# ELECTROCOIN AUTOMATICS LTD SERVICE MANUAL



OVERSION WITHOUT COMMUICATION

TAITO CORPORATION

PART NO 64089



BY DRIVING THIS 1.000-HP MACHINE, BEAT YOUR RIVALS!!



Select one class out of the beginner's, middle and upper classes, and pass through a check point within the limited time!



The winning trick of the game is your shifting technique!



L (Low) : Use this when accelerating the machine and running on

bad roads!

H (High): For high speed running.



Make good use of the nitro to gain an advantage than others in the race!

When the nitro button is pressed, explosive power can be temporarily obtained.





G35 00440A

#### SPECIFICATIONS

1. Power Supply : Hantarex US 250 (240v/220vac)						
2. Play Pricing : Adjustable on Dip Switche						
3. TV monitor : 25" Hantarex 9000E Colour Monitor						
4. Cabinet Dimensions: Width: 595mm						
Depth : 880mm						
Height: 1835mm						
5. Weight : Approximately 150 Kg.						
* The specifications and appearance may be changed for improvments.						
Table of Contents						
Installation						
warninglace 2						
Ajustments of Colour Monitor (Refer to Seperate Manual)						
Power Supply (Refer to Seperate Manual)						
Game DescriptionPage 3						
Game Play Instructions						
Test ModePage 5						
Game Dip Switch Settings on PcbPage 6						
Credit Board Information						
Connector Information						
Steering Unit Information / Parts list						

#### PRECAUTIONS TO BE OBSERVED WHEN INSTALLING MACHINE

THIS VIDEO GAME IS FOR INDOOR USE ONLY. WHEN INSTALLING AVOID PLACES MENTIONED BELOW

- PLACES SUBJECT TO CONDENSATION DUE TO HUMIDITY. IN THE PROXIMITY OF AN INDOOR SWIMMING POOL OR SHOWER PLACES SUBJECT TO DIRECT SUNLIGHT.
  VICINITY OF HIGHLY INFLAMMABLE/VOLATILE CHEMICALS.

- UNEVEN SURFACES.
- VICINITY OF FIRE EXITS AND FIRE EXTINGUISHERS.
- DUSTY ATMOSPHERE.

#### INSTALLATION

IT IS IMPORTANT TO AVOID ROUGH HANDLING OF THIS MACHINE AS CERTAIN PARTS ARE FRAGILE.

UPON REMOVAL OF THE SHIPPING CARTON EXAMINE THE EXTERIOR OF THE CABINET FOR DENTS, CHIPS OR BROKEN PARTS.

ACCESS TO THE APPLIANCE SHOULD ONLY BE MADE BY QUALIFIED PERSONNEL FOR ANY PURPOSE.

INSPECT THE INTERIOR OF THE CABINET AS FOLLOWS:

- A) CHECK THAT ALL THE PLUG IN CONNECTORS ARE FIRMLY SEATED i.e. THE EDGE CONNECTOR ON THE CPU BOARD. IF ANY CONNECTORS ARE FOUND UNPLUGGED IT IS IMPORTANT WHEN RE-PLUGGING NOT TO FORCE THE CONNECTORS TOGETHER. AS SOME MAY BE KEYED AND ONLY GO ON IN THE PROPER ORIENTATION.
- B) CHECK THAT ALL PLUG-IN INTEGRATED CIRCUITS AND SUB BOARDS ON THE GAME PCB ARE FIRMLY SEATED IN THEIR SOCKETS.
- C) CHECK ALL SUB ASSEMBLIES SUCH AS THE POWER SUPPLY FOR SECURE MOUNTING

ENSURE THE MAINS SUPPLY IS CORRECT FOR OPERATION OF THE MACHINE, AND THAT THE SUPPLY HAS A GOOD EARTH CONNECTION.

#### SAFETY/MAINTENANCE

THIS VIDEO GAME REQUIRES CERTAIN MAINTENANCE TO KEEP IT IN GOOD WORKING ORDER.

IT IS ADVISED THAT THE SITE MANAGER CHECKS THE SERVICEABILITY OF THE MACHINE DAILY.

#### WARNING

HIGH VOLTAGES EXIST WITHIN THE MACHINE SO IT IS ADVISABLE THAT ONLY QUALIFIED SKILLED PERSONNEL SHOULD TOUCH ANY INTERNAL PARTS OF THE MACHINE. THE HIGH VOLTAGES PRESENT MAY CAUSE SHOCK OR EVEN FATALITY WITH MISUSE. ALWAYS TURN THE MACHINE OFF BEFORE COMMENCING ANY WORK

HIGH VOLTAGES MAY EXIST IN ANY MONITOR UNIT, EVEN WITH THE POWER DISCONNECTED. USE EXTREME CAUTION AND DO NOT TOUCH ELECTRICAL PARTS, OR THE YOKE WITH YOUR HANDS OR WITH METAL OBJECTS HELD IN YOUR HANDS. INFORMATION ON THE MONITOR FUSES ARE CONTAINED IN THE MONITOR MANUAL SUPPLIED WITH THIS MACHINE.

#### CAUTION

DO NOT USE FUSES OTHER THAN THOSE SPECIFIED, FOR THE CONTINUED PROTECTION OF YOUR GAME.

NEVER CONNECT OR DISCONNECT ANY CONNECTORS OF THE PCB, OR RESET THE DIP SWITCH SETTINGS WHILE THE POWER IS ON.

REGULARLY CLEAN THE OUTSIDE OF THE CABINET. DO NOT DRY WIPE ANY OF THE ACRYLIC PANELS, BECAUSE ANY DUST CAN SCRATCH THE SURFACE AND RESULT IN FOGGING THE PLASTIC. ACRYLIC SURFACES MAY BE CLEANED WITH ANY NON-ABRASIVE HOUSEHOLD CLEANER.

# WARNING

IN ORDER TO INCREASE THE LIFE OF YOUR MACHINE AND REDUCE GAME DOWN TIME, CERTAIN CHECKS SHOULD BE CARRIED OUT WEEKLY.

