT (CTF-1340UK)



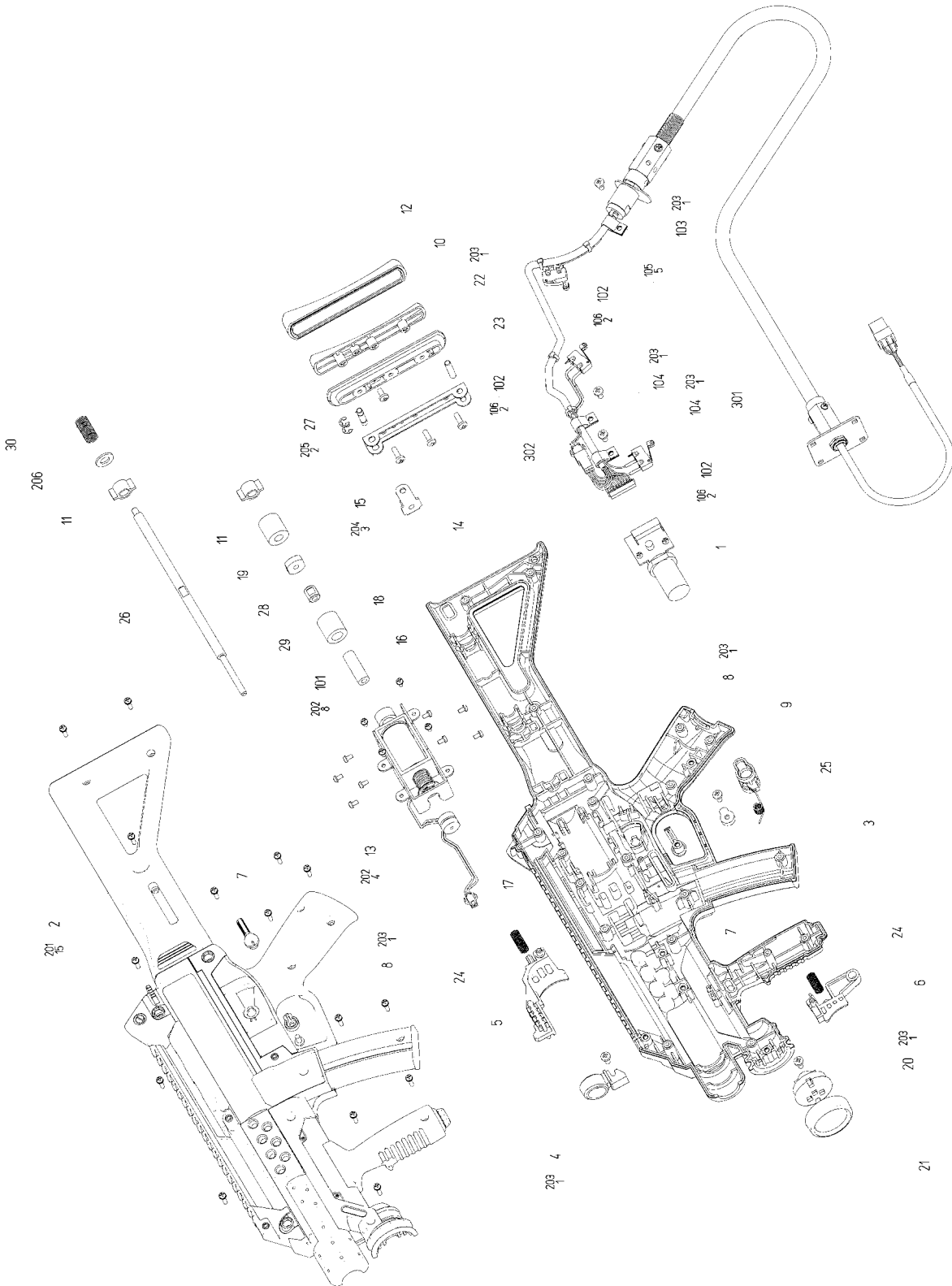
ITEM	PART NO.	QTY	DESCRIPTION	COMPONENT REF.
1	CTF-1341UK		HOLDER LIGHT COVER	
2	CTF-1342UK		HOLDER LIGHT PLATE	
3	CTF-1343UK		LED BD BRKT	
101	838-14463		LED BAR BD GREEN	
102	280-5247		ONE TOUCH BUSHING	KD
103	280-5248-5.7		ONE TOUCH COLLAR M3 L=5.7	KD
104	280-5275-SR10		CORD CLAMP SR10	
201	050-U00300		U NUT M3	
202	060-F00300		FLT WSHR M3	
203	000-P00316-W		M SCR PH W/FS M3x16	
301	CTF-60027		WH HOLDER LED	

