

THIS PRODUCT HAS BEEN DESIGNED IN ACCORDANCE WITH 73/23/EEC THE LOW VOLTAGE  
DIRECTIVE USING BS EN 60335-1 1995 AS THE GENERIC STANDARD.



# Sonic Ticket Winner - Redemption Cat D



WOW Cabinet  
Service & Maintenance Manual Issue D

Astra Games Ltd 2011

© Empire Games Ltd.



<b>Email</b>	<a href="mailto:empire.technical@empiregames.co.uk">empire.technical@empiregames.co.uk</a>	
<b>Address</b>	Empire Games Limited 8 York Park Bridgend Industrial Estate Bridgend CF31 3TB	
<b>Web</b>	<a href="http://www.empiregames.co.uk">www.empiregames.co.uk</a>	
<b>Telephone</b>	01656 663300	
<b>Facsimile</b>	01656 662200	



### Customer Service Details

If you need technical assistance please contact Astra Games Customer Service Department:

<b>Telephone</b>	+ 44 (0) 1656 658 658
<b>Facsimile</b>	+ 44 (0) 1656 672 849
<b>Email</b>	<a href="mailto:support@astra-games.co.uk">support@astra-games.co.uk</a>
<b>Address</b>	Astra House 1 Kingsway Bridgend Industrial Estate Bridgend CF31 3RY
<b>Web</b>	<a href="http://www.astra-games.co.uk">www.astra-games.co.uk</a>
<b>Office Hours</b>	9.00am – 5.00pm Monday - Friday

## COPYRIGHT NOTICE

Astra Games Limited and Empire Games Limited both possess exclusive copyright in the Software contained within this AWP machine. Reproduction of any of the software, including copying of Flash Cards is expressly prohibited without obtaining written permission from Astra Games Ltd.

Copyright also exists in the Artwork Designs for this machine. No part of this artwork may be reproduced in any way without written authority.

**UNAUTHORISED USE OF ANY OF THE PROTECTED PARTS OF THIS MACHINE MAY RESULT IN LEGAL ACTION BEING TAKEN.**

SERVICE AND MAINTENANCE MANUAL TABLE OF CONTENTS

GENERAL INSTALLATION SAFETY WARNINGS ..... 5

PRODUCT OVERVIEW..... 16

SONIC TICKET WINNER - REDEMPTION - CATEGORY D ..... 17

**GAME DESCRIPTION** ..... 17

**GAME AWARDS** ..... 17

REEL BANDS..... 18

BUTTONS ..... 18

SWITCH SETTINGS..... 19

MACHINE ID ..... 20

PERCENTAGE KEY PCB - ADJUSTMENT ..... 20

STAKES & PRIZE ..... 20

REFILL KEY MENU'S..... 21

STAKE AND JACKPOT KEY ..... 22

RAM CLEAR ..... 22

TEST PROCEDURE..... 22

OPERATING THE STARPOINT ELECTRONIC COUNTING UNITS (S.E.C) ..... 25

ASTRA 'SPS' POWER SUPPLY LAYOUT ..... 26

ASTRA 'SPS' POWER SUPPLY UNIT ..... 27

**PLUTO 6 LAYOUT** ..... 28

ERROR CODES..... 29

SPARE PARTS PROFILE ..... 30

WARRANTY ..... 34

## GENERAL INSTALLATION SAFETY WARNINGS

### IMPORTANT NOTES

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



**WARNING !!**

To maintain safety:

To ensure the safe operation of this product, be sure to read the following before usage.

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

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



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



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



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

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



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



Indicates a "protective earth terminal." Before operating the equipment, be sure to connect it to the ground.

(The step may be omitted for products in which a power cable with earth is used.)

- Perform work in accordance with the instructions herein stated.

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

- Be sure to turn off the power before working on the machine.

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

- Be sure to ground the earth terminal.

(This is not required in the case where a power cable with earth is used.)

This product is equipped with the earth terminal. When installing the product, connect the earth terminal to the "accurately grounded indoor earth terminal" by using an earth wire. Unless the product is grounded appropriately, the user can be subject to an electric shock. After performing repair, etc. for the control equipment, ensure that the earth wire is firmly connected to the control equipment.

- Ensure that the power supply used is equipped with an earth leakage breaker.

Using a power supply which is not equipped with the earth leakage breaker can cause a fire when earth leakage occurs.

- Be sure to use fuses which meet the specified rating.

(Only for the machines which use fuses.)

Using fuses exceeding the specified rating can cause a fire and an electric shock.

## GENERAL INSTALLATION SAFETY WARNINGS (CONTINUED)

- Specification changes (removal of equipment, conversion and addition) not designated by (ASTRA AND EMPIRE) are not allowed.

The parts of the product include warning labels for safety, covers for personal protection, etc. It is very hazardous to operate the product by removing parts and/or modifying the circuits. Should doors, lids and protective parts be damaged or lost, refrain from operating the product, and contact where the product was purchased from or the office herein stated.

(ASTRA AND EMPIRE) shall not be held responsible for any accidents, compensation for damage to a third party, resulting from the specifications not designated by (ASTRA AND EMPIRE).

- Ensure that the product meets the requirements of appropriate electrical specifications.

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

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

- When handling the monitor, be very careful. (Applies only to products with monitors.)

Some of the monitor parts are subject to high tension voltage. Even after turning off the power, some portions are still subject to high tension voltage sometimes. Monitor repair and replacement should be performed only by those technical personnel who have knowledge of electricity and technical expertise.

- Be sure to adjust the monitor properly. (Applies only to products with monitors.)

Do not operate the product leaving on-screen flickering or blurring as it is. Using the product with the monitor not properly adjusted may cause dizziness or a headache to an operator, a player, or the customers.

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

\* In the case where commercially available monitors and printers are used in this product, only the contents relating to this product are explained herein. Some commercially available equipment has functions and reactions not stated in this manual. Read this manual together with the specific instruction manual of such equipment.

\* Descriptions herein contained may be subject to improvement changes without notice.

\* The contents described herein are fully prepared with due care. However, should any question arise or errors be found, please contact (ASTRA AND EMPIRE).

## INSPECTIONS IMMEDIATELY AFTER TRANSPORTING THE PRODUCT TO THE LOCATION

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

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

## OPERATIONAL HANDLING NOTICES

This manual is intended to provide detailed descriptions together with all necessary information covering the general operation of electronic assemblies, electro-mechanicals, servicing control and spare parts.

This manual is intended for the owners, personnel managers in charge of operation of this product. Operate the product after carefully reading and sufficiently understanding the instructions. In the unlikely event that the product does not function correctly, DO NOT allow anyone other than a technician to touch the internal system. Turn off the power to the machine, making sure to unplug the electrical cord from the outlet, and contact the office listed below or the point-of-purchase for this product. Use of this product is unlikely to cause physical injuries or damage to property. However, points that require special attention are indicated by bold text, the word "IMPORTANT" and the symbol below.



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



**IMPORTANT**

**Definition of 'Site Maintenance Personnel or Other Qualified Individuals**

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

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

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

**Site maintenance personnel:**

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

**Activities to be carried out by site maintenance personnel:**

Amusement equipment/vending machine assembly, maintenance inspection and replacement of units/expendable parts.

**Other qualified professionals:**

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

**Activities to be carried out by other qualified professionals:**

Amusement equipment/vending machine assembly, repair/adjustment of electrical/electronic/mechanical parts.



## HANDLING PRECAUTIONS

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



### WARNING

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

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

Do not expose power cords or earth wires on the surface, (floor, passage, etc.) If exposed, the power cords and earth wires are susceptible to damage.