- 1) CHECK STEERING GEAR, LEVER AND FOOT PEDAL MOUNTING BOLTS FOR SECURITY & TIGHTEN IF NECESSARY.
- 2) INSPECT WIRING HARNESS GOING TO PLAY PANEL FOR SIGNS OF CHAFFING OR LOOSE CONNECTIONS.
- 3) LUBRICATE GEAR AND BEARINGS AT 3 MONTHLY INTERVALS.
- 4) PLAY PANEL LATCHES ARE ADJUSTABL, ENSURE THEY ARE ALWAYS KEPT TIGHT.

NOTE:- THESE CHECKS SHOULD ONLY TAKE 5 MINUTES OF YOUR TIME, BUT COULD SAVE DAYS OF MACHINE DOWNTIME.

#### GAME DESCRIPTION

"DOUBLE AXLE" is a new type of driving game, where by the player is at the wheel of a 1000Hp monster truck. You race the 4 x 4 truck across difficult terrain to a check point finish, but you must be within the first three places to qualify for the next round. There are three classes to choose from at the begining of the game, these are first class (beginner) middle class (standard) and upper class (expert)

FIRST CLASS ..... Cross Country ..... Ranking Race
Night Stadium .... Destruction Race
MIDDLE CLASS ..... Mud Bog ..... Ranking Race
Highway ..... Destruction Race
UPPER CLASS ..... Icy Road ..... Ranking Race
Seaside Obstacles . Destruction Race
FINAL ROUND ..... Night Stadium ..... Battle Race

#### EXPLANATION OF RACES

RANKING RACE .... The player must be in 3rd place or higher out of 10 to qualify.

DESTRUCTION RACE .... The player must destroy more obstacles than the other opponents within the limited time.

BATTLE RACE .... The player must destroy 19 small cars within a limited time.

The game ends if the player cannot reach the goal in 3rd place or higher, or the player has less crashing points than the opponents car.

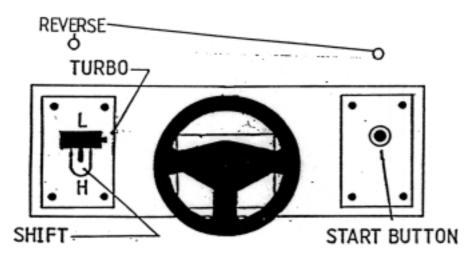


HOW TO PLAY

Insert coin(s) and press the start button.

Select the round you want to play by turning the steering wheel, then press the start button

EXPLANATION OF GAME CONTROLS





**ACCELERATOR** 

#### TEST MENU

3y turning on the Dip Switch A-3 located on the main PC board and by turning on the main power switch. The screen changes to the Test Mode menu.

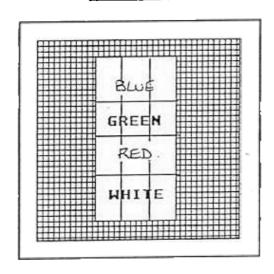
#### I. CRT TEST

COIN A

OFF

When the Cross Hatch and colour bars are displayed on the screen, colours and brightness can be djusted.

#### **CROSS HATCH**



then the Start button is pressed the screen returns to the next test.

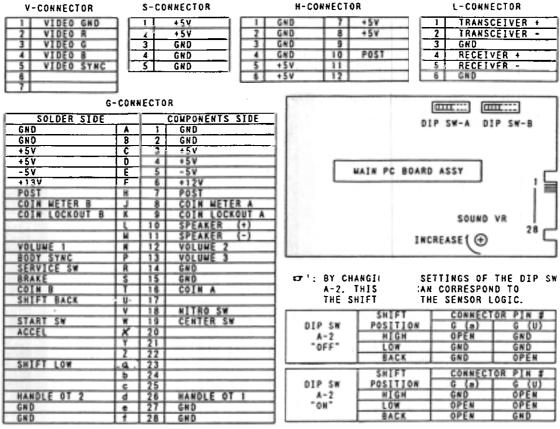
## TEST MODE

SERVICE ACCEL BRAKE START HANDLE	: : : : : : : : : : : : : : : : : : : :	OFF OFF OFF 0000						NI	T IFT IRO NCK		OFF OFF OFF
DIP SW	A B		8 H H	7 H H	6 H H	5 H H	4 H H	3 H H	2 H H	1 H H	L= ON H= OFF
			SO	UND	CC	DE		80:	00		
			RA	M	OK						
			Ŕc	M	Oł	<					

COIN B

OFF

#### ADJUSTMENTS OF GAME PC BOARD (DOUBLE AXLE G25 00666A)

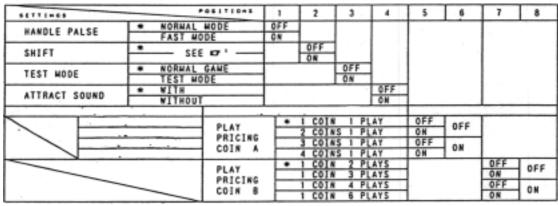


- ⇒ THE CONTROL OF THIS GAME USES 1 STEERING WHEEL, I SHIFT LEVER.

  PEDAL AND 1 NITRO SWITCH.
- 1 ACCELERATOR
- **☆** BEFORE CHANGING THE SETTINGS OF DIP SWITCH, TURN THE POWER SWITCH OFF

#### SETTINGS OF DIP SWITCH A

FACTORY SETTINGS



#### SETTINGS OF DIP SWITCH B

£111#6£	P051710×5	1	2	3	4	5	6	7	8
GAME DIFFICULTY	* RANK B	OFF	OFF						
EASY (A) -	RANK C	OFF	ОН	1 1		1			
DIFFICULT (D)	RANK D	OH	0.4		1	1	1		1
BACK GEAR	* WITH WITHOUT	-		OFF	-	1			1
STEERING WHEEL	* PARTIAL VIBRATIONS			1	OFF	1			1
VIBRATION MODE	ALL-THE-TIME VIBRA	ATIOWS.			OW		1	1	1
STEERING WHEEL VIBRATIONS	* WITH WITHOUT	-				OFF	-		
ROUND SELECTION	i * WITH						OFF		1
CONTINUED	WITHOUT: WITH						1 04	OFF	1
PLAY MODE	TUOHTIW	]						ON	L
BUY-IN	HTIW TÜQHTIW 🛠	(IN   THI	CONTR S SET	IES EXI	CEPT NO Hould 1	ORTH A	MERICA.		OF

#### COIN CONTROLS CCU

#### TECHNICAL DATA

#### APPLICATIONS

#### CCU with sentinel

The CCU is designed to work with the sentinel 30 range of validators in a single or dual currency mode. All connections to the validators are directly from the CCU. Connections to the host machine being via the 6 way connector. If it is required that the host machine controls inhibits directly then the inhibit wiring will need to be modified to suit the application.

