

ELECTROCOIN AUTOMATICS LTD
UPRIGHT
SERVICE MANUAL

NEO·GEO

MVS
MULTI VIDEO SYSTEM

SNK

PART No 64070

SPECIFICATIONS:

- 1. Power Supply 240/220VAC (HANTAREX US250 P.S.U)
- 2. Power Consumption 140w
- 3. Play Pricing Adjustable on Dip switches
- 4. TV Monitors 25" Hantarex 9000E colour monitor
- 5. Dimensions
 - Width : 642mm
 - Depth : 788mm
 - Height : 1857mm

6 Weight

Approximately:

* The specifications and appearance may be changed for improvement.

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PRECAUTIONS TO BE OBSERVED WHEN INSTALLING MACHINE

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

1. PLACES SUBJECT TO CONDENSATION DUE TO HUMIDITY.
2. IN THE PROXIMITY OF AN INDOOR SWIMMING POOL OR SHOWER.
3. PLACES SUBJECT TO DIRECT SUNLIGHT.
4. VICINITY OF HIGHLY INFLAMMABLE/VOLATILE CHEMICALS.
5. UNEVEN SURFACES.
6. VICINITY OF FIRE EXITS AND FIRE EXTINGUISHERS.
7. 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.

TECHNICAL FEATURES

Fast 16 Bit Main Microprocessor

Allows game software to be executed up to four times faster than conventional video game hardware.

Expanded ROM Capacity

Up to 64 Megabytes of GAME ROM storage, allows for superior graphics and sounds, makes ordinary video games containing less than 10 Megabytes of GAME ROM look and sound weak by comparison!

Incredible Sprite Generation

Sprites are groups of Pixels (screen dots) that can be moved around on the screen. They are used for displaying animated objects, such as the Main Characters. Typical coin-op game hardware can display less than 80 sprites on the screen. Neo Geo can display and manipulate 380 sprites simultaneously! Neo-Geo also has a unique hardware feature for enlarging and reducing Sprites smoothly!

Maximum Background Video

Neo-Geo's advanced hardware can display and independently scroll 3 unique Background Video scenes. This allows Neo-Geo to create realistic 3D effects! Neo-Geo can store up to 65,536 16X16 pixel background characters in its 8 Megabyte Character Romsl!

Tremendous Color Palette

The key to displaying realistic images is the number of individual colours that can be displayed on the screen.

Typical coin-op hardware can display from 64 to 512 different colours at the same time, Neo-Geo can display 4096 colours from a selection of 65,536 total colours! This allows the capability to display photo-quality graphics on a standard resolution monitor!

Compact Disk Quality Sound

- 3 channels of Programmable Sound Generation (PSG),
- 7 channels of Pulse Control Modulation (PCM),
- 2 channels of Frequency Modulation (FM), and a channel of noise generation, combined with true Stereophonic Audio Output, allows Neo-Geo to deliver incredible, true to life audio effects.

Advanced Hardware Test Program

The Neo-Geo hardware can diagnose potential hardware problems, such as a Rom or Ram failure, using its built-in Test Mode Program. The Main Volume control and Headphone Volume control can be easily accessed through the Access Door.

DESCRIPTION

NEO-GEO which means "NEW LAND" is a new and outstanding game system which SNK have been working on for the past two years.

The Multy Video System is able to load six or four software cartridges which the players can choose from which game they want to play. With this system there is a special feature, a universal card which can be used on the Multy Video System or on a Home Video System.

The card is a 16 BIT memory card which records your play either on location on your machine or at home.

FOR EXAMPLE: On the baseball game, when you finish the bottom of the 2nd innings on the machine you can resume your play from the top of the 3rd innings on the Home Video Version. You can continue your game play anywhere in the world wherever the NEO-GEO is available. Your machine is fitted with a two player VS control panel but with four function buttons per player. These function buttons are coded so you can identify which buttons you need to use for the game you are about to play. For example the baseball game uses all four buttons where as Magician Lord only uses two.

These buttons are:- A = RED

B = YELLOW

C = GREEN

D = BLUE

UNIVERSAL MEMORY CARD

The Neo-Geo system is unique because of the fact it can enable the player to recall their game by use of the memory card on any Neo-Geo system through out the world.

HOW IT WORKS

Example: On your card you have saved Magician Lord from a previous game and now you want to continue that game. Insert coin(s) then select that game. Press Start and the screen will now display:-

MEMORY CARD

LOAD

YES

NO

COUNTDOWN 8

Press button A to load.

The game will now start off where you left it before.
Once you have finished playing and you want to save, the screen will display:-

SAVE

YES

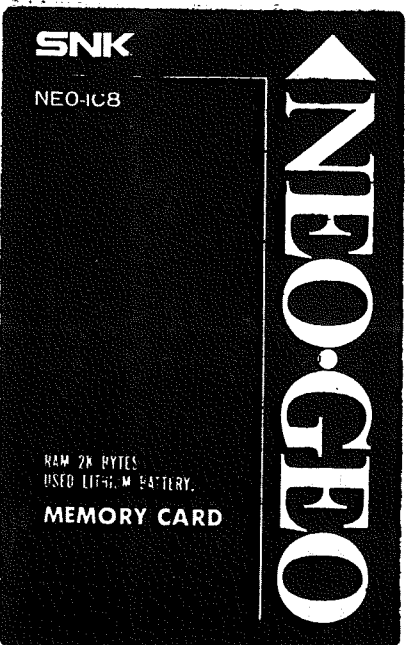
NO

COUNTDOWN 9

Press A to save

Do not forget to remove your card from the machine before you leave.

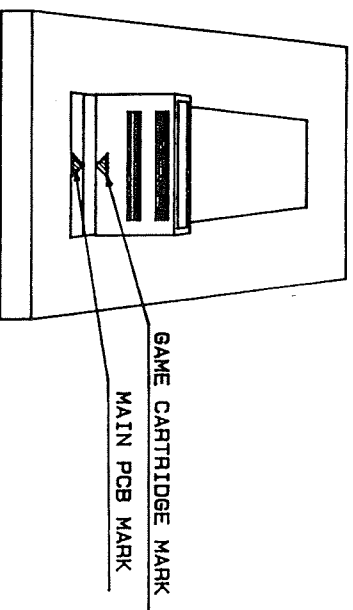
MEMORY CARD



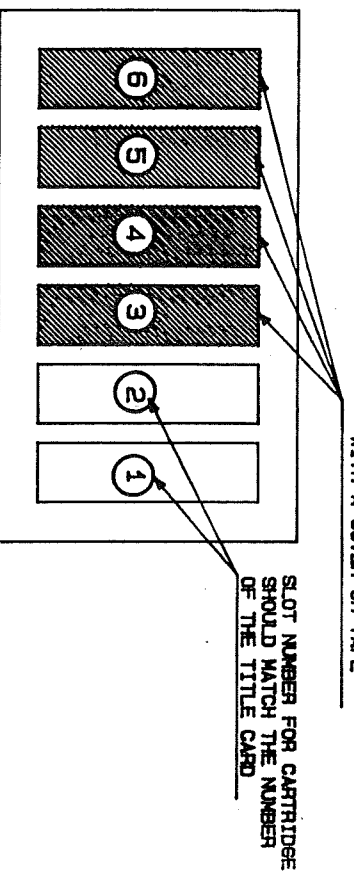
Insert this end ----->

WARNING

1. Make sure the game cartridge is installed with the markings matching the main board.



2. Make sure the slot number you install the cartridge in matches the game title card number on the EL panel.
3. Make sure the power is off when you insert or remove the cartridge. Make sure the cartridge is firmly inserted in the slot or it will not work correctly.
4. Protect the unused slots with a cover or tape.