Damaged cords and wires can cause an electric shock or short circuit. To avoid causing a fire or an electric shock, do not put things on or damage the power cords.

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

In case the power cord is damaged, ask for a replacement through where the product was purchased from or the office herein stated.

Using the cord as is damaged can cause fire, an electric shock or leakage.

Be sure to perform grounding appropriately. Inappropriate grounding can cause an electric shock. Be sure to use fuses meeting the specified rating.

Using fuses exceeding the specified rating can cause a fire or an electric shock.

Be sure that connections such as IC BD are made properly.

Insufficient insertion can cause an electric shock.

Specification changes, removal of equipment, conversion and/or addition, not designated by (ASTRA AND EMPIRE) are not permitted.

Failure to observe this may cause a fire or an electric shock.

Non-compliance with this instruction can have a bad influence upon physical conditions of the players or the onlookers, or result in injury during play.

(ASTRA AND EMPIRE) shall not be held responsible for damage, compensation for damage to a third party, caused by specification changes not designated by (ASTRA AND EMPIRE).

Do not perform any work or change parts not listed in this manual.

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

Be sure to perform periodic maintenance inspections herein stated.

## PRECAUTIONS REGARDING INSTALLATION



### **WARNING**

This product is an indoor game machine. Do not install it outside. Even indoors, avoid installing in places mentioned below so as not to cause a fire, electric shock, injury and/or malfunction. Places subject to rain or water leakage, or places subject to high humidity in the proximity of an indoor swimming pool and/or shower, etc. Places subject to direct sunlight, or places subject to high temperatures in the proximity of heating units, etc. Places filled with inflammable gas or vicinity of highly inflammable/volatile chemicals or hazardous matter. Dusty places. Sloped surfaces. Places subject to any type of violent impact. Vicinity of anti-disaster facilities such as fire exits and fire extinguishers. Areas where the temperature exceeds the applicable temperature (ambient temperature) range of 5 to 30 degrees centigrade.

## PRECAUTIONS REGARDING INSTALLATION

LIMITATION OF USAGE



### WARNING

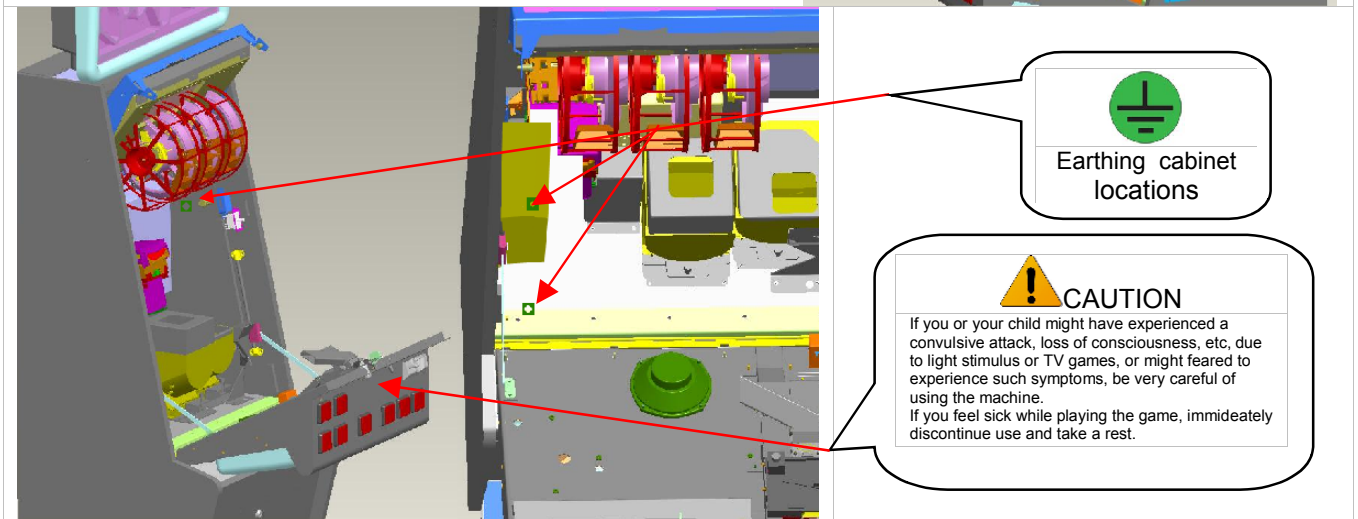
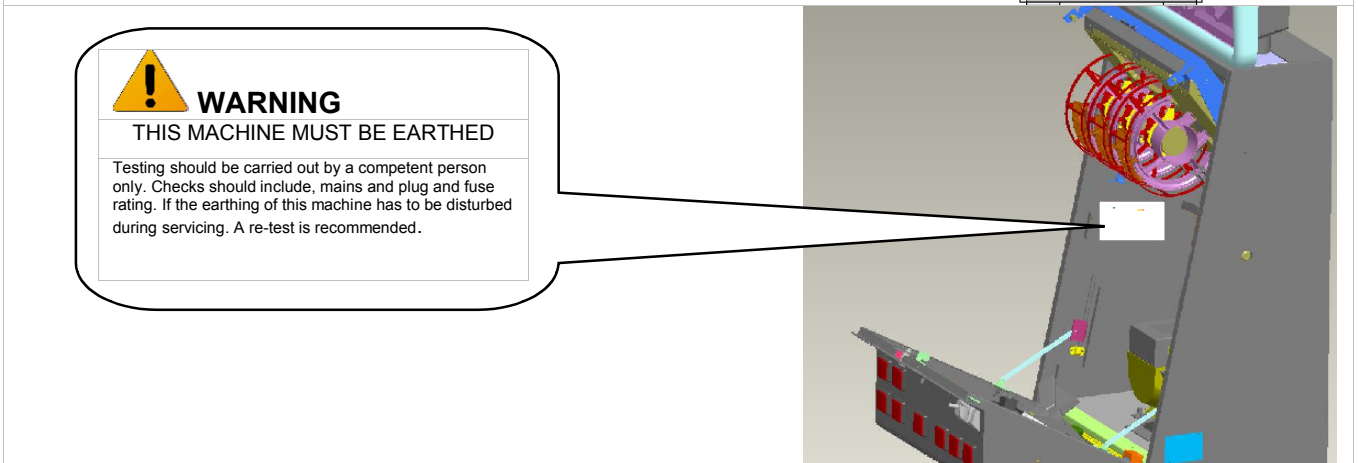
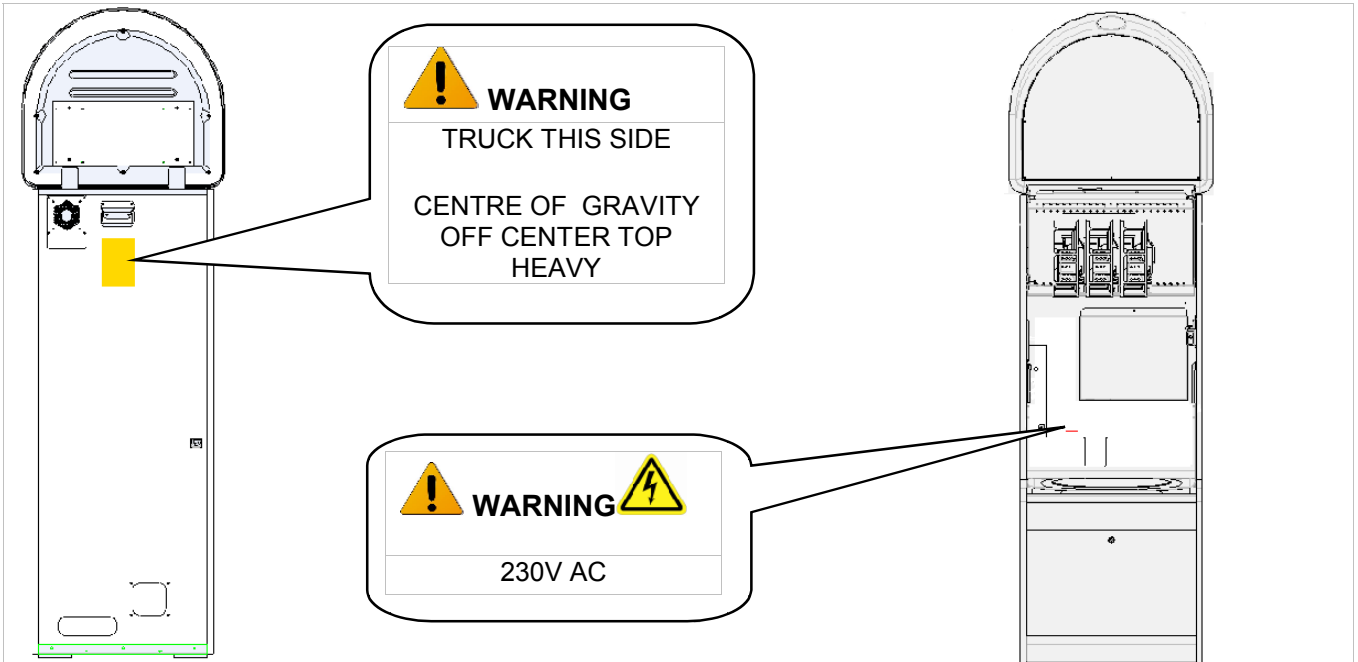
Be sure to check the Electrical Specifications. Ensure that this product is compatible with the location's power supply, voltage, and frequency requirements. A plate describing Electrical Specifications is attached to the product. Non-compliance with the Electrical Specifications can cause a fire and electric shock. This product requires a breaker and earth mechanism as part of the location facilities. Using the product without these can cause a fire and electric shock. **Ensure that the indoor wiring for the power supply is rated at 15 A or higher (AC single phase 100 V ~ 120 V area), and 7 A or higher (AC 220 V ~ 240 V area).** Noncompliance with the Electrical Specifications can cause a fire and electric shock.