12.14. ASSY CONTROL PANEL (CTF-2000UK)



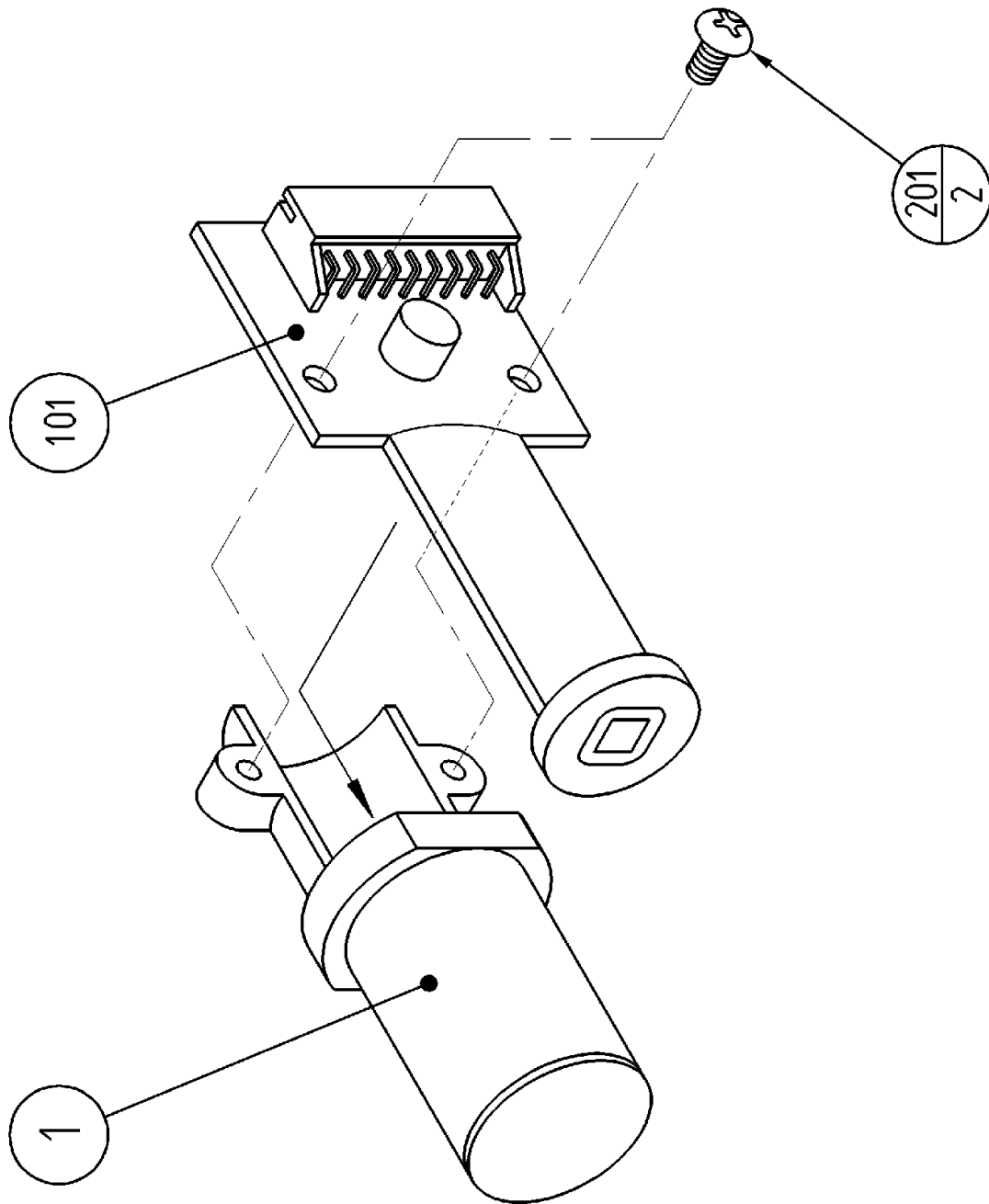
ITEM	PART NO.	QTY	DESCRIPTION	COMPONENT REF.
1	CTF-2001UK		CONTROL PANEL BASE	
2	CTF-2002X		CARD ENTRY PLATE	
3	CTF-2003UK		ENTRY PLATE SASH	
4	CTF-2004UK		LOCK BRKT	
5	CTF-2005		CUSHION SPONGE CONT PNL	
6	CTF-2006UK		STICKER CONTROL PANEL ENG	
101	509-6069		SW PB OBSA-45UM-G-1FLED-G-5V	
102	280-5009-01		CORD CLAMP 21	
201	050-F00400		FLG NUT M4	
202	068-441616		FLT WSHR 4.4-16x1.6	
203	000-T00408-0B		M SCR TH BLK M4x8	
204	000-F00408		M SCR FH M4x8	
301	CTF-60031		WH START SW	