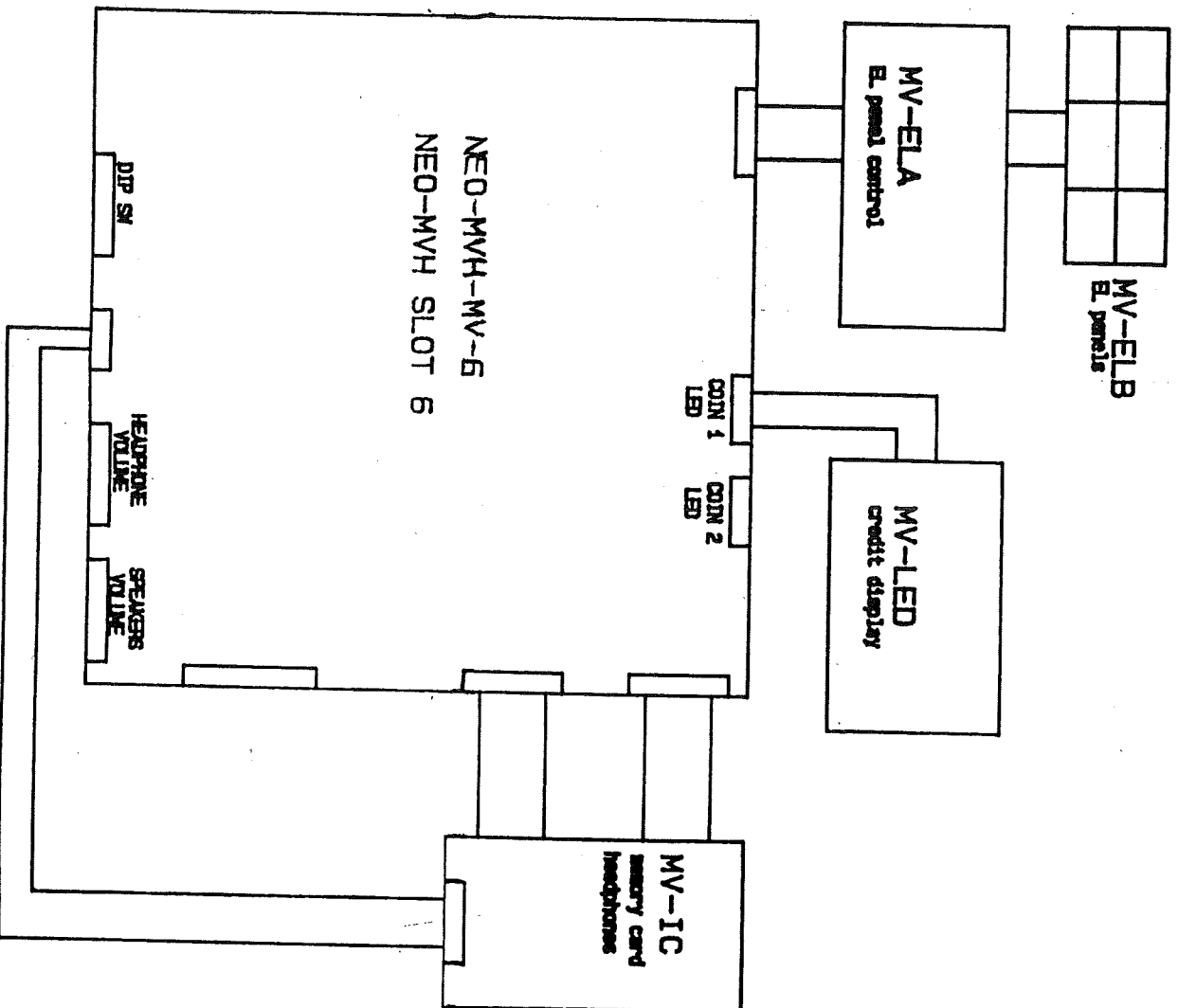


5. Do not put any electric conductive materials on or in the slots.
6. Do not insert any other cartridge than the MVS cartridge with the 240 pin connector. The Neo-Geo rental system cartridge will not fit on this connector.
7. MVS preserves the income data of Max. 8 games even when the power is off or the game cartridges are removed from the PCB.

PCB COMPONENT

1. MV6 consists of 6 different PCB's.
 - NEO - MVH MV6 Main programming, character
 - NEO - MVH SLOTS 6 Switching game cartridges
 - MV - LED Credit indicator
 - MV - IC Reads the data from the memory card. Two headphone jacks are installed here.
 - MV - ELA Control lighting EL board
 - MV - ELB EL board is installed

2. MV6 and slot 6 fit together without harnesses. Connection to other boards is as follows:



NEO-GEO

MEMORY FRAMES

MVS preserves the income data of max 8 games even when the power is off or the game cartridges are removed from the PCB.

For example:- 6 cartridges are being used A, B, C, D, E and F on the MVS. If new game titles G and H are used to replace A and B, the data for A and B will remain.

Memory frames		
A		A
B		B
C		C
D		D
E		E
F		F
		G
		H
(A)	MVS	(B)

The income data for A and B will remain even if they are pulled out of the cabinet. Even if you move C and D to slots where A and B were, the income data for A and B will still remain.

As the drawing (B) shows above, when you install new games, I and J, in the slots that were being used by C and D, the data for A and B will now be erased and data for C and D will remain. The reason for this is that the MVS system can only retain data for up to 8 games.

MULTI VIDEO SYSTEM

INCOME TOTALIZATION SYSTEM

1. The multi video system (MVS) is equipped with back-up ram and calendar IC which allows the daily income data to be saved even when the power is off.
2. After pressing the test button and selecting "BOOK KEEPING" from the menu, you can view the "INCOME DATA" on the screen.
3. One exclusive memory card is capable of saving the income data of several cabinets.
4. The collected data from the memory card used in conjunction with the Neo-Geo rental cartridge enables you to check the entire income totals.
The income per cabinet or per game is shown on the screen. It is possible to create graphs showing the income curve and print the data on your printer.
5. The exclusive cartridge is equipped with a modem which can transfer data through the telephone line.
6. It is easy to collect the income data by saving it on the book-keeping memory card. The code number system keeps important data confidential.

NEO GEO

TEST MODE

To enter the test mode simply turn on the test switch located inside the access door. On entering the test mode a test menu will appear (as shown below).

```
CURSOR ---->
                HARDWARE TEST
                SETTING UP THE HARD DIP
                SETTING UP THE SOFT DIP
                BOOK KEEPING
                SETTING UP THE CALENDER
                EXIT
```

Use the joystick to move the cursor up or down to select the test you want then press Player 1 A button.

1. HARDWARE TEST

- a) Screen GND test - Press Player 1 start to continue.
- b) Colour bar test - Press Player 1 start to continue.
- c) I/O test.