# SWITCH SETTINGS FOR CCU Totalising switch

As each coin is accepted, the number of credits generated by the coin are calculated by dividing the coin value by the price per credit. The result is added to the credit total. In non-totalise mode, if the coin is 20p or 10p, any money remaining after the credit calculation is added to the next 20p/10p entered before the next credit calculation is performed. If the coin is £1 or 50p then the additional credits will also be added to the credit total. In totalise mode all 20p and 10p coins are added together. Whenever this total exceeds £1 or 50p then the corresponding additional credits are added to the credit total. A time limit is placed on the totalisation to prevent the money total from being passed from one used to the next.

> S11 ON - TOTALISE MODE S11 OFF - NON TOTALISE MODE

#### CURRENCY SELECT SWITCH

Most coin sets have a fixed ratio of 100, 50, 20, 10 eg. 100p, 50p, 20p, 10p, but a small number of coin sets possess a different ratio eg. 100 cents, 25 cents, 10 cents, 5 cents. On the CCU an option switch is available to allow an operator to select the coin set required. When the standard coin set is selected, the meter output pulses are in units of 10p. For the non-standard coin set, the meter output pulses are in units of 5c.

> - NON-STANDARD COIN SET (100, 25, 10, 5) S12 OFF - STANDARD COIN SET (100, 50, 20, 10)

#### INHIBIT SWITCHES

. The inhibit switches are connected directly to the sentinel. There are individual switches for 11-14 and 15.6 and 17.8.

NOTE: When sentinel is used in dual currency mode, and 15.6 and 17.8 are enabled by setting SW17 and 18 on. Then both currencies must have the same coin ratios.

#### 4.4 PRICE SETTING

.The price settings switches are arranged in three groups: 5 switches for the basic price per credit, 3 switches for the number of additional credits bought by the highest value coin eg.

2 switches for the number of additional credits bought by the second highest value coin eg. 50p.

#### PROGRAMMING INFORMATION

## PRICE PER GAME FOR 100, 50, 20, 10 COIN SET

<u>sw1</u>	sw2 on	SW3 ON	SW4 ON	SW5 ON	UNITS/GAME
X	OFF	ON	ON	ON	10
X	ON	OFF	ON	ON	20
X	OFF	OFF	ON	ON	30
X	ON	ON	OFF	ON	40
X	OFF	ON	OFF	ON	50
X	ON	OFF	OFF	ON	60
X	OFF	OFF	OFF	ON	70
X	ON	ON	ON	OFF	80
X	OFF	ON	ON	OFF	90
X	ON	OFF	ON	OFF	100
X	OFF	OFF	ON	OFF	110
X	ON	ON	OFF	OFF	120
X	OFF	ON	OFF	OFF	130
X	ON	OFF	OFF	OFF	140
X	OFF	OFF	OFF	OFF	150

X = DON'T CARE

## ADDITIONAL GAMES FOR HIGHEST VALUE COIN(COIN 1)

SW6	sw7	SW8	FUNCTION
ON	ON	ON	NO ADDITIONAL GAMES
OFF	ON	ON	1 ADDITIONAL GAME
ON	OFF	ON	2 ADDITIONAL GAMES
OFF	OFF	ON	3 ADDITIONAL GAMES
ON	ON	OFF	4 ADDITIONAL GAMES
OFF	ON	OFF	5 ADDITIONAL GAMES
ON	OFF	OFF	6 ADDITIONAL GAMES
OFF	OFF	OFF	7 ADDITIONAL GAMES

## ADDITIONAL GAMES FOR SECOND HIGHEST COIN (COIN 2)

SW9	SW10	FUNCTION
ON	ON	NO ADDITIONAL GAMES
OFF	ON	1 ADDITIONAL GAME
ON	OFF	2 ADDITIONAL GAMES
OFF	OFF	3 ADDITIONAL GAMES

TOTALISING SWITCHES
SII ON TOTALISE MODE
SII OFF NON-TOTALISE MODE

CURRENCY SELECT SWITCHES

\$12 ON NON-STANDARD COIN SET (100, 25, 10, 5) \$12 OFF STANDARD COIN SET (100, 50, 20, 10)

INHIBIT S	WITCHES		one ituinim
<u>S13</u>	COIN 1	ON = ACCEPT	OFF = INHIBIT
S14	COIN 2		
S15	COIN 3		
S16	COIN 4		
S17	COIN 5/6		
S18	COIN 7/8		

#### PINOUT INFORMATION

PIN COLOUI	<u>R</u>	FUNCTION
1. YEL/BLK 2. N\C 3. WHT/BLU 4. N/C 5. WHT/GRN 6. N/C 7. WHT/BLK 8. N/C 9. WHT/YEL 10. BLU/BLK 11. BLU/YEL 12. BLU/ORG 13. BLU/WHT 14. BLACK 15. BLACK 16. N/C 17. N/C 18. ORANGE 19. ORANGE 20. ORANGE 21. BLU/VIO - F		FUNCTION  MICROSWITCH OR N.P.N OPEN COLLECTOR INPUT. MICROSWITCH OR N.P.N. OPEN COLLECTOR INPUT. PNP INPUT (MS 111/SENTINEL) INPUT (MICROSWITCH) INPUT (MS 111/SENTINEL) INPUT (MICROSWITCH) INPUT (MICROSWITCH) INPUT (MICROSWITCH) INPUT (MS 111/SENTINEL) VOLTS (10p INHIBIT) VOLTS (20p INHIBIT) VOLTS (50p INHIBIT) VOLTS (£1 INHIBIT) VOLTS VOLTS VOLTS VOLTS VOLTS DC DC DC DC DC DC E COMMON FOR MS111/SENTINEL OUTPUT (NPN OPEN COLLECTOR)
	CREDIT	OUTPUT (NPN OPEN COLLECTOR) VOLTS

#### NOTES:-

- 1) Use 0 volts for negative common if plugging into MS 125 seperator unit.
- 2) Ensure that there is no coin meter connected across any input, eg. via a microswitch or an adaptor card.