Be sure to use an independent power supply equipped with an earth leakage breaker. Using a power supply without an earth leakage breaker can cause an outbreak of fire if a power surge occurs. Putting many loads on one electrical outlet can cause generation of heat and a fire resulting from overload.

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

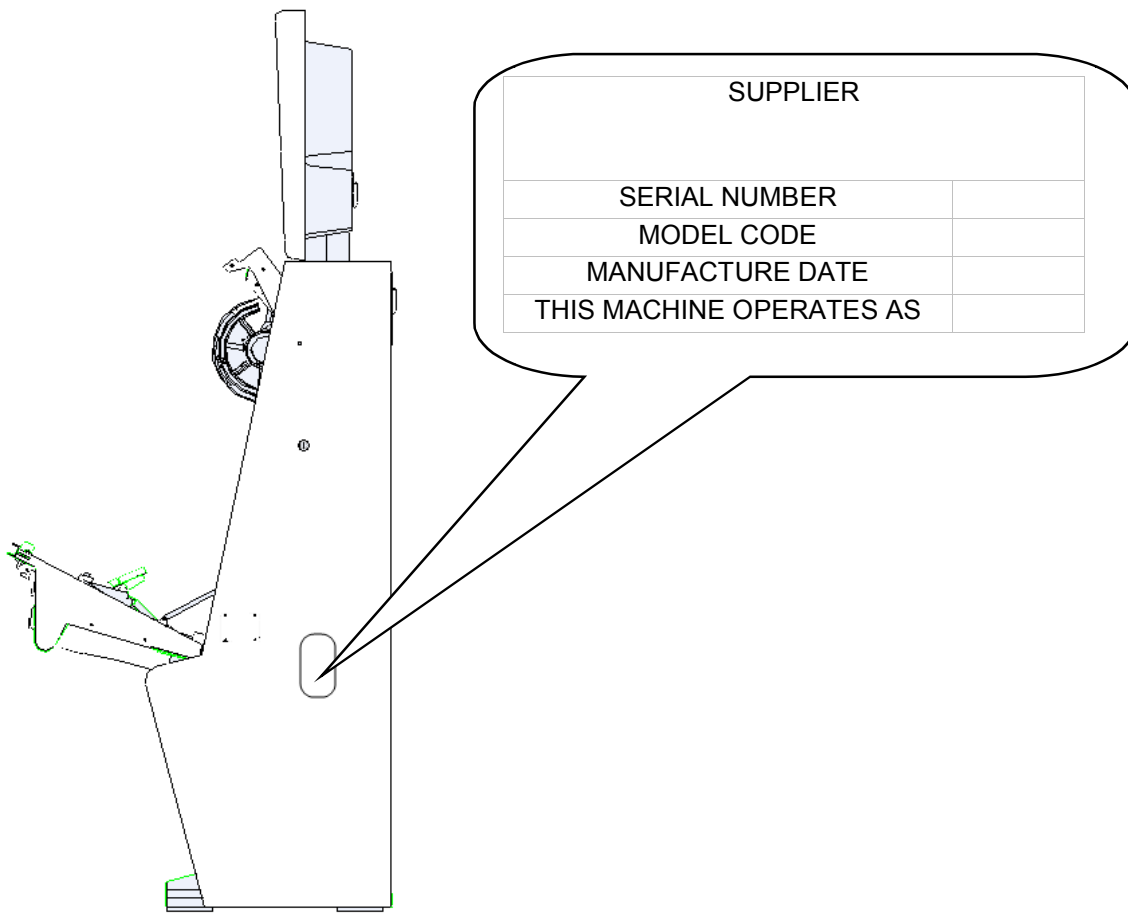
## WARNING LABELS

The warning displays are intended for accident prevention for customers and for avoiding hazardous situations relating to maintenance and servicing work.



## MACHINE IDENTIFICATION PLATE

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



## PRECAUTIONS DURING OPERATION



### WARNING

- For safety reasons, do not allow any of the following people to play the game.
  - Those who have high blood pressure or a heart problem.
  - Those who have experienced muscle convulsion or loss of consciousness when playing video games, etc.
  - Those who have neck or spinal cord problems.
  - Those who are intoxicated or under the influence of drugs.
  - Pregnant women.
  - Those who are not in good health.
  - Those who do not follow the attendant's instructions.
  - Those who cannot grasp the Control Unit securely because of immobility in fingers, hands or arms.
  - Persons who disregard the product's warning displays.
    - This product is intended for a single player only. Having two or more persons simultaneously playing this product can result to injury to the player and possible damage to the product.
- Even players who have never been adversely affected by light stimulus might experience dizziness or headache depending on their physical condition when playing the game.
- Instruct those who feel sick during play to have a medical examination.
- To avoid injury from falls and electric shocks due to spilled drinks, instruct the player not to place heavy items or drinks on the product.
- To avoid electric shocks and short circuits, do not allow customers to put hands and fingers or extraneous matter in the openings of the product or small openings in or around the doors.
- To avoid falls and resulting injury, immediately stop the customer from leaning against or climbing on the product, etc.
- To avoid electric shock and short circuit, do not allow customers to unplug the power plug without a justifiable reason.
- Instruct the guardians of small children to keep an eye on their children. Children cannot sense danger. Allowing small children to get near a player who is playing the game could result in the children being bumped, struck or knocked down.