I/O CHECK

UP	PL1	PL2							
DOWN	0	0							
LEFT	0	0	P1	COIN	0				
RIGHT	0	0	P2	COIN	0				
PUSH A	0	0	SERVICE	0					
PUSH B	0	0							
PUSH C	0	0							
PUSH D	0	0							
START	0	0							
SELECT	0	0	EL	LED1	LED2				
	0 = OFF	1 = ON	1	73	23				

The credit display will automatically test themselves by counting and this is displayed on the screen as well.

Press Player 1 Start to continue

d) Memory Card Test - The machine will now ask you to insert a memory card, once it has been inserted it will now display memory card test ok.

Press Player 1 Start to continue

e) Back up test

The machine will display back up clear OK = Press

A, B, C buttons one at a time.

* WARNING: If you clear the back up you will erase all the information on the BOOK KEEPING mode.

Press Player 1 Start to continue.

f) Setting up the calendar - The machine will display as below:-

Current Time

ie. 13-4-90 FRI The time to be set up
10:00:00 A button, Joystick = SELECT
D button = SET

13-4-90 10:00:00

Press Player 1 Start to return back to test a.
Turn test switch off then reset machine.
Turn test switch on and the main menu will appear again.
Move cursor down to the next.

2. Setting up the hard dip - Press button A to enter

It should now display as below:-

Setting up the hard dip -	1	2	3	4	5	6	7	8	
Setting Mode	0								OFF
Free Play		0							OFF
Stop Mode								0	OFF
	0 = OFF	1 = ON							

Press button C to return to main menu.

3. Setting up the soft dip - Press button A to enter

The screen will now display as below:-

- a) Setting up the cabinet
- b) Slot 1 Magician Lord
- c) Slot 2 Baseball Stars
- d) Slot 3 Nam. 1975

A SETTING UP THE CABINET

>	COIN 1	1 COIN = 1 CREDIT
	COIN 2	1 COIN = 2 CREDIT
	GAME SELECT	ONLY WHEN CREDITED
	GAME START	COMPULSION WITHOUT
	DEMO SOUND	SET UP IN EACH GAME

Move the cursor to select mode. Press C to go back to test mode 3.
Select b. Slot 1 Magician Lord.

Press Button A to enter
The screen will display:-

MAGICIAN LORD

CONTINUE	FREE
DEMO SOUND	ON
HOW TO PLAY	ON
DIFFICULTY	LEVEL 3
BONUS RATE	SECOND BONUS
BONUS	30000
HERO	3

Once you have made your selection Press C to return to test mode 3.

There can be up to six slots to choose from, to select how you want to set any particular game up.
Once you have returned to test mode 3 Press button C.

4. BOOK KEEPING

Press button A to enter.
The screen will display:-

```
> CABINET/COIN
  CABINET/PLAY
  SLOT 1
  SLOT 2
  SLOT 3
```

Move cursor to select mode.

a CABINET/COIN

```
COIN 1      COIN 2      SERVICE
APR 13      1          0          0
```

The first box will display that days information
The second box will display the years information month by month.

```
COIN 1      COIN 2      SERVICE
JAN         0          0          0
FEB         0          0          0
MAR         0          0          0
APR         1          0          0
MAY         0          0          0
JUN         0          0          0
JUL         0          0          0
```

Press C to return to test mode.

Select slot 1 then Press a to enter
The screen will display:-

MAGICIAN LORD

	PLAY	CONT.	AV. TIME
APR	1	0	0:00

Press button A and another table will appear showing information on that game for each month.

Press button C to return to the main test menu.

Test mode 5 is the calender set up which is the same as in test mode 1.

To exit test mode move the cursor to exit on the menu, turn the test switch off and then reset the machine.

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.

S12 ON - 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. £1.

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>	<u>SW2</u>	<u>SW3</u>	<u>SW4</u>	<u>SW5</u>	<u>UNITS/GAME</u>
X	ON	ON	ON	ON	ON	5
X	OFF	ON	ON	ON	ON	10
X	ON	OFF	ON	ON	ON	20
X	OFF	OFF	ON	ON	ON	30
X	ON	ON	OFF	ON	ON	40
X	OFF	ON	ON	ON	ON	50
X	ON	OFF	OFF	ON	ON	60
X	OFF	ON	OFF	ON	ON	70
X	ON	OFF	ON	ON	OFF	80
X	OFF	ON	ON	ON	OFF	90
X	ON	OFF	OFF	ON	OFF	100
X	OFF	OFF	OFF	ON	OFF	110
X	ON	ON	ON	OFF	OFF	120
X	OFF	ON	ON	OFF	OFF	130
X	ON	OFF	OFF	OFF	OFF	140
X	OFF	OFF	OFF	OFF	OFF	150

X = DON'T CARE

ADDITIONAL GAMES FOR HIGHEST VALUE COIN(COIN 1)

<u>SW6</u>	<u>SW7</u>	<u>SW8</u>	<u>FUNCTION</u>
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)

<u>SW9</u>	<u>SW10</u>	<u>FUNCTION</u>
ON	ON	NO ADDITIONAL GAMES
OFF	ON	1 ADDITIONAL GAME
ON	OFF	2 ADDITIONAL GAMES
OFF	OFF	3 ADDITIONAL GAMES

TOTALISING SWITCHES

<u>ST1</u>	<u>ON</u>	<u>TOTALISE MODE</u>
S11	OFF	NON-TOTALISE MODE

CURRENCY SELECT SWITCHES

<u>ST2</u>	<u>ON</u>	<u>NON-STANDARD COIN SET (100, 25, 10, 5)</u>
S12	OFF	STANDARD COIN SET (100, 50, 20, 10)

INHIBIT SWITCHES

<u>ST3</u>	<u>COIN 1</u>	<u>ON = ACCEPT</u>	<u>OFF = INHIBIT</u>
S14	COIN 2		
S15	COIN 3		
S16	COIN 4		
S17	COIN 5/6		
S18	COIN 7/8		

NEO-GEO

EDGE CONNECTOR

<u>COLOUR WIRE</u>	<u>FUNCTION</u>		<u>FUNCTION</u>	<u>COLOUR WIRE</u>
BLK	GROUND	A 1	GROUND	BLK
BLK	GROUND	B 2	GROUND	BLK
PNK	+5VDC	C 3	+5VDC	PNK
PNK	+5VDC	D 4	+5VDC	PNK
VIO	-5VDC	E 5	-5VDC	VIO
ORG	+12VDC	F 6	+12 VDC	ORG
	KEYWAY	H 7	KEYWAY	
WHT/YEL	METER 2	J 8	METER 1	WHT/ORG
	N/C	K 9	N/C	
ORG/VIO	SPEAKER +(L)	L 10	SPEAKER +(R)	ORG/GRN
RED/YEL	TEST SW	M 11	AUDIO (MONO)+	GRY/BLK
GRN	VIDEO GRN	N 12	VIDEO RED	RED
WHT	VIDEO SYNC	P 13	VIDEO BLU	BLU
YEL/RED	SERVICE SW	R 14	VIDEO GROUND	BLK/BLU
	N/C	S 15	N/C	
YEL/BLK	COIN SW2	T 16	COIN SW1	ORG/BLK
GRN/RED	PLAYER 2 START	U 17	PLAYER 1 START	GRN/BLK
GRY/GRN	PLAYER 2 UP	V 18	PLAYER 1 UP	YEL
GRY/RED	PLAYER 2 DOWN	W 19	PLAYER 1 DOWN	GRY
GRY/ORG	PLAYER 2 LEFT	X 20	PLAYER 1 LEFT	BLU/VIO
GRY/BLU	PLAYER 2 RIGHT	Y 21	PLAYER 1 RIGHT	BLU/YEL
RED/GRN	PLAYER 2 SW A	Z 22	PLAYER 1 SW A	BLU/BLK
RED/BLU	PLAYER 2 SW B	AA 23	PLAYER 1 SW B	WHT/BLU
ORG/BLU	PLAYER 2 SW C	AB 24	PLAYER 1 SW C	ORG/BRN
ORG/GRY	PLAYER 2 SW D	AC 25	PLAYER 1 SW D	ORG/PNK
	N/C	AD 26	SELECT	BLU/WHT
BLK	GROUND	AE 27	GROUND	BLK
BLK	GROUND	AF 28	GROUND	BLK