NOTE: On most unigame adaptors pin 10 is linked to pin 24, and pin 11 is linked to pin 25, these links should be removed completely. Then short pin 11 to pin 12 on the adaptor card. This then uses the output from the credit board meter drive.

- 3) The meter will always total cash in 10p units regardless of any credit setting.
- 4) More than one coin mech may be fed into the PCB.
- e.g. A) S10 (up to four)
  B) S10 X MS 111
  C) S10 X MS 125
  D) S10 X Sentinel
- 5) Most credit boards are supplied with a standard credit loom.

  (Part No 16315) fitted with a male 6 way amp mate 'N' lock connector.

#### Pinouts are shown below.

<u>PIN</u>	COLOU	<u>R</u>	FUNCTION
1. ORANGE	+12v	DC SUPPI	
2. PINK 3. N/C	+5v	DC (LAM	P SUPPLY)
4. WHT/RED	TO CO	IN METER	
5. BLACK	Ov	DC	
6. ORG/BLK	COIN I	NPUT TO (	GAME PCB.

## DIP SWITCH SETTINGS V-2

FUNCTION	1	2	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	7	<u>8</u>
Bonus Games			Not	used	-			
None For every 50p For every £1 For every £2	on off on off	on on off off						
1 Pulse per credit 2 Pulses per credit					on off			
Price per play								
10p 20p 30p 40p 50p 60p £1 £2						on off on off on off on	on off off on. on	on off

Please Note: A bonus game will only be awarded if the game price of play is less than the bonus value set. Also if a mixture of coins are inserted, the time interval between coins inserted must be of less than 5 seconds for the bonus to be awarded.

## EXAMPLES OF SETTINGS (FOR £1 INSERTED).

Price of Play	y Bonus Games	Credits	Bonus	Total
10p 10p 10p 20p 20p 20p 30p 30p 30p 40p 40p 40p 50p 50p	off For every 50p For every £1 off For every £1 off For every 50p For every £1 off For every £1 off For every £1 off For every £1 off For every £1	10 10 10 5 5 5 3 3 2 2 2 2	None 2 1 None 2 None 2 1 None 2 1 None 2 None 1	10 12 11 5 7 6 3 5 4 3 4 3 2

#### DOUBLE AXLE

#### EDGE CONNECTOR DIAGRAM

BLK GROUND	Α	1	GROUND BLK
BLK GROUND	В	2	GROUND BLK
FNK +5VDC	C	3	+5VDC FNK
PNK +5VDC	D	4	+5VDC PNK
VIO -5VDC	Ε	5	5VDC VIO
RED/BLK +13VDC	F	6	+12VDC ORG
KEYWAY	Н	7	KEYWAY
WHT/YEL METER B	J	8	METER A WHT/ORG
	K	9	
	L	10	SPEAKER + GRY/WHT
	М	11	SPEAKER - WHT/GRY
	N	12	
	F	13	
SERVICE SW RED/ORG		14	GROUND BLK
BRAKE SW	S	15	GROUND
COIN B YEL/BLK	T	16	COIN A ORG/BLK
REVERSE SW PNK/BLW	U	17	
	V	18	NITRO SW ORG/RED
START SW GRN/BLK	И	19	CENTER SW YEL/VIO
ACCEL.SW YEL/BLU	X	20	
	Υ	21	
0.110	Ζ	22	
SHIFT LOW SW PNK/BLK	Aa	23	
	Αb	24	
	Ac	25	
HANDLE B GRN/BRN	Αd	26	HANDLE A ORG/BRN
GROUND BLK	Ae	27	GROUND BLK
GROUND BLK	Αf	28	GROUND <b>B</b> LK

CONN	ECTOR B 5 WAY JST 0.1" P	ITCH	+24v MOTOR
1 2 3 4 5	+24v IN +24v IN GND GND DRIVE	GRY GRY BLK BLK BLK/WHT	
CONNE	ECTOR D 12 WAY MOLEX 0	.156" PITCH KEYWAY	LOGIC PCB
1 2 3 4 5 6 7 8 9 10 11 12	GND GND GND GND +5v +5v +5v +5v	BLK BLK BLK BLK PNK PNK PNK PNK	
CONNEC	CTOR C 7 WAY JST		VIDEO
1 2 3 4 5 6 7	VIDEO GND VIDEO RED VIDEO GRN VIDEO BLU V-SYNC WHT NOT USED NOT USED	BLK/BLU	
CONNEC	TOR F 3 WAY AMP M+L S	OCKET MALE PINS	METER
2 3 ~**	+5V CREDIT BD METER A METER B	PNK WHT/RED WHT/ORG WHT/YEL (tied back	<b>()</b>
CONNEC	TOR G 4 WAY AMP MINI M	1+L SOCKET MALE P	ACCELERATOR
1 2 3 4	GND ACCEL +5v EARTH	BLK YEL/BLU PNK GRN/YEL	
CONNECT	TOR H 4 WAY AMP M+L PL	UG MALE PINS	MONITOR SUPPLY
2 3 4	0v 135v 0v 220v	BRN RED ORG YEL	

