



Radikal BIKERS

RADIKAL BIKERS OPERATOR'S MANUAL

About this product

Thank you for purchasing this Gaelco S.A. product. This manual explains how to correctly and safely operate your game machine. Failing to operate the machine correctly could result in malfunction or accident, so please read the manual carefully before commencing operation

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Note: Operator's Manual Specifications subject to change without prior notice

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Modifications and/or alterations of the RADIKAL BIKERS game machine with kits or parts not supplied by Gaelco S.A. may void de warranty.
Removal of serial numbers and/or bar codes from product or components will void the warranty.

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FCC Notice

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part A of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operating in a commercial environment. This equipment uses, and can radiate radio frequency energy, if not installed and used according to the instruction manual, and may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

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1 GENERAL INFORMATION

1.1 Manufacturer and machine details

Manufacturer	Gaelco, S.A.
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Name	RADIKAL BIKERS
Model	UR

1.2 Legislation references

RADIKAL BIKERS UR complies with the following Directives:

EN 50081-2
EN 50082-1
EN 60950

1.3 Technical Service

Technical Service is carried out by Gaelco S.A. or its Distributors.

1.4 Responsibility

Any modifications made to this machine that are not authorised in writing by the manufacturer will be considered to be at the exclusive responsibility of the customer, who will consequently become the new "manufacturer" and must operate in compliance with the EMC directive.

In case of an accident caused by a defective part, the manufacturer will assume responsibility only if the machine was defective in its original condition. However, this responsibility shall be diminished or even totally annulled if the operator or the player do not follow the instructions provided or if the operator uses spare parts that are not covered by guarantee, are not authorised in writing or do not correspond to the specified technical characteristics.

2 SPECIFICATIONS

2.1 Description of the game

RADIKAL BIKERS is a machine for class A videogame, which operates by inserting coins or tokens. The game consists in a pizza delivery biker who rides on a scooter (urban bike) through urban surroundings full of cars and multiple obstacles. On starting the game there is an option for choosing between four personalities and three different circuits.

In each circuit there are four stages to run -three pizza deliveries and the return to the pizzeria- all of them in the minimum time possible. Various "bonuses" of time, speed and points are distributed throughout the course, making the task for the player easier, who is given an initial time limit for the game which is increased by passing across time icons, for every TIME EXTENDED line and on reaching the end of each stage.

The competition is against another rider controlled by the CPU. It is also possible to link two independent cabinets, so that two players can compete against each other at the same time. When the four stages of a circuit are won the player passes automatically to the following circuit of the three the game has.

The machine incorporates a special control, consisting of a HANDLEBAR with an analogical sensor for turning and digital sensors for brake, accelerator and the lifting of the front wheel. It also has a button for START and one for VIEW CHANGE.

2.2 Dimensions and Weight

Width 765 mm Depth 1136 mm Height 1940 mm Net Weight 177 Kg approx.

Crated dimensions and Shipping Weight (using standard europalet)

Width 800 mm Depth 1200 mm Height 2100 mm Weight 187 Kg approx.

2.3 Power Supply

Power Supply Unit	Sambers US 150
Operating Power	220-230 VAC, 50 Hz
Power consumption of the machine	220 W

2.5 Monitor

28" Hantarex Medium Planar - Standard Resolution Color

2.6 PC Board

PCB Gaelco Radikal Bikers

2.7 Controls

Start Button

View Change Button

Handlebar with accelerator, brake and front wheel lifting

2.8 Attachments

One Operator's Manual

Two coin box keys

Two rear door keys

One power cord

One linking cord

3 WARNINGS

3.1 Siting of the machine

This machine has been for indoor use only, within residential or commercial spaces. Absolutely do not set up the machine outdoors or under the following conditions:

- Direct exposure to sunlight, high humidity, water contact, dust, high heat or extreme cold.
- In a place exposed to vibration. The machine must be installed on a level surface with levellers properly adjusted.
- In locations near ventilating holes. Doing so could cause internal temperature to rise excessively, resulting in equipment failure.
- Near hazardous substances



Do not place this machine where it might be obstacle in case of emergency (i.e close to fire extinguishers or emergency exits)

3.2 Improper uses

Please heed the following indications in order to ensure your safety when using this game machine. Be sure to read and get a good understanding of each item:

- This machine must be used only in residential or commercial areas.
- Do not use the machine as support for other objects.
- Do not use the machine in the vicinity of containers holding liquids or liquid dispensing equipment. In general, precautions should be taken against spilling liquids of any kind whatsoever over the machine.
- Ventilation slots must be not obstructed, and the machine must be positioned so as to leave a distance of at least 10 cm (4") from possible obstructions.
- Do not run the power cord across passages where pedestrian's feet could get caught on the cord.

The machine should not be used by persons under the influence of alcohol or who are not in good health.