## PRECAUTIONS DURING ASSEMBLY



### WARNING

- Perform assembly work by following the procedure herein stated. Failure to comply with the instructions can cause electric shock.
- Perform assembly as per this manual. Since this is a complex machine, incorrect assembling can cause an electric shock, machine damage and/or improper functioning as per specified performance.
- When assembling, more than one person is required. Depending on the assembly work, there are some cases in which working by one person alone can cause personal injury or parts damage.
- Ensure that connectors are properly connected. Improper connections can cause electric shock.
- Be careful not to damage the wires. Damaged wires may cause electric shock or short circuit or present a risk of fire.
- Do not unnecessarily push the display screen.
- This work should be carried out by site maintenance personnel or other qualified professionals. Work performed by non-technical personnel can cause a severe accident such as electric shock. Failing to comply with this instruction can cause a severe accident such as electric shock to the player during operation. If no one with proper technological expertise is available, request service from the office indicated in this document or the point of purchase so as to ensure safety.
- Provide sufficient space so that assembling can be performed. Performing work in places with narrow space or low ceiling may cause an accident and assembly work to be difficult.
- To perform work safely and avoid serious accident such as the cabinet falling down, do not perform work in places where step-like grade differences, a ditch, or slope exist.
- This product does not use any connectors other than those connected to and used by the game board when it leaves the factory. Do not needlessly connect wires to unused connectors. This could lead to overheating, generation of smoke and burn related injuries.

## PRECAUTIONS WHEN MOVING THE MACHINE



### WARNING

- Always disconnect the power cable before moving the product. If it is moved with the power cable connected, the cable could be damaged, causing fire or electric shock.
- To move the unit over the floor, pull in the adjusters and have the casters contact the floor. While moving the unit, be careful that the casters do not roll over the power cord or the ground wire. If cord or wire is damaged, there could be electrical shocks and/or short circuits.
- When crossing a sloped or stepped area, always have the machine travel lengthways. Travelling with the machine in a sideways position could result in the machine falling over onto its side. Always use a minimum of two people working together plus lifting apparatus to accommodate sloped areas or stairs.
- To lift up the cabinet, hold it at the bottom at the designated lifting points. If you hold it anywhere else, the weight of the cabinet could cause damage to parts or attachments, resulting in injury.
- Do not push the cabinet from the side when moving. Pushing from the side as it may result in the cabinet falling over.

<b>PRODUCT OVERVIEW</b>
-------------------------

<b>MACHINE NAME:</b>	SONIC TICKET WINNER
<b>CABINET STYLE:</b>	WOW
<b>CABINET DIMENSIONS:</b>	WIDTH: 723mm HEIGHT: 2037mm (including base) DEPTH: 594mm
<b>PRICE OF PLAY OPTIONS:</b>	Cat D – (10p Play with a maximum of 800 Tickets)
<b>NOTE ACCEPTOR</b>	Optional
<b>COIN HANDLING:</b>	MANUFACTURER NRI G13 PRODUCT TYPE 0412560 COINS ACCEPTED 5p, 10p, 20p, 50p, £1, £2 ROUTING PLUG None
<b>TICKET DISPENSER:</b>	MANUFACTURER: DELTRONIC SUPPLY VOLTAGE: 12v DC DISPENSES 2”L x 1-5/32”W tickets Refer to “Quick Release” Ticket Dispenser Manual
<b>TECHNOLOGY:</b>	HEBER PLUTO 6 ASTRA – POWER SUPPLY UNIT DOT MATRIX DISPLAY STARPOINT – 20RM REEL MODULE (x6)
<b>COMPACT FLASH CARD:</b>	GAME = 4 GB
<b>REFILL KEY:</b>	87000 (Right Hand Side Panel)
<b>DATA CAPTURE ID CODE:</b>	<b>NQ 09</b>
<b>STARPOINT ELECTRONIC METER:</b>	REFILL, CASH IN, CASH OUT, PRIZE OUT, VTP



## SONIC TICKET WINNER - REDEMPTION - Category D










### GAME DESCRIPTION

The Sonic Ticket Winner range comprises of six character themed game cabinets. These characters include Sonic, Tails, Robotnik, Amy Rose, Shadow or Knuckles. The player may select a character of their choice and to play by inserting coins, playing alone or as part of a community.

Players attempt to win ticket prizes from the reels by gaining 3 like symbols on the win line taken from Sonic's exploits including Power Up's, Gold Rings and Chaos Emeralds, these wins can be assisted with the use of up to 3 nudges.

Each reel features 2 of the Sonic Characters and gaining any 3 on the win line starts the Sonic Ticket Winner feature which takes the player to new heights by continually spinning the feature reel to various ticket wins which transfer to the ticket bank and only comes to a halt when a stop position is spun into the reel window. Players must also watch out for the exciting community feature which enables all participants actively playing a Sonic Ticket Winner to become engaged in the Sonic Ticket Winner feature simultaneously providing a unique shared experience for all involved.

### GAME AWARDS

SYMBOLS	AWARDS
	
	
	
	
	

**REEL BANDS**

Base Game -



**BUTTONS**



**Switch Settings**

Ensure that the D.I.L. switches are appropriately set for the site conditions. Check for correct machine operation as outlined in the 'Machine Test Routine' section of this manual.

**PLEASE NOTE THE POSITION OF SW1 & SW2 ON THE MAIN BOARD READ TOP TO BOTTOM!** Ensure that the D.I.L. switches are appropriately set for the site conditions.

Pos		Switch Bank 1 (BOTTOM BANK)	Switch Bank 2 (TOP BANK)
1	On	Set Machine ID 1 (ON)	Not Used
	Off	Set Machine ID 1 (OFF)	Not Used
2	On	Set Machine ID 2 (ON)	Community Linked Machine
	Off	Set Machine ID 2 (OFF)	Stand Alone Machine
3	On	Set Machine ID 3 (ON)	Allow Full Refill
	Off	Set Machine ID 3 (OFF)	Do Not Allow Full Refill Menu
4	On	Set Machine ID 4 (ON)	Not Used
	Off	Set Machine ID 4 (OFF)	Not Used
5	On	Set Percentage 5 (ON)	Not Used
	Off	Set Percentage 5 (OFF)	Not Used
6	On	Set Percentage 6 (ON)	Enable Soak Test
	Off	Set Percentage 6 (OFF)	Disable Soak Test
7	On	Set Percentage 7 (ON)	Enable Demonstration Mode
	Off	Set Percentage 7 (OFF)	Disable Demonstration Mode
8	On	Set Percentage 8 (ON)	Not Used
	Off	Set Percentage 8 (OFF)	Not Used

**Machine ID**

There is no hardware facility to assign a terminal ID so this is done via the DIL switches. Master is ID 1

	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON
2	OFF	OFF	OFF	OFF	ON	ON	ON	ON	OFF	OFF	OFF	OFF	ON	ON
3	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF
4	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON

If an index of less than 2 is returned for the terminal ID then the slave can alarm.

**PERCENTAGE KEY PCB - ADJUSTMENT**

**Switches 5-8 Percentage Selection %**

	30	35	40	45	50	55	60	65	70	72	74	76	78	80	82
5	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON
6	OFF	OFF	OFF	ON	ON	ON	ON	OFF	OFF	OFF	OFF	ON	ON	ON	ON
7	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON
8	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON

**Stakes & Prize**

Machine is fixed Cat D 10p Play with a maximum of 800 Tickets. There is no hardware ability to read stake/prize keys.