NEO GEO

CONNECTORS

CONNECTOR B

(12P AMP M+L MALE HSNG)

PIN

1. PLAYER 1 START
2. PLAYER 2 UP
3. PLAYER 1 DOWN
4. PLAYER 1 LEFT
5. PLAYER 1 RIGHT
6. PLAYER 1 SW A
7. PLAYER 1 SW B
8. PLAYER 1 SW C
9. PLAYER 1 SW D
10. GAME SELECT
- 11.
12. GROUND

GRN/BLK
YEL
GRY
BLU/VIO
BLU/YEL
BLU/BLK
WHT/BLU
ORG/BRN
ORG/PNK
BLU/WHT

BLK

CONNECTOR C

(12P AMP M+L FEMALE HSNG)

PIN

1. PLAYER 2 START
2. PLAYER 2 UP
3. PLAYER 2 DOWN
4. PLAYER 2 LEFT
5. PLAYER 2 RIGHT
6. PLAYER 2 SW A
7. PLAYER 2 SW B
8. PLAYER 2 SW C
9. PLAYER 2 SW D
- 10.
- 11.
12. GROUND

GRN/RED
GRY/GRN
GRY/RED
GRY/RED
GRY/BLU
RED/GRN
RED/BLU
ORG/BLU
ORG/GRY

BLK

CONNECTOR D

(6P AMP M+L FEMALE HSNG)

PIN

1. +12VDC
2. +5VDC
3. COIN 2
4. CREDIT BD METER
5. GROUND
6. COIN 1

ORG
PNK
YEL/BLK
WHT/RED
BLK
ORG/BLK

CONNECTOR F

9P AMP M+L MALE HSNG (MALE PINS)

PIN

1.	+5VDC	PNK
2.	+5VDC	PNK
3.		
4.	GROUND	BLK
5.	GROUND	BLK
6.	GROUND	BLK
7.	GROUND	BLK
8.	+12VDC	ORG
9.	-5VDC	VIO

CONNECTOR E

4P AMP M+L MALE HSNG (MALE PINS)

1.	0v	BRN
2.	135V	RED
3.	0V	ORG
4.	240V	YEL

CONNECTOR G

6P AMP MODU MOD 1

PIN

1.	VIDEO BLU	BLU
2.	VIDEO GREEN	GRN
3.	VIDEO RED	RED
4.	VIDEO GROUND	BLK
5.		
6.	HORIZ SYNC	WHT

CONNECTOR H

4P AMP MODU MOD 1

PIN

1.	0V	BRN
2.	135V	RED
3.	0V	ORG
4.	240V	YEL

CONNECTOR M

0.25" FASTON + BOOTS

TEST SW
GROUND

RED/YEL
BLK

CONNECTOR N

PUSH SW

SERVICE SW
GROUND

YEL/RED
BLK

CONNECTOR I

3P AMP M+L FEMALE HSNG

CONNECTORS

PIN		PNK	
1.	+5VDC	WHT/ORG	NOT FITTED IN PLUG)
2.	(METER 1	WHT/YEL	NOT FITTED IN PLUG)
3.	(METER 2	WHT/RED	NOT FITTED IN PLUG)
*	CREDIT BD METER		

NOTE: The meter wires are not connected to the plug until option has been established, i.e. if the credit board is used then the credit board meter will be used and the other two meter wires will then be made redundant.

CONNECTOR J 2P AMP M+L FEMALE HSNG

PIN		ORG
1.	+12VDC	ORG
2.	GROUND	BLK

CONNECTOR K

SPEAKER + (LEFT)	ORG/VIO
GROUND	BLK
AUDIO MONO +	GRY/BLK

SPEAKER + (RIGHT)	ORG/GRN
GROUND	BLK

CONNECTOR W 2P AMP M+L MALE HSNG (MALE PINS)

PIN		PNK
1.	+5VDC	PNK
2.	GROUND	BLK

CONNECTOR X 2P AMP M+L FEMALE HSNG

PIN		PNK
1.	+5VDC	PNK
2.	GROUND	BLK

WIRE LIST

PART NO 16920

TITLE

SHEET 1 OF 2

REVISION A

MAIN LOOM

DATE 7-6-90

WIRE NO	FROM	TO	COLOUR	FUNCTION	WIRE SIZE
---------	------	----	--------	----------	-----------

1	A-A/1	F-4	BLK	GROUND	24/02
2	A-B/2	F-5	BLK	GROUND	24/02
3	A-C/3	F-1	PNK	+5VDC	24/02
4	A-D/4	F-2	PNK	+5VDC	24/02
5	A-F/6	F-8	ORG	+12VDC	24/02
6	A-AE/27	F-6	BLK	GROUND	24/02
7	A-AF/28	F-7	BLK	GROUND	24/02
8	A-A/1	B-12	BLK	GROUND	13/02
9	A-B/2	C-12	BLK	GROUND	13/02
10	A-AE/27	D-5	BLK	GROUND	13/02
11	A-C/3	D-2	PNK	+5VDC	13/02
12	A-D/4	F-1	PNK	+5VDC	13/02
13	A-F/6	D-1	ORG	+12VDC	13/02
14	A-F/6	J-1	ORG	+12VDC	13/02
15	A-AF/28	K-1	BLK	GROUND	13/02
16	A-A/1	M	BLK	GROUND	13/02
17	M	N	BLK	GROUND	13/02
18	A-J	I	WHT/YEL	METER 2	13/02
19	A-8	I	WHT/ORG	METER 1	13/02
20	A-L	K-2	ORG/VIO	SPEAKER+(L)	13/02
21	A-10	K-3	ORG/GRN	SPEAKER+(R)	13/02
22	A-M	M	RED/YEL	TEST SW	13/02
23	A-N	G-Z	GRN	VIDEO GRN	13/02
24	A-12	G-3	RED	VIDEO RED	13/02
25	A-P	G-6	WHT	HORIZ SYNC	13/02
26	A-13	G-1	BLU	VIDEO BLUE	13/02
27	A-R	N	YEL/RED	SERVICE SW	13/02
28	A-14	G-4	BLK/BLU	VIDEO GROUND	13/02
29	A-T	D-3	YEL/BLK	COIN 2	13/02
30	A-16	D-6	ORG/BLK	COIN 1	13/02
31	A-U	C-1	GRN/RED	PLAYER 2 Start	13/02
32	A-17	B-1	GRN/BLK	PLAYER 1 Start	13/02
33	A-V	C-2	GRY/GRN	PLAYER 2 UP	13/02
34	A-18	B-2	YEL	PLAYER 1 UP	13/02
35	A-W	C-3	GRY/RED	PLAYER 2 Down	13/02
36	A-19	B-3	GRY	PLAYER 1 Down	13/02
37	A-X	C-4	GRY/ORG	PLAYER 2 Left	13/02
38	A-20	B-4	BLU/VIO	PLAYER 1 Left	13/02
39	A-Y	C-5	GRY/BRN	PLAYER 2 Right	13/02
40	A-21	B-5	BLU/YEL	PLAYER 1 Right	13/02
41	A-Z	C-6	RED/GRN	PLAYER 2 SW	A13/02
42	A-22	B-6	BLU/BLK	PLAYER 1 SW	B13/02
43	A-Aa	C-7	RED/BLU	PLAYER 2 SW	B13/02
44	A-23	B-7	WHT/BLU	PLAYER 1 SW	B13/02
45	A-Ab	C-8	ORG/BLU	PLAYER 2 SW	C13/02
46	A-24	B-8	ORG/BRN	PLAYER 1 SW	C13/02
47	A-Ac	C-9	ORG/GRY	PLAYER 2 SW	D1/302
48	A-25	B-9	ORG/PNK	PLAYER 1 SW	D13/02
49	A-AF/28	J-2	BLK	GROUND	24/02