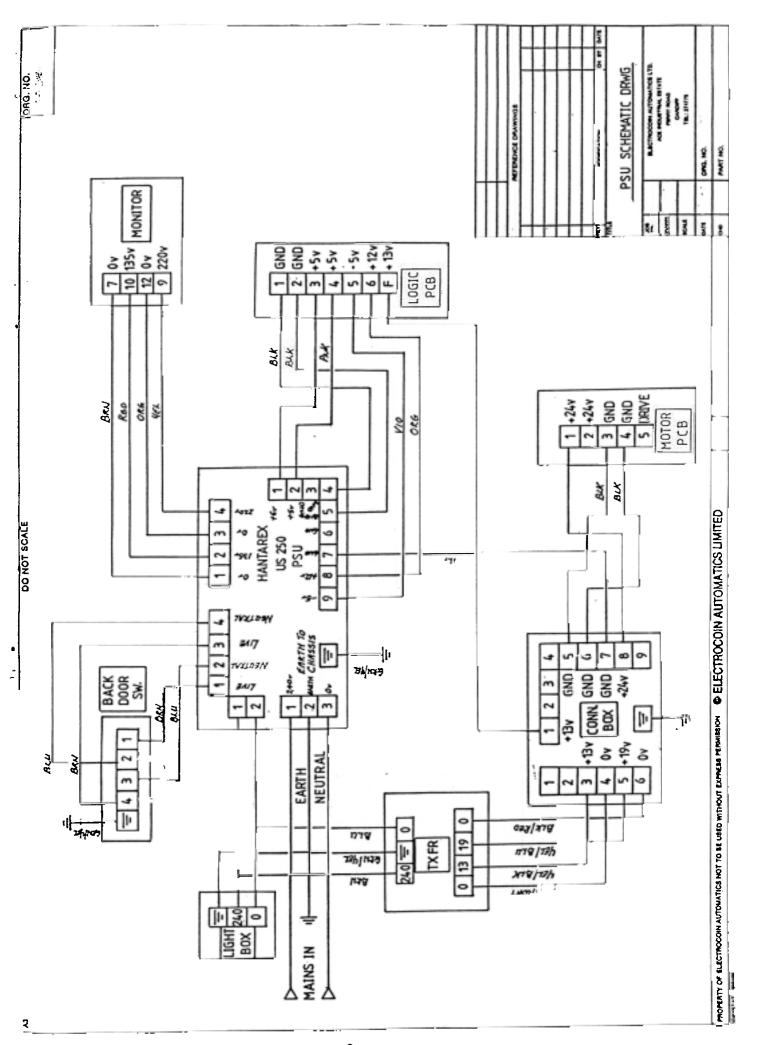
CONNE	ECTOR I 9 WAY AMP M+L	PLUG FEMALE	PINS		CTOR BOX	
1 2 3 4 5 6 7 8 9	+13v +13v +13v GND GND GND GND +24v +24v	RED/BLK RED/BLK RED/BLK BLK BLK BLK BLK GRY GRY				
CONNE	CTOR J 9 WAY AMP M+L B	LUG MALE PIN	<u> 8</u>	<u>PSU</u>		
1 2 3 4 5 6 7	+5v +5v GND GND GND GND GND	PNK PNK BLK BLK BLK BLK BLK				
8 9	+12v -5v	ORG VIO				
CONNE	CTOR K			SERVICE	BRKT	
	MINI PUSH BUTTON	(PART NO 43I	EC45	Ā02)		
1 2	GND SERVICE SW	BLK RED/ORG		·		
	` <del>.</del>					
CONNEC	CTOR L 6 WAY AMP M+L S	OCKET MALE I	PINS	COIN DO	OOR	
1 2 3 4 5 6	+12v +5v COIN B CREDIT BD GND COIN A	ORG PNK YEL/BLK WHT/RED BLK ORG/BLK				
CONNECTOR M  15 WAY AMP MINI M+L SOCKET MALE PINS  CONTROL MECH (STEERING)						
1 2 3 4 5 6	+5v PNK HANDLE (+) HANDLE (-) CENTRE GND START SW SHIFTSW 2	PNK ORG/BLU GRN/BRN YEL/VIO BLK GRN/BLK PNK/BLU	8 9 10 11 12 13 14	DRIVE +24v SHIFT SW I NITRO SW GND		

## CONNECTOR O

## **SPEAKERS**

1	GRY/WHT
2	WHT/GRY
L	WHT

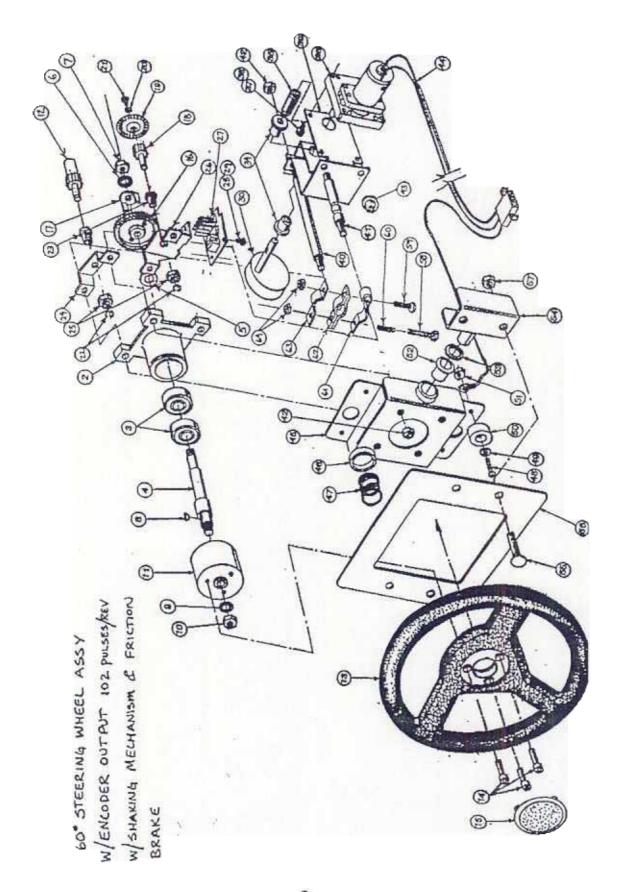
CONNEC		1+L PLUG (RED) FEMA	MONITOR LE PINS
2	VIDEO GND	BLK/BLU	
2 3 4 5	VIDEO BLU V-SYNC VIDEO RED	BLU WHT RED	
6 7 8	VIDEO GRN 0v	GRN BRN	
9 10 11	220v 135v	YEL RED	
12	0 <b>v</b>	ORG	