### Refill Key Menu's

There are several different functions that can be accessed via the refill key:

- **The following functions are available by navigating using the Transfer and Auto buttons and pressing the Start button to select the particular function:**
  - **Refill.**  
"No Hopper Mode".
  - **Last game Recall.**  
On entering this mode details of the last 30 games can be recalled. Press the start button to enter this mode the Transfer, Auto and Hold 2 button lamps will be flashing. The game to be recalled can be selected using the Transfer and Auto buttons the game is recalled by pressing the Hold 2 button.
  - **Last Bank Recall.**  
On entering this mode the last bank collected will be displayed on the dot matrix.
  - **Last Note Recall.**  
On entering this mode the value of the last note inserted into the machine will be displayed on the dot matrix.
  - **Configuration Log.**  
This mode monitors and date/time stamps any changes to dil switch settings, percentage key, stake key and sec meter.
  - **Software verification.**  
This mode provides information on game provider, game id, version number and software checksum, because the checksum is 40 characters long for easier viewing it is displayed in 5 blocks of 8 characters.
  - **Volume control.**  
In this mode the volume can be increased or decreased using the Hold 1 and Cancel button and all the different tunes used on the machine can be selected via the Transfer and Auto buttons.
  - **Error Log.**  
This mode provides a log of errors operating on a rolling log i.e. once full the newest entry will overwrite the oldest, the Transfer and Auto buttons are active to allow navigation through the error log. Holding down the Cancel button for 2 seconds will clear the error log.
  - **Software meters.**  
The software meters can be viewed by pressing the Transfer and Auto buttons, the software meters can be cleared by pressing and holding down the Cancel button for 3 seconds.  
The software meters are in the following order:  
Meter 1 = Refill, Meter 2 = Cash In, Meter 3 = Cash Out, Meter 4 = Prize Out, Meter 5 = VTP

### Stake and Jackpot Key

There is no jackpot key fitted, the machine has a fixed stake of 10p play with a maximum of 800 tickets.

### Ram Clear

Pressing switch on the Pluto 6 board and the bank, last win; credits and short-term meters are all reset to zero.

### Test Procedure

To enter the test routine, open the service door and the display will show "Service Door Open." Press the test switch after which Bacta Std 3.1 will be displayed. Pressing the Transfer button will advance through the test sequence. Pressing the Auto Start button will reverse the test sequence. Press the Start button to enter and exit the chosen test. The Test Sequence is as follows.

#### Test 1.1 Money In

Any Coins or Notes inserted will be displayed on the Dot Matrix display. Press the Cancel button and all coins are inhibited. Press the Cancel/Take button again and all coins are accepted. Press the Hold 1 button and the £1 coins inserted will be diverted into the cashbox.

#### Test 1.2 Tickets Out

Pressing the Cancel button will pay a ticket out and record it on the Dot Matrix display.

#### Test 2.1 Bottom Reels

On entry the reels will spin on to the Tab position, if a Tab is not seen the reel lamps will extinguish. Pressing the hold buttons will step the corresponding reel unit around and the reel position will be displayed on the Dot Matrix display. Pressing Cancel button will give the win value if a win is on the win line.

#### Test 3.2 Lamps

On entry all lamps/led's will flash continually. Press Cancel and the Flash sequence will stop. Pressing the Transfer or Auto Start button allows a Manual step through of the lamp sequence.

#### Test 4.1 Inputs

Pressing any button or operating any switch to change its state will give a short audio and the display will show the new state.

#### Test 4.2 Dils

The first 8 Digits displayed on the Dot Matrix display represent the Dils of Bank 1 and the last 8 Digits displayed represent the Dils of Bank 2. **0** = OFF and **1** = ON  
Pressing the Cancel button will verify selected Dils.

#### Test 5.1 Dot Matrix Display

On entry the Dot Matrix Display will scroll a block of segments across the display. Press the Cancel button and alternately flash the dots on the display.

**Test 6.1      Meters**

If the S.E.C meter is fitted the display will show **Pass or Fail**

**Test 8.1      Audio**

This test will play a short tune on the available channels, use the Transfer button and Auto button to toggle between channels.

**Test 8.2 Volume**

Pressing the Transfer button will step through all the tunes used in the game play. Pressing Auto button will step in reverse.

Pressing Cancel Increases the Volume.

Pressing Hold 1 Decreases the Volume.

If the Hold 1 button and Cancel button are pressed and held together the volume will re-set to the same level as when test 8.2 was entered

**Test 9.1 Keys**

On entry the Dot Matrix Display will show the current Stake / Prize and Percentage Key fitted.

If a new key is fitted the new key value will be displayed.

If the Percentage Key is removed the Dot Matrix will Display?PC.

If the Stake / Prize key is removed the Dot Matrix display will show 5P??.

**Test 9.2 Timedate**

In this test the Time and Date can be set.

The various fields, dd, mm, yyyy, hh, mm, ss can be selected by using the Transfer and Auto buttons. The selected field can be incremented/decremented using the hold 1 and hold 2 buttons. The test can be exited without changing anything by pressing the cancel button, the selected date and time can be saved by pressing the start button.

**Test A.1 Bank Limit**

The machine bank limit can be selected by pressing hold Auto Start to decrease the bank limit and Transfer to increase the bank limit.

The Dot Matrix display shows the current bank limit that can be adjusted between £25 - £125 in multiples of £25.

**Test B.1 Actual Percentage**

The Actual Percentage will be displayed.

**Test C.1 Machine I.D. Code- NQ 09**

The display will show the machine identity code

**EMP = Empire, N = Non Protocol, P = Protocol, IM Machine Code, 09 = Year**

**Test D.1 Photo Mode**

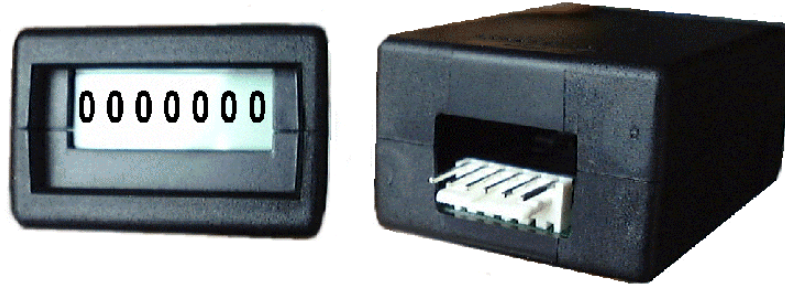
All game lamps will be illuminated for photographic purposes.



## Operating the Starpoint Electronic Counting Units (S.E.C)

This machine has been fitted with a single Starpoint Electronic Counter that directly replaces the need to fit conventional electro-mechanical meters.

The SEC unit incorporates multiple 'digital' counters that store the various meter values in a digital code format that are held in non-volatile memory i.e. it cannot be altered or cleared down.



### **Where is it located?**

The SEC unit is situated on the upper Right-hand side of the belly glass, a clear window is provided to view the meter.

### **What meters are used in this machine ?**

Meter 1 = REFILL, Meter 2 = CASH IN, Meter 3 = CASH OUT, Meter 4 = PRIZE OUT

Meter 5 = VTP

NB. All counter values are in 10p units.

### **How is the SEC connected to the host machine?**

A 6-pin connector is situated on the rear of the SEC unit, which interfaces to the host machine molex connector; data is transmitted via a serial peripheral interface standard.