12.15. CONTROL UNIT (CTF-2100)



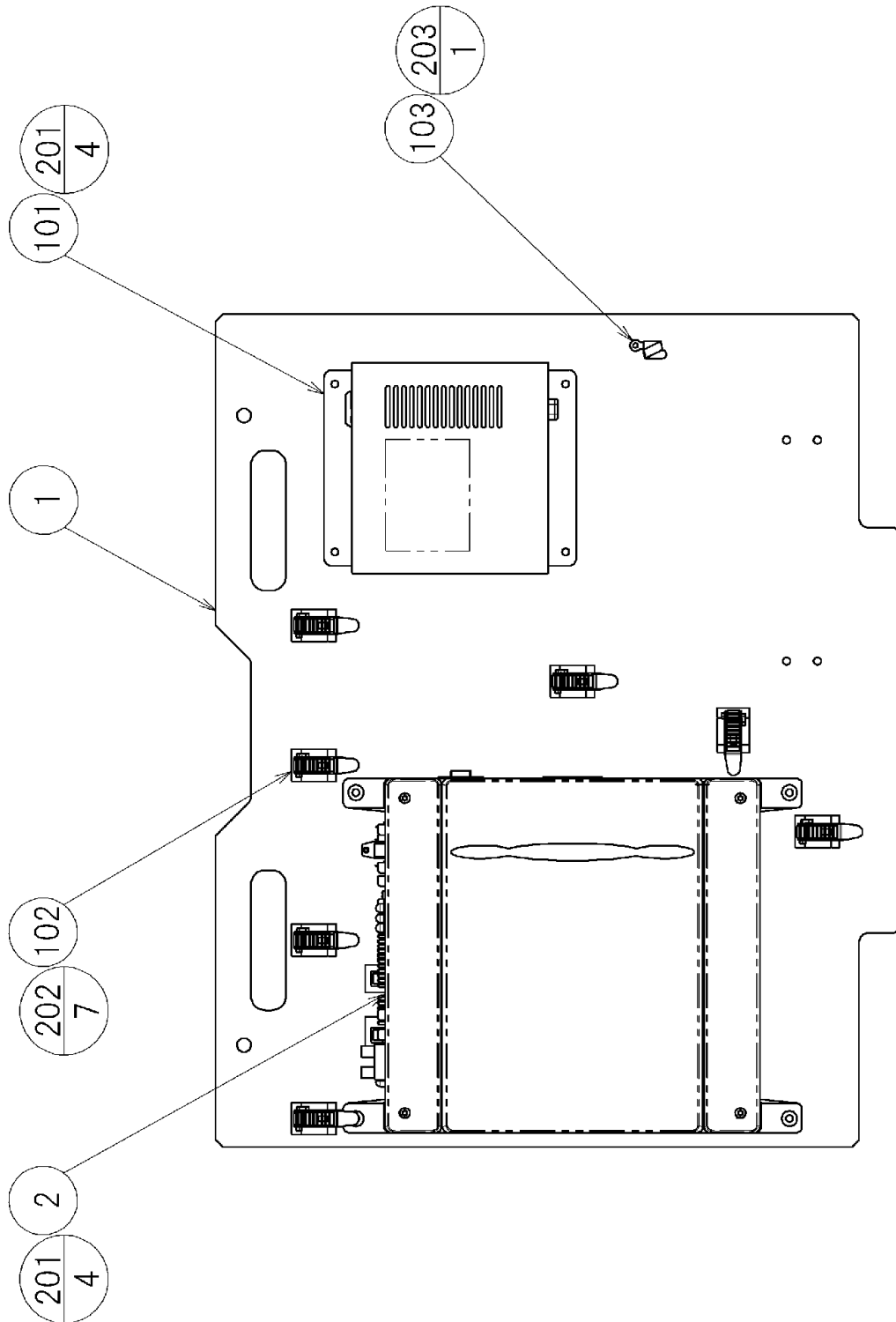
ITEM	PART NO.	QTY	DESCRIPTION	COMPONENT REF.
1	JPT-2030		SENSOR UNIT	
2	CTF-2101		COVER L	
3	CTF-2102		COVER R	
4	CTF-2103		FRONT SIGHT	
5	CTF-2104		MAIN TRIGGER	
6	CTF-2105		SUB TRIGGER	
7	CTF-2106		SELECTOR	
8	CTF-2107		SELECTOR HOLDER	
9	CTF-2108		SELECTOR JOINT	
10	CTF-2109		PAD BASE	
11	CTF-2110		BEARING HOLDER	
12	CTF-2111		PAD	
13	CTF-2112		SOLENOID FRAME	
14	CTF-2113		SHAFT JOINT	
15	CTF-2114		PAD FRAME	
16	CTF-2115		RECOIL DAMPER	
17	CTF-2116		SOLENOID DAMPER	
18	CTF-2117		SHAFT DAMPER F	
19	CTF-2118		SHAFT DAMPER R	
20	CTF-2119		CAP BASE	
21	CTF-2120		LIGHT CAP	
22	CTF-2121		PAD BEZEL	
23	CTF-2122		PAD PIN	
24	CTF-2123		TRIGGER SPRING	
25	CTF-2124		SELECTOR SPRING	
26	CTF-2125		SHAFT	
27	CTF-2126		JOINT PIN	
28	CTF-2127		SHAFT STOPPER	
29	CTF-2128		DAMPER BASE	
30	CTF-2129		RETURN SPRING	
101	124-5097		SOLENOID	
102	509-5080		SW MICRO TYPE (SS-5GL2)	
103	280-5124-04		NYLON CLAMP NK04	
104	280-5124-05		NYLON CLAMP NKO5	
105	601-0460		PLASTIC TIE BELT 100 M/M	
106	310-5029-D20		SUMITUBE F D 20MM	
201	FAS-000100		M SCR PH W/SMALL FS BLK M3x12	
202	000-P00306-S		M SCR PH W/S M3x6	
203	FAS-120029		TAP SCR P-TITE PH 4x8	
204	FAS-120030		TAP SCR P-TITE PH BLK 4x12	
205	065-E00400		E RING 4MM	
206	FAS-600020		FLT WSHR NORM A M8	
301	CTF-60032		WH CONTROLLER MAIN EXT	
302	CTF-60033		WH CONTROLLER SW EXT	