PAGE 15

# PARTS CATALOGUE

# STEERING ASSEMBLY



PAGE 7

# STEERING WHEEL ASSEMBLY PARTS LIST

2 CAST BEARING HOUSING 3 BALL BEARINGS 50813000 31252. 4 MAIN SHAFT 50808300 31253 5 FIAT WASHER MIO 43003400 31254 6 LOCK WASHER MIO 43003500 31256 7 NUT, MIO 43003500 31256 8 KEY, WOODRUFF 50808200 31256 10 NUT, MI2 11 HUB 50802700 51264 12 GEAR & SHAFT (4T, 1 MOD, FRICTION BRAKE 50824200 31265 14 SOCK, HD. CAP SCR. MG X 15 95803000 31267 15 CAF F/3 SPOKE WHEEL 16 GEAR, 60 T, 1 MOD. 50824200 31268 17 GEAR & SHAFT, 14 T, 1 MOD. 18 GEAR & SHAFT, 14 T, 1 MOD. 50824200 31270 19 ENCODER DISC, FLAT. 24 SLOT 50814200 31272 20 FENDER WASHER, #8 43003200 31274 21 PHIL, HD. MACH. SCR. M4 X 6 43003200 31275 23 PANEL BUSHING, LONG 96609000 31276 24 ERACKET, GEAR & SHAFT PRICTION BRAKE 74602600 31277 25 NUT, JAM, 3/8-24 43098900 31278	1	KEY	DESCRIPTION	REF NO.	PART NO
3   BALL BEARINGS   50813000   31261     4   MAIN SHAFT   50808300   31253     5   FLAT WASHER MIO   43003400   31254     6   LOCK WASHER MIO   43003400   31255     7   NUT, MIO   43003500   31256     8   KEY, WOODRUFF   50808400   31257     9   LOCKWASHER, MI2   43003600   31262     10   NUT, MI2   50808200   31262     11   HUB   50802700   S1264     12   GEAR & SHAFT [4T,1 MOD, FRICTION BRAKE   50824720   31265     13   3 SPOKE WHEEL ONLY   50812500   31265     14   SOCK, HD. CAF SCR. MG X 15   95803000   31267     15   CAP P/3 SPOKE WHEEL   50803100   31268     16   GEAR, 60 T, 1 MOD.   50824820   31268     17   GEAR & SHAFT, 14 T, 1 MOD.   50824820   31270     18   GEAR & SHAFT, 14 T, 1 MOD.   50814200   31270     19   ENCODER DISC, PLAT. 24 SLOT   50814200   31273     20   FENDER WASHER, \$8   43099700   31273     21   PHIL. HD. MACH. SCR. M4 X 6   43003200   31276     22   E-RING, 4MM   43099600   31276     23   PANEL BUSHING, LONG   96609000   31276     24   BRACKET, GEAR & SHAET FRICTION BRAKE   78602600   31277     24   BRACKET, GEAR & SHAET FRICTION BRAKE   78602600   31277     31262   31276   31276     3126	23	2	CAST BEARING HOUSING		1
4 MAIN SHAFT 5 FLAT WASHER MIO 43003400 312 S4 6 LOCK WASHER MIO 43003400 312 S5 7 NUT, MIO 43003500 312 S6 8 KEY, WOODRUFF 50808400 312 S7 9 LOCKWASHER, MI2 10 NUT, MI2 11 HUB 50802700 312 62 11 HUB 50802700 312 64 12 GEAR & SHAFT (4T, 1 MOD, FRICTION BRAKE 13 3 SPOKE WHEEL ONLY 14 SOCK, HD. CAF SCR. MG X 15 15 CAF F/3 SPOKE WHEEL 16 GEAR, 60 T, 1 MOD. 17 GEAR & SHAFT, 14 T, 1 MOD. 18 GEAR & SHAFT, 14 T, 1 MOD. 19 ENCODER DISC, PLAT. 24 SLOT 20 FENDER WASHER, #8 21 PHIL. HD. MACH. SCR. M4 X 6 23 PANEL BUSHING, LONG 24 SRACKET, GEAR & SHAFT FRICTION BRAKE 50803000 312 53 312 54 43003500 312 56 50802700 312 62 312 64 50812500 312 65 312 66 312 67 50812500 312 67 50803100 312 68 5082700 312 70 312 70 312 70 312 70 312 70 312 73		3	BALL BEARINGS	50813000	-
5   FLAT WASHER MIO		- 4	MAIN SHAFT	50808300	
NUT, NIO	-	5	FLAT WASHER M10 ·	43003300	
8 REY, WOODRUFF 50808400 31 2 57 9 LOCKWASHER, M12 43003600 31 2 62 10 NUT, M12 50808200 31 2 63 11 HUB 50802700 51 2 64 12 GEAR & SHAFT (4T, 1 MOD, FRICTION BRAKE 50824200 31 2 65 13 3 SPOKE WHEEL ONLY 50812500 31 2 65 14 SOCK, HD. CAP SCR. M6 X 15 95803000 31 2 67 15 CAP F/3 SPOKE WHEEL 50803100 31 2 68 16 GEAR, 60 T, 1 MOD. 5082400 31 2 68 16 GEAR & SHAFT, 14 T, 1 MOD. 5082400 31 2 70 18 GEAR & SHAFT, 14 T, 1 MOD. 50814100 31 2 71 19 ENCODER DISC, PLAT. 24 SLOT 50814200 31 2 72 20 FENDER WASHER, \$8 43099700 31 2 73 21 PHIL. HD. MACH. SCR. M4 X 6 43003200 31 2 74 22 E-RING, 4MM 43099600 31 2 75 23 PANEL BUSHING, LONG 96609000 31 2 75 24 ERACKET, GEAR & SHAFT FRICTION BRAKE 796602600 31 2 77	_	6	LOCK WASHER MIO	43003400	31255
South   Sout	_	7	NUT, M10	43003500	31256
10 NUT, M12 50808200 31 263 11 HUB 50802700 S1 2 64 12 GEAR & SHAFT (4T, 1 MOD, FRICTION BRAKE 50824200 31 2 65 13 3 SPOKE WHEEL ONLY 50812500 31 2 66 14 SOCK, HD. CAP SCR. M6 X 15 95803000 31 2 67 15 CAP F/3 SPOKE WHEEL 50803100 31 2 68 16 GEAR, 60 T, 1 MOD. 50824800 31 2 69 17 GEAR RETAINER 50827100 31 2 70 18 GEAR & SHAFT, 14 T, 1 MOD. 50814200 31 2 71 19 ENCODER DISC, PLAT. 24 SLOT 50814200 31 2 72 20 FENDER WASHER, \$8 43099700 31 2 73 21 PHIL. HD. MACH. SCR. M4 X 6 43003200 31 2 74 22 E-RING, 4MM 43099600 31 2 75 23 PANEL BUSHING, LONG 96609000 31 2 75 24 ERACKET, GEAR & SHAFT FRICTION BRAKE 796602600 31 2 77		8	KEY, WOODRUFF	50808400	31 257