### **How do I read the values of each counter?**

The SEC will only display counter values when the following procedure is followed. In normal game play no counter values are viewable to the player.

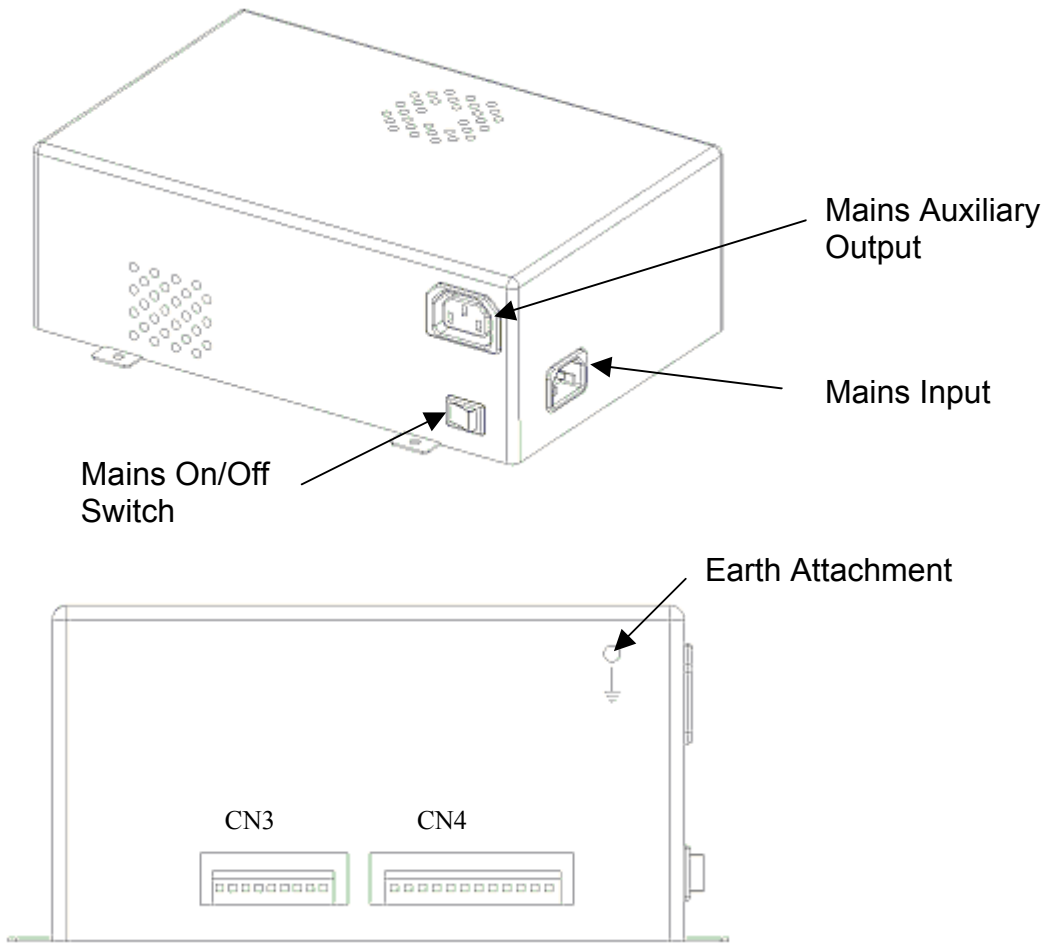
1. Open the main door and wait for the machine to re-initialise.
2. Press the Hold 1 button to select the REFILL counter, this will show REFILL and the value of this counter.
3. To proceed to the next counter press the Transfer button, the display will then show CASH IN and the value of this counter.
4. To proceed to the next counter press the Transfer button, the display will show CASHOUT and the value of this counter.

The above procedure will step the S.E.C. meter through all of the counters and then return to the REFILL counter.

5. Pressing the Autostart button will step through the above procedure in reverse.

To exit access to these counter values simply close the main door.

**ASTRA 'SPS' POWER SUPPLY LAYOUT**



**Pin Out Allocation**

1 (CN3) 9		1 (CN4) 12	
1	<b>+24V</b> DC	Missing Pulse Detect	1
2	<b>+5V</b> DC	<b>+5V</b> DC Good Detect	2
3	<b>-12V</b> DC	<b>+12V</b> DC	3
4	<b>0V</b> (36V Return)	<b>+12V</b> DC	4
5	<b>0V</b> (36V Return)	<b>+12V</b> DC	5
6	<b>0V</b> (36V Return)	<b>+12V</b> DC	6
7	<b>0V</b> (36V Return)	<b>+12V</b> DC	7
8	<b>+36V</b> DC	<b>+12V</b> DC	8
9	<b>+36V</b> DC	<b>0v</b> (24V, 5V, -12V)	9
		<b>0v</b> (24V, 5V, -12V)	10
		<b>0v</b> (24V, 5V, -12V)	11
		<b>0v</b> (24V, 5V, -12V)	12

**ASTRA 'SPS' POWER SUPPLY UNIT**

**WARNING:** This unit contains HIGH VOLTAGE! Disconnect mains input lead before attempting removal.

The power supply unit fitted to this machine is a purpose built design that incorporates advanced switch mode technology designed to meet the exacting needs of Astra's gaming machine technology.

The power supply is contained within a sealed unit that must **NOT** be disassembled. No user serviceable parts fitted. It should be used by, or under the supervision of, an appropriately qualified or trained person **ONLY**.

Aside from the use of a single mains primary input fuse, the advanced circuit design includes no further fused output rails. It incorporates internal protection devices that continually sense Over Current, Over Voltage, Under Voltage and Short Circuit conditions, these are monitored and controlled automatically to adapt to the ensuing load/conditions.

**Input requirements:**

Nominal Input Voltage:	AC 230V
Input Voltage variation range:	AC180V to AC264V
Nominal Frequency:	50/60Hz
Frequency Variation Range:	47Hz to 63Hz
Phase:	Single Phase
Operating Temperature Range:	0 to 50 degree Centigrade.
Humidity Range:	5% to 85%
Cooling Condition:	Natural Air Cooling
Weight:	2.32 Kg approx.

**Output Characteristics:**

<u>Output Circuit</u>	<u>Nominal Voltage (V)</u>
+ 5V DC	+5.1V
+ 12V DC	+12V
+24V DC	+24V
-12V DC	-12V
+36 VD	+36V
AC Out	230V ac

**Protection circuits:**

Over Current:	+5V, +12V, +24V, -12V, +36V
Over Voltage:	+12V, +36V
Under Voltage:	+12V,