WIRE LIST

PART NO 16920

TITLE

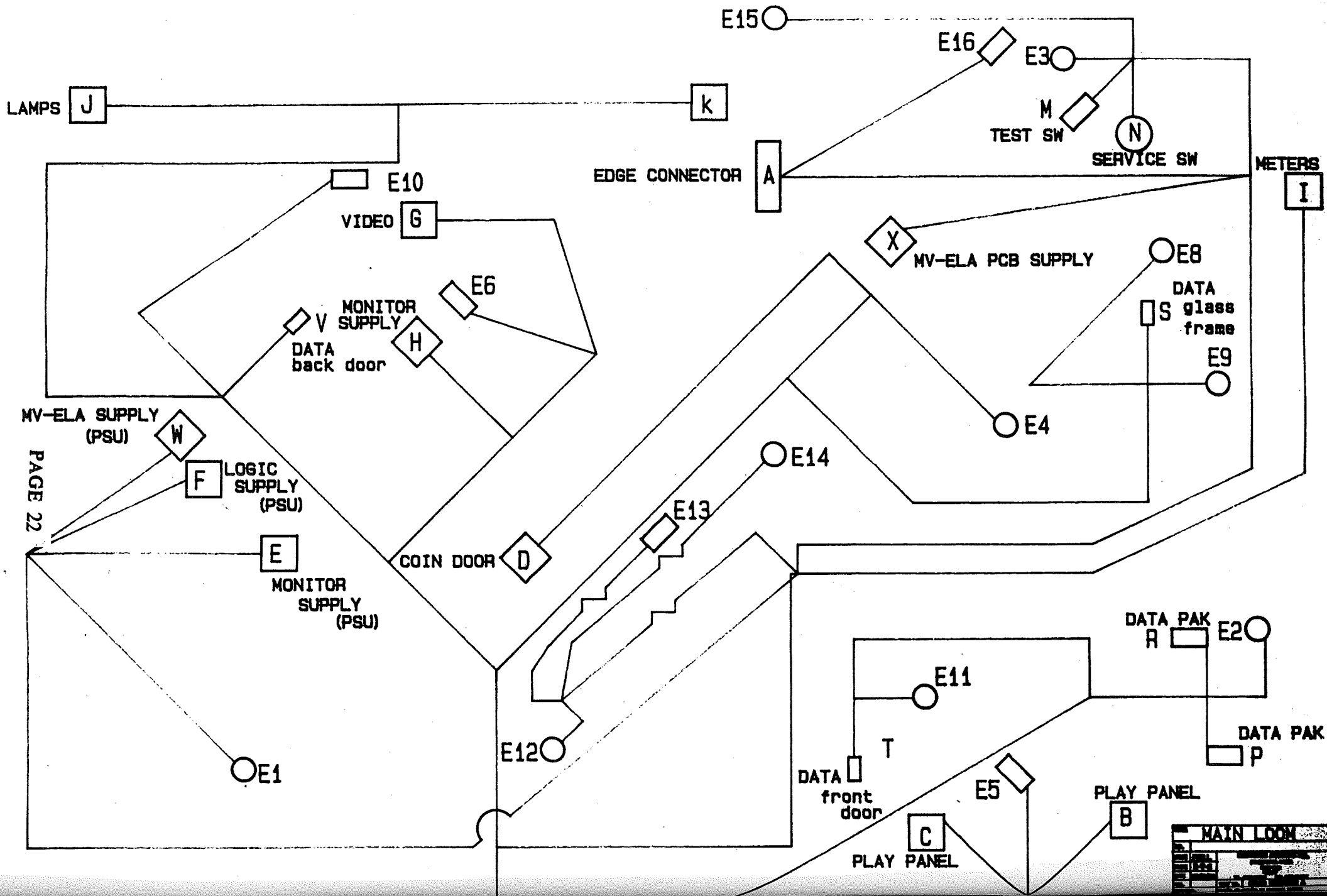
SHEET 2 OF 2

REVISION A

MAIN LOOM

DATE 7-6-90

WIRE NO	FROM	TO	COLOUR	FUNCTION	WIRE SIZE
50	I	D-4	WHT/RED	Credit Bd Meter	13/02
51	E-1	H-1	BRN	0v	24/02
52	E-2	H-2	RED	135v	24/02
53	E-3	H-3	ORG	0v	24/02
54	E-4	H-4	YEL	240v	24/02
55	A-11	K-Tied	GRY/BLK	AUDIO(MONO)+	13/02
56	P	T	BLK/RED	Data Pak Secure	13/02
57	R	T1	RED/BLK	Data Pak Secure	13/02
58	T	V	BLK/RED	Data Pak Secure	13/02
59	T1	V1	RED/BLK	Data Pak Secure	13/02
60	V	S	BLKRED	Data Pak Secure	13/02
61	V1	S1	RED/BLK	Data Pak Secure	1302
62	2E1	E2	GRN/YEL	EARTH	24/02
63	E1	E3	GRN/YEL	EARTH	24/02
64	E3	E4	GRN/YEL	EARTH	24/02
65	E4	E5	GRN/YEL	EARTH	24/02
66	E5	E6	GRN/YEL	EARTH	24/02
67	E6	E10	GRN/YEL	EARTH	24/02
68	E3	E9	GRN/YEL	EARTH	24/02
69	E9	E11	GRN/YEL	EARTH	24/02
70	A-26	B-10	BLU/WHT	GAME SELECT	13/02
71	E9	E8	GRN/YEL	EARTH	24/02
72	W-1	X-1	PNK	+5v	24/02
73	W-2	X-2	BLK	GND	24/02
74	A-5/E	F-9	VIO	-5v	24/02
75	E2	E12	GRN/YEL	EARTH	24/02
76	E12	E13	GRN/YEL	EARTH	24/02
77	E13	E14	GRN/YEL	EARTH	24/02
78	E10	K-4	GRN/YEL	EARTH	24/02
79	E3	E15	GRN/YEL	EARTH	24/02
80	E3	E16	GRN/YEL	EARTH	24/02