11 HUB 50802700 \$1 2 64  12 GEAR & SHAFT (4T, 1 MOD, FRICTION BRAKE 50824200 \$1 2 65  13 3 SPOKE WHEEL ONLY 50812500 \$1 2 66  14 SOCK, HD. CAP SCR. MG X 15 95803000 \$1 2 67  15 CAP F/3 SPOKE WHEEL 50803100 \$1 2 68  16 GEAR, 60 T, 1 MOD. 50824800 \$1 2 69  17 GEAR RETAINER 50827100 \$1 2 70  18 GEAR & SHAFT, 14 T, 1 MOD. 50814200 \$1 2 70  19 ENCODER DISC, PLAT. 24 SLOT 50814200 \$1 2 71  20 FENDER WASHER, #8 43099700 \$1 2 73  21 PHIL. HD. MACH. SCR. M4 X 6 43003200 \$1 2 74  22 E-RING, 4MM 43099600 \$1 2 75  23 PANEL BUSHING, LONG 96609000 \$1 2 76  24 ERACKET, GEAR & SHAFT FRICTION BRAKE 7 94602400 \$1 2 77		9	LOCKWASHER, M12	43003600	31262
12   GEAR & SHAFT (4T, 1 MOD, FRICTION BRAKE   50824200   31265     13   3 SPOKE WHEEL ONLY   50812500   31266     14   SOCK, HD. CAP SCR. M6 X 15   95803000   31267     15   CAP F/3 SPOKE WHEEL   50803100   31268     16   GEAR, 60 T, 1 MOD.   50824200   31269     17   GEAR RETAINER   50827100   31270     18   GEAR & SHAFT, 14 T, 1 MOD.   50814200   31270     19   ENCODER DISC, PLAT. 24 SLOT   50814200   31272     20   FENDER WASHER, #8   43099700   31273     21   PHIL. HD. MACH. SCR. M4 X 6   43003200   31274     22   E-RING, 4MM   43099600   31275     23   PANEL BUSHING, LONG   96609000   31276     24   ERACKET, GEAR & SHAFT FRICTION BRAKE   94602600   31277		10	NUT, M12	50808200	31263
13 3 SPOKE WHEEL ONLY  14 SOCK, HD. CAP SCR. M6 X 15  15 CAP F/3 SPOKE WHEEL  16 GEAR, 60 T, 1 MOD.  17 GEAR RETAINER  18 GEAR & SHAFT, 14 T, 1 MOD.  19 ENCODER DISC, PLAT. 24 SLOT  20 FENDER WASHER, #8  21 PHIL. HD. MACH. SCR. M4 X 6  22 E-RING, 4MM  23 PANEL BUSHING, LONG  24 ERACKET, GEAR & SHAFT FRICTION BRAKE * 94602400 31275  24 ERACKET, GEAR & SHAFT FRICTION BRAKE * 94602400 31277		11	HUB	50802700	SI 2.64
14 SOCK, HD. CAP SCR. M6 X 15  15 CAP F/3 SPOKE WHEEL  16 GEAR, 60 T, 1 MOD.  17 GEAR RETAINER  18 GEAR & SHAFT, 14 T, 1 MOD.  19 ENCODER DISC, PLAT. 24 SLOT  20 FENDER WASHER, #8  21 PHIL. HD. MACH. SCR. M4 X 6  22 E-RING, 4MM  24 ERACKET, GEAR & SHAFT FRICTION BRAKE 7 96609000 312.75  24 ERACKET, GEAR & SHAFT FRICTION BRAKE 7 96602600 312.77	1	12	GEAR & SHAFT (4T, 1 MOD, FRICTION BRAKE	508247.00	31265
15 CAP F/3 SPOKE WHEEL  16 GEAR, 60 T, 1 MOD.  17 GEAR RETAINER  18 GEAR & SHAFT, 14 T, 1 MOD.  19 ENCODER DISC, PLAT. 24 SLOT  20 FENDER WASHER, #8  21 PHIL. HD. MACH. SCR. M4 X 6  22 E-RING, 4MM  23 PANEL BUSHING, LONG  24 ERACKET, GEAR & SHAFT FRICTION BRAKE 7 96602600 31277		13	3 SPOKE WHEEL ONLY	50812500	31266
16 GEAR, 60 T, 1 MOD.  17 GEAR RETAINER  18 GEAR & SHAFT, 14 T, 1 MOD.  19 ENCODER DISC, PLAT. 24 SLOT  20 FENDER WASHER, #8  21 PHIL. HD. MACH. SCR. M4 X 6  22 E-RING, 4MM  23 FANEL BUSHING, LONG  24 SRACKET, GEAR & SHAFT FRICTION BRAKE 7 96602600 312.77	! :	14	SOCK, HD. CAP SCR. M6 X 15	95803000	31 2 67
17 GEAR RETAINER  18 GEAR & SHAFT, 14 T, 1 MOD.  19 ENCODER DISC, PLAT. 24 SLOT  20 FENDER WASHER, #8  21 PHIL. HD. MACH. SCR. M4 X 6  22 E-RING, 4MM  23 PANEL BUSHING, LONG  24 ERACKET, GEAR & SHAFT FRICTION BRAKE 7 96602000 31277		15	CAP F/3 SPOKE WHEEL	50803100	31 268
18 GEAR & SHAFT, 14 T, 1 MOD.  19 ENCODER DISC, PLAT. 24 SLOT  20 FENDER WASHER, #8  21 PHIL. HD. MACH. SCR. H4 X 6  22 E-RING, 4MM  23 PANEL BUSHING, LONG  24 ERACKET, GEAR & SHAFT FRICTION BRAKE 7 94602600 31277	]	L6	GEAR, 60 T, 1 MOD.	50824300	31269
ENCODER DISC, PLAT. 24 SLOT  PENDER WASHER, #8  PHIL. HD. MACH. SCR. M4 X 6  E-RING, 4MM  PANEL BUSHING, LONG  S1272  31272  43099700  31273  43099600  31274  43099600  31275  24 SRACKET, GEAR & SHAFT FRICTION BRAKE 96602600  31277	1	L7	GEAR RETAINER	50827100	31270
20 FENDER WASHER, #8  21 PHIL. HD. MACH. SCR. M4 X 6  22 E-RING, 4MM  23 PANEL BUSHING, LONG  24 SRACKET, GEAR & SHAFT FRICTION BRAKE 7 96602600 31277	1	.8	GEAR & SHAFT, 14 T, 1 MOD.	50814100	31271
21 PHIL. HD. MACH. SCR. M4 X 6  22 E-RING, 4MM  23 PANEL BUSHING, LONG  24 BRACKET, GEAR & SHAFT FRICTION BRAKE 96602600 31277	1	.9	ENCODER DISC, PLAT. 24 SLOT	50814200	31272
22 E-RING, 4MM  23 PANEL BUSHING, LONG  24 ERACKET, GEAR & SHAFT FRICTION BRAKE 7 96602600 31277	2	0	FENDER WASHER, #8	43099700	31273
23 PANEL BUSHING, LONG 96609000 31276 24 BRACKET, GEAR & SHAFT FRICTION BRAKE 96602600 31277	2	1	PHIL. HD. MACH. SCR. M4 X 6	43003200	31274
23 PANEL BUSHING, LONG 96609000 31276 24 BRACKET, GEAR & SHAFT FRICTION BRAKE 96602600 31277	2:	2	E-RING, 4MM	43099600	31275
	2:	3	PANEL BUSHING, LONG	96609000	
25 NUT, JAM, 3/8-24 43098900 21778	24	4	BRACKET, GEAR & SHAFT FRICTION BRAKE	96602600	31277
1 L/O	25	5	NUT, JAM, 3/8-24	43098900	31278