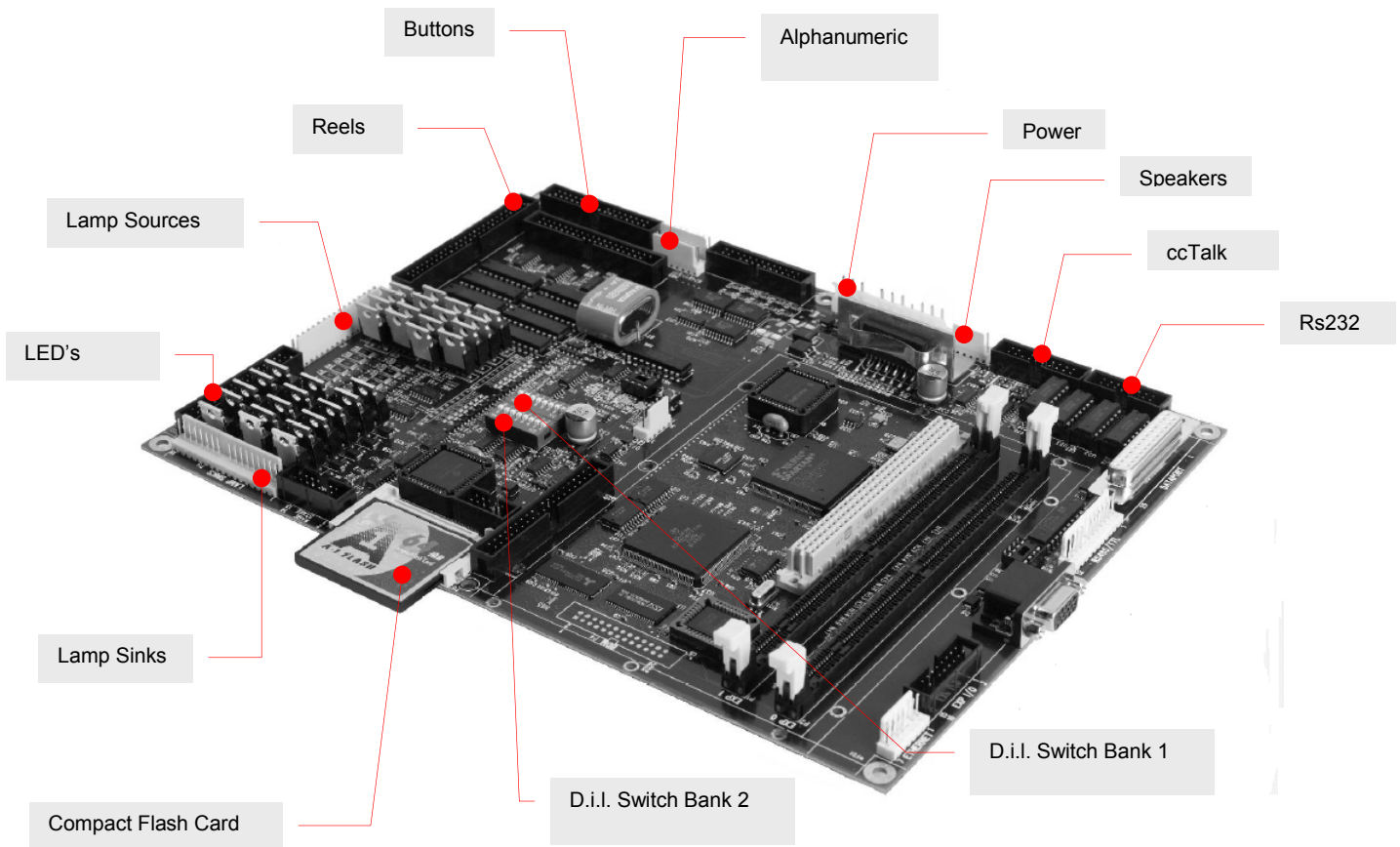
**Product Safety:**

This product must be earthed using the earth mounting stud position.

Safety Standards to be applied: Designed to meet the requirement of EN60950

EMI/RFI Standards to be applied: Design to meet the requirement of EN55014.

# Pluto 6 Layout



<b>Error Codes</b>
--------------------

Displayed error code/text		Description
100P ROUTE	1.0	£1 coin route error
50P ROUTE	1.0	50p coin route error
20P ROUTE	1.0	20p coin route error
10P ROUTE	1.0	10p coin route error
200P ROUTE	1.0	£2 coin route error
5P ROUTE	1.0	5p coin route error
TOKEN ROUTE	1.0	Token route error
GENERAL ROUTE	1.0	Coin Acceptor coin route failure
BAD COIN INPUT	1.0	Coin Acceptor incorrect input code
200PCASHIN	1.0	Coin Acceptor jammed
5PCASHIN	1.0	Coin Acceptor jammed
100PCASHIN	1.1	Coin Acceptor jammed
50PCASHIN	1.2	Coin Acceptor jammed
20PCASHIN	1.3	Coin Acceptor jammed
10PCASHIN	1.4	Coin Acceptor jammed
TOKENIN	1.5	Coin Acceptor jammed
NOTE JAM	1.6	Note acceptor jammed
NOTE BAD IP	1.6	Note acceptor bad input
ACCEPTOR ERROR	1.9	Coin Acceptor tamper error
NOTE TAMPER	1.9	Note Acceptor tamper error
REEL 1 FAILURE	2.1	Reel 1 error
REEL 2 FAILURE	2.2	Reel 2 error
REEL 3 FAILURE	2.3	Reel 3 error
REEL 4 FAILURE	2.4	Reel 4 error
REEL 5 FAILURE	2.5	Reel 5 error
REEL 6 FAILURE	2.6	Reel 6 error
REEL 7 FAILURE	2.7	Reel 7 error
REEL 8 FAILURE	2.8	Reel 8 error
REEL 9 FAILURE	2.9	Reel 9 error
REEL 10 FAILURE	2.A	Reel 10 error
REEL 11 FAILURE	2.B	Reel 11 error
REEL 12 FAILURE	2.C	Reel 12 error
NO PC PLUG FIT	4.4	Percentage key missing
PERCENT CHANGE	4.5	Percentage key changed
STK/PRZ CHANGE	4.5	Stake/Prize key changed
BINGO CHANGE	4.5	Bingo Mode changed
POWER FAILURE	4.8	Machine power cycled when in credit
NO JACPOT PLUG	4.9	No Jackpot Key inserted
INV JPOT KEY	4.9	Invalid Jackpot Key inserted
CHECSUM FAIL	5.1	Software Checksum Failure
HARD METER 1	6.1	SEC Meter request timeout
HARD METER 8	6.8	SEC Meter initialisation failure
EDC TIMEOUT	7.1	Datapak response timed out - disconnected
EDC FAILURE	7.2	Datapak not detected when expected
CCT BUS FAIL	8.1	Cctalk communications bus failure
CCT COIN FAIL	8.1	Cctalk coin acceptor failure
CCT NOTE FAIL	8.7	Cctalk note acceptor failure
NO NOTE STACKR	8.8	Note Acceptor stacker missing
HSF FILE ERROR	9.1	HSF sound file missing from Compact Flash Card
CCTALK FAIL	9.2	General cctalk failure
BAD TERM ID	9.3	Bad terminal ID - multiplayer terminals
RDR TIMEOUT ER	9.4	Remote data recorder timeout error - no communications
RDR BUFFER ERR	9.4	Remote data recorder buffer overflow error
CONFIG LOG ERR	9.5	Configuration Log does not exist
CONFIGLOG FULL	9.5	Configuration Log has been filled within 1 month.
	9.6	Ram Clear initiated. (Only shown in error log)
	9.7	Full Ram Clear initiated. (Only shown in error log)

<b>Spare Parts Profile</b>
----------------------------

<b>Part No</b>	<b>Qty</b>	<b>Description</b>	<b>Quick Function Reference</b>
0117738	1	36v Mk2 Sanken Power Supply	Power Supply
0313883	1	Pluto 6 Main Board (Fully Populated)	Main Computer Programme
0312550	1	EEPROM 2kBit M24C02	Main Computer Programme
0312887	1	Compact Flash Card	Programme
0412560	1	NRI G13 (0412560)	Coin Acceptance
0413150	1	NV9 300C Down Snout ccTalk	Note Acceptance
0511081	1	Button Panel	Machine Operation
0110729	3	20RM 79.5 Reel Mech Short Handle	Machine Operation
019739	1	Flo Tube (280x44x20) Cool White	Machine Illumination
037433	1	Dot Matrix Display	Display
015228	1	S.E.C Meter Unit	Data Logging