PAGE 22



ID	DESCRIPTION
A	56P HRS EDGE CONNECTOR keyway H-7
B	12P AMP M+L MALE HSNB
C	12P AMP M+L FEMALE HSNB
D	6P AMP M+L FEMALE HSNB
E	4P AMP M+L MALE HSNB male pins
F	9P AMP M+L MALE HSNB male pins
G	6P AMP MODU MOD 1
H	4P AMP MODU MOD1
J	2P AMP M+L FEMALE HSNB
K	4P AMP M+L FEMALE
E12E14	0BA RING CRIMP
M E16	0.25" FASTON + BOOT
N	PUSH SWITCH
P	0.25" MALE FASTON + BOOT
R	0.25" MALE FASTON + BOOT
S	0.187" FASTON + BOOT
T	0.187" FASTON + BOOT

V	0.187" FASTON + BOOT
E1	2BA SERRATED RING CRIMP
E2	2BA SERRATED RING CRIMP
E3	2BA SERRATED RING CRIMP
E4 E15	2BA SERRATED RING
E10 E5	0.25" FASTON + BOOT
E6 E13	0.25" FASTON + BOOT
I	3P AMP M+L FEMALE HSNB
W	2P AMP M+L MALE HSNB male pins
E11 E9	2BA SERRATED RING CRIMP
E8	2BA SERRATED RING CRIMP
X	2P AMP M+L FEMALE HSNB

TITLE		MAIN LOOM CONNECTORS	
MOD.			
DRAWN	PHILL	ELECTROCOIN AUTOMATICS LTD. ACE INDUSTRIAL ESTATE FERRY ROAD CARDIFF	
SCALE		TEL. 0222 222918 FAX. 0222 284286	
DATE	27/3/90	PART NO.	P. 16920-1
CHD.			
MATERIAL			
FINISH			

WIRE LIST

PART NO 16919

TITLE

SHEET 1 OF 1

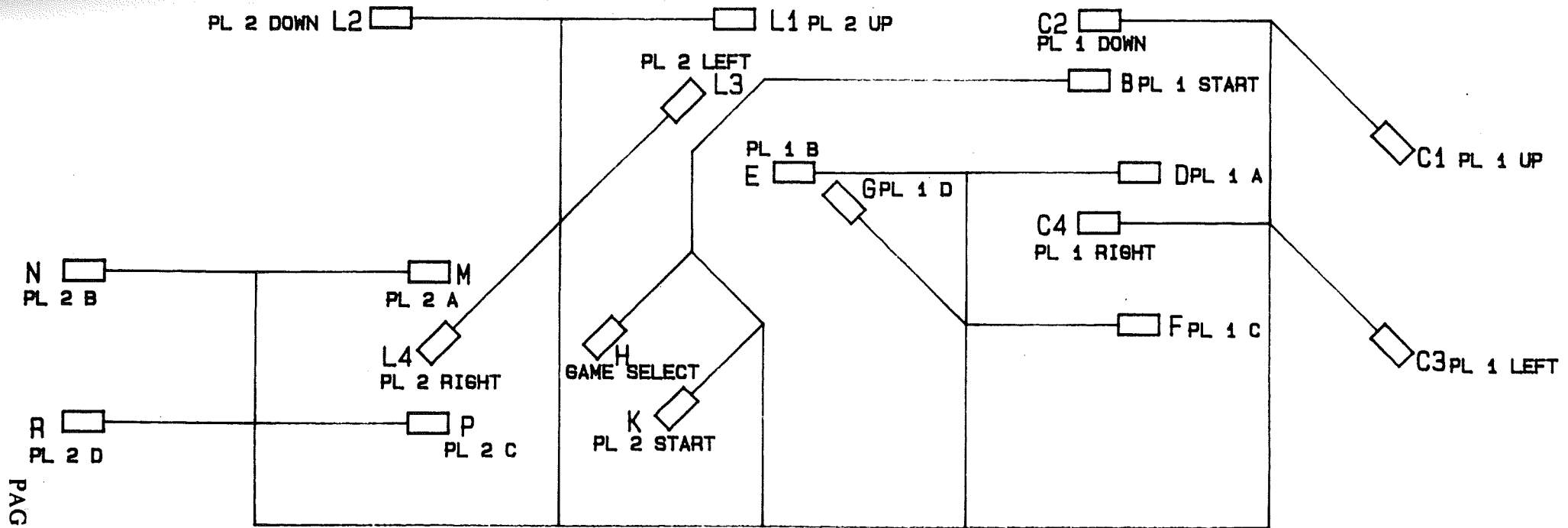
REVISION

CONTROL PANEL LOOM

DATE 12-3-90

WIRE NO	FROM	TO	COLOUR	FUNCTION	WIRE SIZE
1	A-1	B	GRN/BLK	PLAYER 1 Start	13/02
2	A-2	C1	YEL	PLAYER 1 Up	13/02
3	A-3	C2	GRY	PLAYER 1 Down	13/02
4	A-4	C3	BLU/VIO	PLAYER 1 Left	13/02
5	A-5	C4	BLU/YEL	PLAYER 1 Right	13/02
6	A-6	D	BLU/BLK	PLAYER 1 SW	A13/02
7	A-7	E	WHT/BLU	PLAYER 1 SW	B13/02
8	A-8	F	ORG/BRN	PLAYER 1 SW	C13/02
9	A-9	G	ORG/PNK	PLAYER 1 SW	D13/02
10	A-10	H	BLU/WHT	GAME SELECT	13/02
11	A-11	B	BLK	GROUND	13/02
12	B	H	BLK	GROUND	13/02
13	H	D	BLK	GROUND	13/02
14	D	E	BLK	GROUND	13/02
15	E	F	BLK	GROUND	13/02
16	F	G	BLK	GROUND	13/02
17	G	C1	BLK	GROUND	13/02
18	C1	C2	BLK	GROUND	13/02
19	C2	C3	BLK	GROUND	13/02
20	C3	C4	BLK	GROUND	13/02
21	J-1	K	GRN/RED	PLAYER 2 Start	13/02
22	J-2	L1	GRY/GRN	PLAYER 2 Up	13/02
23	J-3	L2	GRY/RED	PLAYER 2 Down	13/02
24	J-4	L3	GRY/ORG	PLAYER 2 Left	13/02
25	J-5	L4	GRY/BLU	PLAYER 2 Right	13/02
26	J-6	M	RED/GRN	PLAYER 2 SW	A13/02
27	J-7	N	RED/BLU	PLAYER 2 SW	B13/02
28	J-8	P	ORG/BLU	PLAYER 2 SW	C13/02
29	J-9	R	ORG/GRY	PLAYER 2 SW	D13/02
30	J-12	K	BLK	GROUND	13/02
31	K	L1	BLK	GROUND	13/02
32	L1	L2	BLK	GROUND	13/02
33	L2	L3	BLK	GROUND	13/02
34	L3	L4	BLK	GROUND	13/02
35	L4	M	BLK	GROUND	13/02
36	M	N	BLK	GROUND	13/02
37	N	P	BLK	GROUND	13/02
38	P	R	BLK	GROUND	13/02

NOTE: APART FROM THE GROUNDS ALL OTHER CONNECTORS ARE SINGLES ON 0.187" FASTONS.