# STEERING WHEEL ASSEMBLY PARTS LIST (CONT.)

		=   ===================================	
KEY	DESCRIPTION	REF NO.	PART NO.
26	BRACKET, ENCODER MTG.		31279
27	P.C. BOARD ASSY.	A04910100	31280
28	PHIL. HD. MACH. SCR. 4-40 X 1/4 T. R.	95000300	31281
29	LOCKWASH, EXT. STAR, #4	43099300	31282
30	ECCENTRIC SHAFT ASSY.	50822500	31 283
34	BUBHING, ECC. SHAFT	50820100	31284
35	COUPLING	50820200	31285
36	GEAR MOTOR	50818100	31286
37	HEX HD. MACH. SCR. 10-32 X 1/2	43000200	31287
38	LOCK WASHER EXT. STAR, #10	43003700	31288
39	BRKT. ASSY. SHAKER	50821000	31289
40	SUPP. COLUMN, LONG	96602800	31290
41	SUPP. COLUMN, SHORT, WITH GROOVES	96603000	31291.
42	LOCKNUT, NYLON, THIN, 3/8 UNC	43098700	31292
43	E-RING , 1/2"	43011900	31293
44	HARNESS, MOTOR	50824400	31294
45	MOUNTING PLATE, MAIN HOUSING	96601800	31295
46	SPRING HOLDER	96601200	31296
47	SPRING	96601300	31297
48	PHIL. HD. MACH. SCR. 10-32 X 3/4	43099400	31298
49	WASHER, #10 SAE	43099500	31299
50	BUMPER	96601100	3/300
51	NUT, KEP. 10-32	42009300	31301

# STEERING WHEEL ASSEMBLY PARTS LIST (CONT.)

KEY	DESCRIPTION	REF NO.	PART NO
52	BUSHING	50820000	31302
53	SPACER WASHER	43098600	3/303
54	MOUNTING TRUNNION	96601500	3/304
55	CARR. BOLT. 5/16 X 1 1/4, BLK.	43098800	31305
56	FRONT PLATE	96610000	3/306
57	LOCKNUT, NYLON, 5/16 UNC.	43099100	3/307
58	SCREW, *10-32 x 14, 5. H. H. M. S.	43013000	31308
59	SCREW, *10-32×3/4 S. H. H. M.S.	43013100	3/309
60	SPRING, COMPRESION FRICTION BRAKE	50828800	3/3/0
61	BRAKE, SHOE BRACKET, INNER	50858900	313/1
62	BRAKE, LINER, NYLON	50829000	31312
63	BRAKE SHOE COVER, OUTER	50829100	3/3/3
6+	NUT "10 SAE	43013200	31314

# ELECTROCOIN AFTERSALES & SERVICE LTD

The above company has been formed as part of the Electrocoin Automatics Group at the Cardiff factory to provide the AfterSales Service necessary to support the variety of machines manufactured by Electrocoin Automatics Ltd. The company will be responsible for servicing both Spares and Technical requirements for all U.K. manufactured Electrocoin machines, all "Famous Games" products, and all Board Games distributed by Electrocoin Ltd.

Normal working hours are Monday to Friday 08.00 to 17.30 and Saturday morning 08.00 to 12.30.

AfterSales & Service Tel No: 0222 615100 during working hours, 0836 536195 after hours/weekends.

Please contact the following staff for:-

PARTS ENQUIRIES - GARY SCOBLE

TECHNICAL INFORMATION - IAN COLLEY

ACCOUNTS ENQUIRIES - JULIE TIPPER

WORKSHOP SUPERVISOR - CLAUDE LEWIS

MONITOR TECHNICIAN - MIKE DANDO

CREDIT CONTROLLER - STEPHEN HARRIS

PLEASE REMEMBER, TO HELP US HELP YOU, PROMPT RETURN OF FAULTY PARTS IS ESSENTIAL.

Assuring you of the best attention at all times.

JEFF LANGLEY General Manager

ELECTROCOIN AFTERSALES & SERVICE LTD.