TEST ROUTE	DESCRIPTION English	PROCEDURE	TESTED BY:	
TEST 1	Coin and Notes test	<p>Use the Start Button to enter and exit each test. Insert the following Coins &amp; Notes and ensure display reads correct amount for each one. Record Qty of each Coin / Note inserted below:</p>		
		£20 Note		
		£10 Note		
		£5 Note		
		£2 Coin		
		£1 Coin		
		50P Coin		
		£20P Coin		
		10P Coin		
		5P Coin		
TEST 2.1	Reel Test	Make sure reels are positioned correctly and each win matches what is displayed.		
TEST 2.2	Top reel/Feature disk test	Make sure reels/disk are positioned correctly and each win matches what is displayed.		
TEST 3	Lamp Test	All Lamps will illuminate in sequence. Use the Cancel to stop flash and the transfer to step through the Lamps.		
TEST 4.1	Input Test	Test each input ensuring the input matches up with the display <ul style="list-style-type: none"> <li>• Turn Refil Key Switch.</li> <li>• Press TEST Button</li> <li>• Press Float top up switch</li> <li>• Press Service Door Switch</li> <li>• Press each Button</li> </ul>		
TEST 4.2	Dil Test	Ensure all dils are turned off		
TEST 5.1	Dot Matrix Test	Ensure display is not dim and distorted.		
TEST 6.1	Meter Test	Pass or Fail		
TEST 8.1	Audio Test	All the games different sounds		
TEST 8.2	Volume Test	Set the volume to 59, check 2 speakers work and the sound is not distorted.		
TEST 9.1	Keys Test	Check the correct percentage has been set and the correct stake and prize key Has been fitted		
TEST 9.2	Time and date test	Set the time and date.		
TEST A.1	Bank limit Test	Set the correct bank limit.		
TEST B.1	Actual Percentage Test	This is the percentage the machine is paying out		
TEST C.1	ID Test	This is Astra Games machine identification it is the same for all slaves		
TEST D.1	Photo Test	Ensure all the lamp and displays light up.		

TEST ROUTE	DESCRIPTION English	PROCEDURE	TESTED BY:	
TEST 1	Coin and Notes test	<p>Use the Start Button to enter and exit each test. Insert the following Coins &amp; Notes and ensure display reads correct amount for each one. Record Qty of each Coin / Note inserted below:</p>		
		£20 Note		
		£10 Note		
		£5 Note		
		£2 Coin		
		£1 Coin		
		50P Coin		
		£20P Coin		
		10P Coin		
5P Coin				
TEST 2.1	Reel Test	Make sure reels are positioned correctly and each win matches what is displayed.		
TEST 2.2	Top reel/Feature disk test	Make sure reels/disk are positioned correctly and each win matches what is displayed.		
TEST 3	Lamp Test	All Lamps will illuminate in sequence. Use the Cancel to stop flash and the transfer to step through the Lamps.		
TEST 4.1	Input Test	Test each input ensuring the input matches up with the display <ul style="list-style-type: none"> <li>• Turn Refil Key Switch.</li> <li>• Press TEST Button</li> <li>• Press Float top up switch</li> <li>• Press Service Door Switch</li> <li>• Press each Button</li> </ul>		
TEST 4.2	Dil Test	Ensure all dils are turned off		
TEST 5.1	Dot Matrix Test	Ensure display is not dim and distorted.		
TEST 6.1	Meter Test	Pass or Fail		
TEST 8.1	Audio Test	All the games different sounds		
TEST 8.2	Volume Test	Set the volume to 59, check 2 speakers work and the sound is not distorted.		
TEST 9.1	Keys Test	Check the correct percentage has been set and the correct stake and prize key Has been fitted		
TEST 9.2	Time and date test	Set the time and date.		
TEST A.1	Bank limit Test	Set the correct bank limit.		
TEST B.1	Actual Percentage Test	This is the percentage the machine is paying out		
TEST C.1	ID Test	This is Astra Games machine identification it is the same for all slaves		
TEST D.1	Photo Test	Ensure all the lamp and displays light up.		



TEST ROUTE	DESCRIPTION English	PROCEDURE	TESTED BY:
TEST 1	Coin and Notes test	Use the Start Button to enter and exit each test. Insert the following Coins & Notes and ensure display reads correct amount for each one. Record Qty of each Coin / Note inserted below:	
		£20 Note	
		£10 Note	
		£5 Note	
		£2 Coin	
		£1 Coin	
		50P Coin	
		£20P Coin	
		10P Coin	
5P Coin			
TEST 2.1	Reel Test	Make sure reels are positioned correctly and each win matches what is displayed.	
TEST 2.2	Top reel/Feature disk test	Make sure reels/disk are positioned correctly and each win matches what is displayed.	
TEST 3	Lamp Test	All Lamps will illuminate in sequence. Use the Cancel to stop flash and the transfer to step through the Lamps.	
TEST 4.1	Input Test	Test each input ensuring the input matches up with the display <ul style="list-style-type: none"> <li>• Turn Refil Key Switch.</li> <li>• Press TEST Button</li> <li>• Press Float top up switch</li> <li>• Press Service Door Switch</li> <li>• Press each Button</li> </ul>	
TEST 4.2	Dil Test	Ensure all dils are turned off	
TEST 5.1	Dot Matrix Test	Ensure display is not dim and distorted.	
TEST 6.1	Meter Test	Pass or Fail	
TEST 8.1	Audio Test	All the games different sounds	
TEST 8.2	Volume Test	Set the volume to 59, check 2 speakers work and the sound is not distorted.	
TEST 9.1	Keys Test	Check the correct percentage has been set and the correct stake and prize key Has been fitted	
TEST 9.2	Time and date test	Set the time and date.	
TEST A.1	Bank limit Test	Set the correct bank limit.	
TEST B.1	Actual Percentage Test	This is the percentage the machine is paying out	
TEST C.1	ID Test	This is Astra Games machine identification it is the same for all slaves	
TEST D.1	Photo Test	Ensure all the lamp and displays light up.	

## Warranty

**Astra Games Limited** warrants its Printed Circuit Boards, Power Supplies, Reel Units, Coin Acceptors, Hoppers and parts thereon are free from defect under normal use and service for the period of 12 Months from the date of purchase.

No other parts thereof are warranted.

If the product described above fails to conform to this warranty, Astra Games Limited sole liability shall be at its option to repair, replace or credit buyer's account for such products which are returned to Astra Games Limited during said warranty period provided the following criteria are met

Astra Games Limited is notified promptly that the said products are faulty.

Such products are returned promptly to the seller's plant.

Seller's examination of said product discloses that such defects existed and were not caused by accident, misuse, neglect, alteration, improper repair, installation or improper testing.

Only seller's recommended or approved components are used as service replacements.

UNDER NO CIRCUMSTANCES SHALL ASTRA GAMES LTD. BE LIABLE FOR LOSS OF PROFITS, LOSS OF USE, INCIDENTAL OR CONSEQUENTIAL DAMAGES.

The foregoing warranty is in lieu of all other warranties, expressed or implied including but not limited to any warranty of merchantability, fitness or adequacy for any particular purpose.

**ASTRA GAMES LTD**  
**Astra House**  
**1 Kingsway**  
**Bridgend Industrial Estate**  
**Bridgend**  
**CF31 3RY**