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ID DESCRIPTION

A 12P AMP M+L FEMALE HSNG

J 12P AMP M+L MALE HSNG

ALL OTHER CONNECTORS ARE 0.187" FASTONS+BOOTS

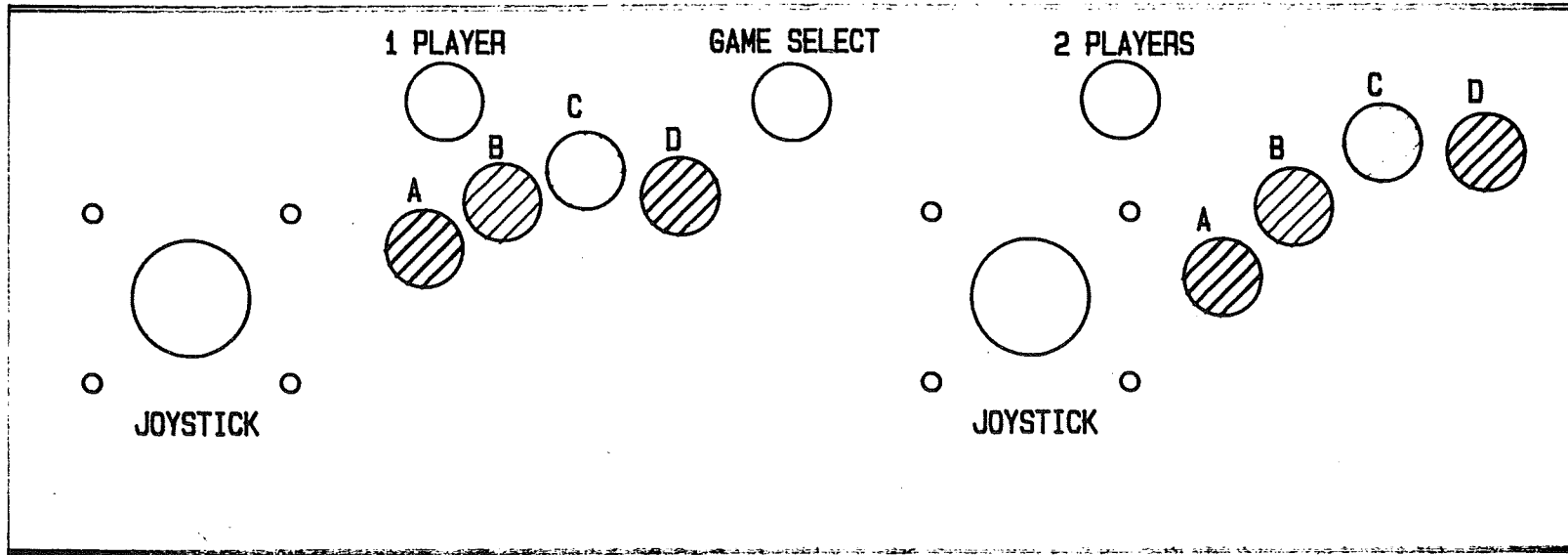
*NOTE: ALL DIMENSIONS IN MM.

PLAYER 1 FUNCTIONS



PLAYER 2 FUNCTIONS

TITLE CONTROL PANEL LOOM	
REV.	
DESIGN	WALL
DATE	10/2/58
CHKD.	10/2/58
APPROVED	
REVISIONS	SEE NOTE 1 DET.

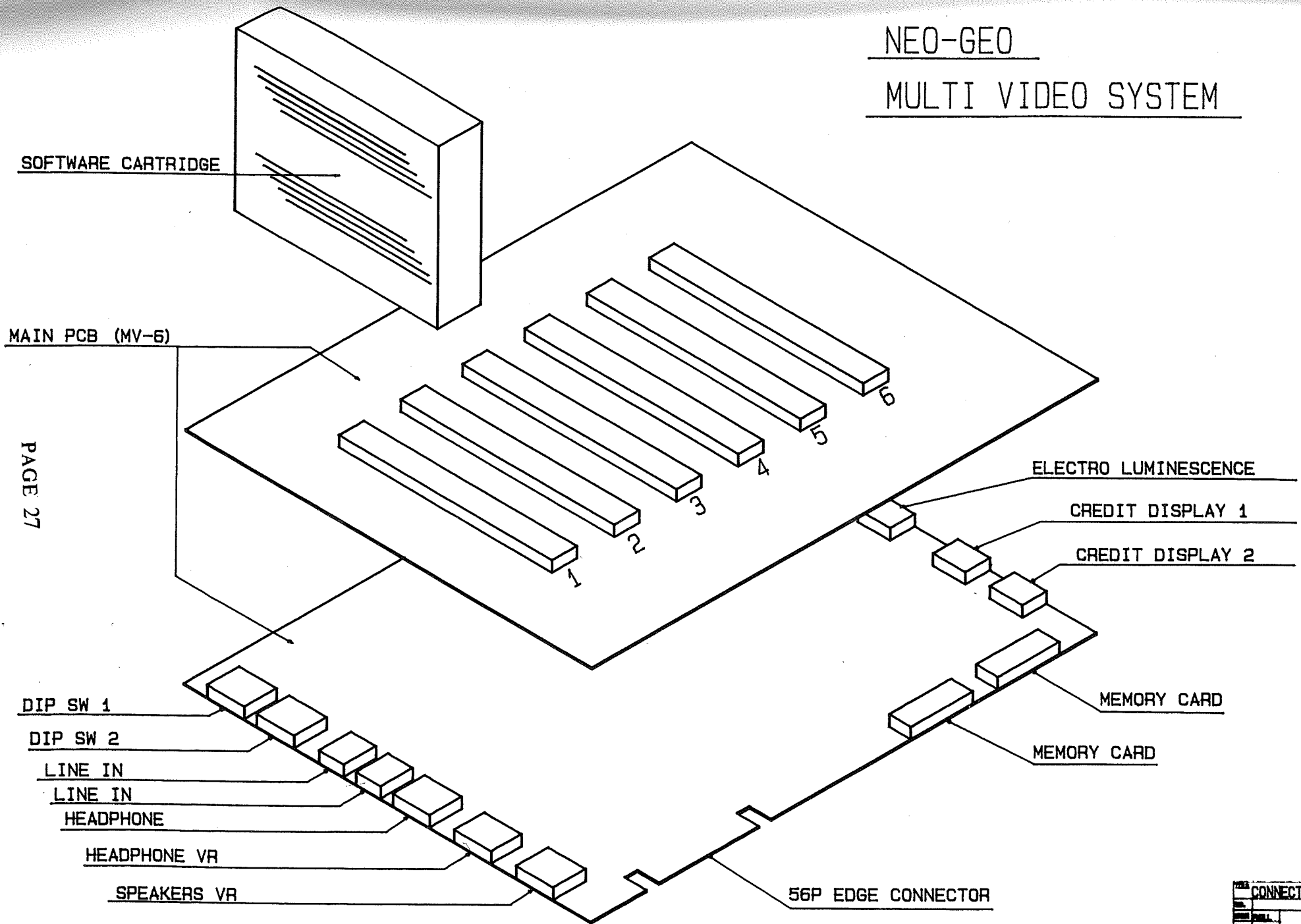


*NOTE: FOR INFORMATION ONLY.