12.16. SENSOR UNIT (JPT-2030)



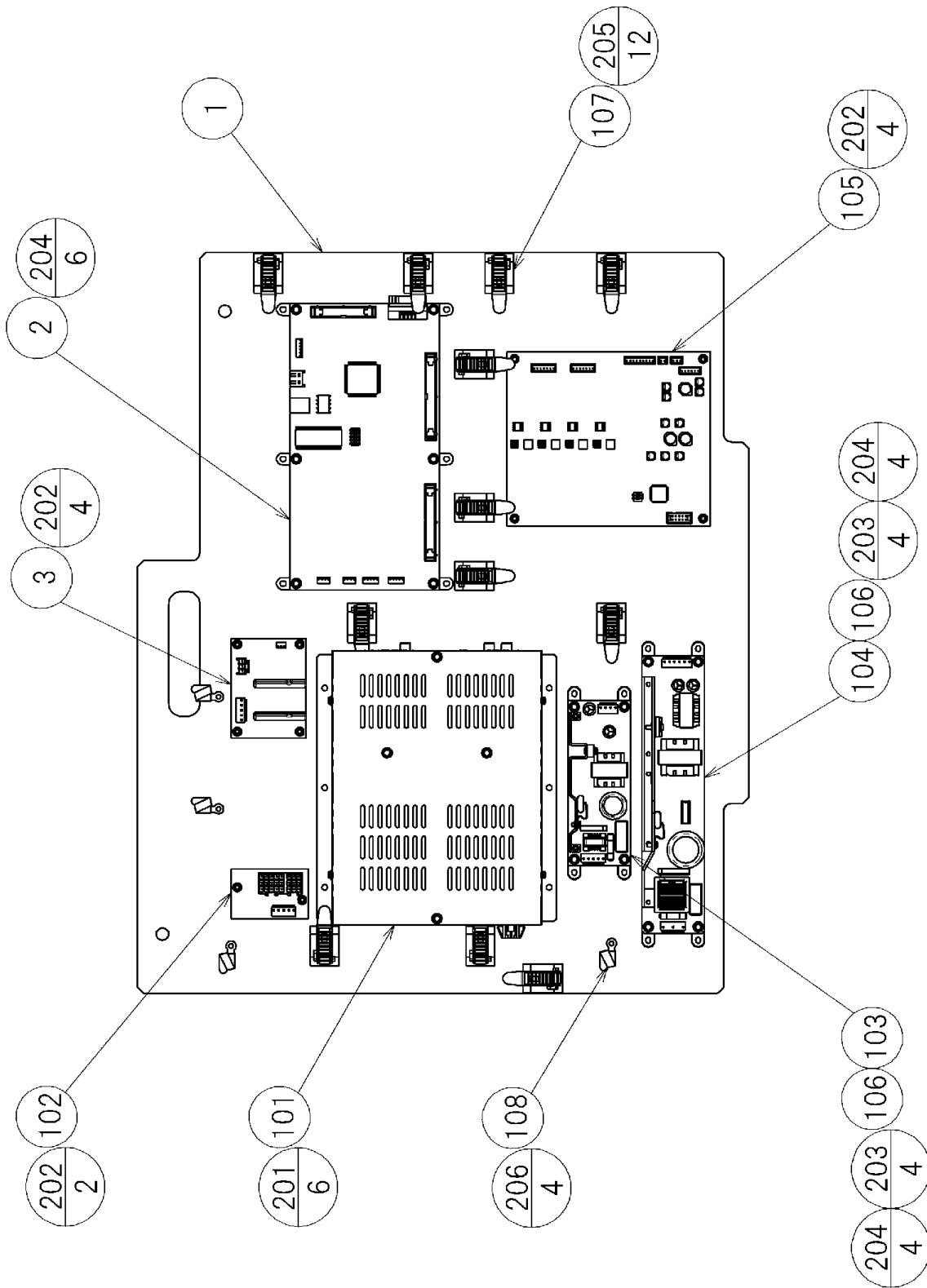
ITEM	PART NO.	QTY	DESCRIPTION	COMPONENT REF.
1	JPT-2031		SENSOR HOLDER	
101	838-13144		SENSOR BD GUN SENSE	
201	012-P00306		TAP SCR #2 PH 3x6	