TITLE		CONTROL PANEL LAYOUT	
NO.			
DRAWN	PHILL.	ELECTRODIN AUTOMATICS LTD.	
SCALE		A.E. INDUSTRIAL ESTATE	
		FERRY ROAD	
		CARDIFF	
DATE	22/3/90	TEL. 0222 222916	FAX. 0222 294396
REV.		PART NO.	2045
MATERIAL			
BY			

NEO-GEO

MULTI VIDEO SYSTEM



PAGE 27

CONNECTOR POSITIONS	
NO.	DESCRIPTION
1	56P EDGE CONNECTOR
2	56P EDGE CONNECTOR
3	56P EDGE CONNECTOR
4	56P EDGE CONNECTOR
5	56P EDGE CONNECTOR
6	56P EDGE CONNECTOR
7	56P EDGE CONNECTOR
8	56P EDGE CONNECTOR
9	56P EDGE CONNECTOR
10	56P EDGE CONNECTOR
11	56P EDGE CONNECTOR
12	56P EDGE CONNECTOR
13	56P EDGE CONNECTOR
14	56P EDGE CONNECTOR
15	56P EDGE CONNECTOR
16	56P EDGE CONNECTOR
17	56P EDGE CONNECTOR
18	56P EDGE CONNECTOR
19	56P EDGE CONNECTOR
20	56P EDGE CONNECTOR
21	56P EDGE CONNECTOR
22	56P EDGE CONNECTOR
23	56P EDGE CONNECTOR
24	56P EDGE CONNECTOR
25	56P EDGE CONNECTOR
26	56P EDGE CONNECTOR
27	56P EDGE CONNECTOR
28	56P EDGE CONNECTOR
29	56P EDGE CONNECTOR
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91	56P EDGE CONNECTOR
92	56P EDGE CONNECTOR
93	56P EDGE CONNECTOR
94	56P EDGE CONNECTOR
95	56P EDGE CONNECTOR
96	56P EDGE CONNECTOR
97	56P EDGE CONNECTOR
98	56P EDGE CONNECTOR
99	56P EDGE CONNECTOR
100	56P EDGE CONNECTOR

PARTS LIST

<u>ITEM</u>	<u>PART No.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	54347	SHROUD REJECT	1
2	50233	REJECT BEZEL	1
3	50235	REJECT FLAP	1
4	10039	ASSY. Monitor 25" MTC 9000	1
5	14002	PSU ASSY US 250	1
6	38514	ASSY CONTROL PANEL	1
7	11247	MAIN PCB (MV-6)	1
8	12059	MEMORY CARD PCB (MV-1C)	1
9	12058	CREDIT PCB (MV-LED)	1
10	12060	EL DRIVE PCB (MV-ELA)	1
11	12061	EL B PCB 1/2	1
12	12062	EL B PCB 2/2	1
13	38516	ASSY COIN PANEL	1
14	38517	ASSY GLASS FRAME	1
15	38543	ASSY SPEAKER	1
16	64070	NEO GEO MANUAL	1
17	38560	ASSY PERSPEX	1
18	50005	6VDC & DIODE METER	1
19	66093	4mm ALLEN KEY	1

<u>ITEM</u>	<u>PART No</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	<u>38514</u>	<u>ASSY CONTROL PANEL</u>	1
1	201213	CONTROL PANEL STEEL	1
2	23481	PANEL OVERLAY	1
3	16919	CONTROL PANEL LOOM	1
4	38176	ASSY JOYSTICK 8 WAY	2
5	21007	JOYSTICK BASE	2
6	21008	JOYSTICK SHAFT	2
7	21009	JOYSTICK WASHER	2
8	21010	BUSH (NYLON)	2
9	21011	ACTUATOR SWITCH NYLON	2
10	21012	JOYSTICK CIRCLIP	2
11	30109	M6 x 25 BHD B2P SCREW	8
12	30004	M6 PLAIN WASHER	8
13	30058	M6 NYLOCK NUT	8
14	54021	CONTROL PANEL TRIM	0.6 METR
15	22118	WHITE WYCO BUTTON	3
16	22122	RED WYCO BUTTON	2
17	22121	BLUE WYCO BUTTON	2
18	22123	GREEN WYCO BUTTON	2
19	22124	YELLOW WYCO BUTTON	2
20	22120	BUTTON PAL NUT	11
21	22119	WYCO BUTTON HOLDER ASSY	11
22	20091	LATCH RECEIVER BRKTS	2
23	20101	CONTROL PANEL HINGE	1
24	201227	IC CARD MOUNTING PLATE	1
25	12059	MEMORY CARD PCB (MV-IC)	1
26	54515	IC CARD SHROUD	1

<u>ITEM</u>	<u>PART No.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	<u>38517</u>	<u>GLASS FRAME ASSY</u>	1
1	24970	SCREEN GLASS	1
2	201273	BOTTOM EXTRUSION	1
3	201217	SIDE EXTRUSION	2
4	201212	TOP EXTRUSION	1
5	20290	GLASS CORNER BRKT	4
6	30328	No 8 x 5/6" TYPE B SCREW	16
7	71040	GLASS CHANNEL (5mm)	2
	<u>38560</u>	<u>PERSPEX ASSY</u>	1
1	24960	PERSPEX	1
2	201241	LOCK BEZEL	1
3	52008	LOCK (280500)	2
4	201220	HINGE BEZEL	1
5	201250	SPEAKER GRILLE	2
	<u>38516</u>	<u>COIN PANEL ASSY (UK)</u>	1
1	201246	SENTL. COIN MECH PANEL	1
2	50234	F. PLATE SENTINEL IND.RES	1
3	20091	LATCH RECEIVER BRKT	2
4	70021	DOUBLE 0.25" EARTH TAG	1
5	54499	CREDIT PCB COVER	1
6	12058	CREDIT PCB (MV-LED)	1
7	52008	LOCK (280500)	1
	<u>38543</u>	<u>SPEAKER PANEL ASSY</u>	1
1	36244	SPEAKER PANEL WOOD	1
2	56006	5" SPEAKER	2
3	12061	EC B PCB 1/2	1
4	12062	EC B PCB 2/2	1
5	201221	GLASS FRAME BEZEL	1
6	54516	LIGHT BOX	1
7	16923	LIGHT BOX LOOM	1
8	54512	INSTRUCTION CARD PVC	1
9	16973	SPEAKER LOOM	1

- W A R N I N G -

Kindly take note of the following points when you link cabinets together.

- 1) Make sure the link cable used is to be with Stereo Headphone Jack instead of Mono.
- 2) Kindly change the dip switch on main hardware as per the following list in order to let the software recognize each cabinet.
The combination of dip switch is:

	toggle 4	toggle 5	toggle 6
Cabinet #1	OFF	OFF	ON
Cabinet #2	OFF	ON	ON
Cabinet #3	ON	OFF	ON
Cabinet #4	ON	ON	ON

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.

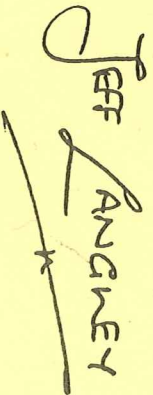
AfterSales & Service Tel No: 0222 373059 during working hours,
0836 536195 after hours/weekends.

Please contact the following staff for:-

PARTS ENQUIRIES - GARY SCOBLE
TECHNICAL INFORMATION - IAN COLLEY
ACCOUNTS ENQUIRIES - JULIE TIPPER
WORKSHOP MANAGER - MIKE CALLAN
CREDIT CONTROLLER - IAN HEPPESTALL

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.