12.17. ASSY MAIN BD (CTF-4000UK)



ITEM	PART NO.	QTY	DESCRIPTION	COMPONENT REF.
1	CTF-4001		WOODEN BASE MAIN	
2	843-0001D-22		ASSY CASE BOX COM DIMM EXP	
101	400-5443-01		SW REGU FOR CHIHIRO VA	
102	280-5009-01		CORD CLAMP 21	
103	280-0419		HARNESS LUG	
104	270-5117		FERRITE CORE TDK ZCAT3035-1330	
201	000-P00416-W		M SCR PH W/FS M4x16	
202	011-F00312		TAP SCR #1 FH 3x12	
203	011-T03512		TAP SCR TH 3.5x12	
301	600-7247-500		CABLE SCSI ST-L TYPE2 500MM	
303	CTF-60014		WH AC MAIN	
304	CTF-60015		WH POWER & 232C MAIN	
305	CTF-60016		WH AUDIO MAIN	
306	CTF-60017		WH GD PWR MAIN	
308	600-7159-041		WIRE HARN JVS PWR 041CM	

12.18. ASSY ELEC (CTF-4100UK)



ITEM	PART NO.	QTY	DESCRIPTION	COMPONENT REF.
1	CTF-4101		WOODEN BASE ELEC	
2	837-13844-02		I/O CONTROL BD 2 W/O 232C DOG	
3	839-1073-01UL		SSR BD 2 AC 2A	
101	601-10369		STEREO PWR AMP 47	
102	838-11856-UL		CONNECT BD UL	
103	400-5421-03012		SW REGU LCA30S-12	
104	400-5421-07524		SW REGU LCA75S-24	
105	838-14465		IC BD GUN SENCE NEW EDIT DX	
106	601-7467		L-LOCK BK	
107	280-5009-01		CORD CLAMP 21	
108	280-0419		HARNESS LUG	
201	000-P00416-W		M SCR PH W/FS M4x16	
202	011-P00325		TAP SCR PH 3x25	
203	000-P00308-W		M SCR PH W/FS M3x8	
204	011-P03516		TAP SCR PH 3.5x16	
205	011-F00312		TAP SCR #1 FH 3x12	
206	011-T03512		TAP SCR TH 3.5x12	
301	CTF-60006		WH AC 1 ELEC	
302	CTF-60007		WH AC 2 ELEC	
303	CTF-60008		WH MAIN ELEC	
304	CTF-60009		WH 12V ELEC	
305	CTF-60010		WH AUDIO ELEC	
306	CTF-60011		WH SENSOR LED ELEC	
307	CTF-60012		WH SENSOR CONT ELEC	
308	CTF-60013		WH SENSOR FREQ ELEC	

13. WIRING DIAGRAM

13.1. WIRE COLOURS

THE WIRE COLOUR CODE IS AS FOLLOWS:

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

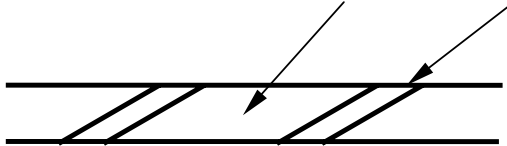
Wires other than those of any of the colours listed above will be displayed by 2 alphanumeric characters:

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

13.2. ELECTRICAL SCHEMATIC

The following pages contain the electrical schematics for this machine.

LOCATE A3 SCHEMATIC DRAWING 1 HERE

LOCATE A3 SCHEMATIC DRAWING 2 HERE

LOCATE A3 SCHEMATIC DRAWING 3 HERE

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