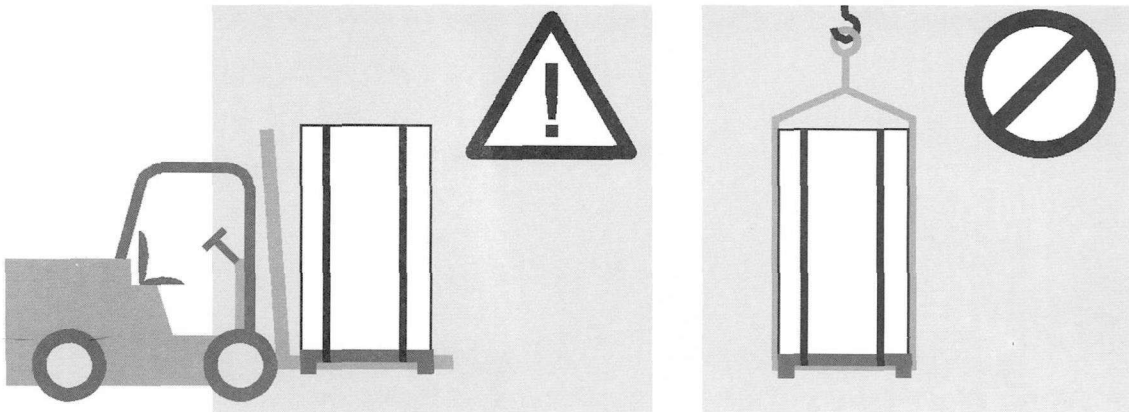
4 HANDLING



This product should be set up, moved or transported by a trained person. Failing to do so could result in injury or product damage. The machine contains parts which are sensitive to vibration and impact. The Printed Circuit Board (PCB) inside the machine uses precision components. You should be very careful when moving or transporting the machine.

4.1 Equipment needed to transporting the packed machine

The packed machine must be transported in a closed means of transport with sufficient carrying capacity for the gross weight of the machine, which is 187 Kg (net weight 177 Kg). The machine must remain packet on its pallet or must be suitably secured to the means of transport.



Unloading of the packed machine on its pallet is permitted only with a forklift truck.

It is not allowed to lift the packed machine with ropes or belts, as the package is not equipped with suitable lifting points for this type of transport.

4.2 Storage

Store the packed machine in sheltered and dry areas. Temperatures allowed: maximum +45°C / minimum -5°C.

4.3 Unpacking

The RADIKAL BIKERS game cartons should be carefully inspected upon receipt to insure that the game is completed and was delivered in good conditions.

Shipping damage may void warranty. In case of shipping damage, contact your Distributor and the Transportation Carrier immediately.

4.4 Movement of the unpacked machine

The machine can be easily moved by using its wheels. When moving the game machine, always return the levellers to the extreme up position.

When moving the machine on sloping or uneven surfaces or across steps, proceed with extreme caution to avoid the risk of being crushed!

The cabin is not equipped with lifting rings. It is therefore absolutely prohibited to lift it with ropes or belts!!

5 INSTALLATION AND SETTING UP

When setting up, be sure to fasten the game machine securely. If the unit is not fastened securely, it could be damaged by rocking or could result in injury.

5.1 Inspection



The operations described below must be done with the machine unplugged from the electrical power system

Inspect the game cabinet by doing the following:

- Examine the cabinet exterior for dents, chips, or broken parts.
- Open the rear panel that accesses the interior of the machine. This operation should be done only by a trained person. The keys can be found in a bag fastened to the joystick's handle. After turning the key to the left pull the panel towards you until it leans enough to grip it with both hands by the sides and pull it upwards. In this way it will be freed from the guide that holds it at the bottom. Do not lean the panel out too much without freeing it from the guide, because this could break the chip board where it is screwed.
- Unlock and open the rear panel -keys are attached behind the coin box door- and inspect the interior of the cabinet.
- Check that all the plug-in connector (on the cabinet harnesses) are firmly plugged in. Do not force connector together. The connectors are keyed so they fit only in the proper orientation. A reverse edge connector can damage the PCB and will void your warranty.
- Inspect the major sub-assemblies, such as the video display monitor, PCB, steering assembly, and speakers. Make sure that they are mounted securely and that all ground wires are firmly connected.
- Inspect the power supply to ensure that is secure.
- Inspect the power cord to insure that there is not cuts or breaks in it.

5.2 Setting up precautions

To clean the game machine, wipe with a soft cloth dampened in a neutral detergent and wrung out. Using organic solvents such as thinner may decompose the material. The operations described below should be carried out by trained persons. AC power must always be turned OFF, and the game unplugged, before replacing any parts or connecting/disconnecting connectors.

- Check that the area chosen is distant from heat sources, and that the machine, when fully installed, will not obstruct emergency exits.

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- Adjust the leg levellers by hand so they make contact with the floor. Continue to adjust levellers until machine is level and stable on the floor. After adjustments are complete, secure the height of the leg levellers.
- Since the machine is a heavy object, its leg levellers should be retracted when moving the machine over the floor.
- Once the game machine is set, plug the power cord into a grounded receptacle that provides 220-230 VAC at 50 Hz.
- The Cabinet Monitor must be grounded with a securely connected ground plug. This will ensure safe operation as well as compliance with the applicable FCC and UL regulations.
- The power supply range is between 220-230 VAC. Be sure to use within the specified voltage range.
- When unplugging the game from an electrical outlet, always grasp the plug, not the wire. Do not plug or unplug the power cord with wet hands.
- If the power cord becomes damaged -core exposed, broken, etc- please contact your nearest dealer for replacement. Using a damaged power cord could result in fire or electrical shock.
- The game machine includes areas of high voltages. Care must be taken at all times to avoid electrical shock whenever inspecting or adjusting the game, particularly around the monitor.

5.3 Switching the machine ON

The switch is located at the bottom right rear of the cabinet monitor. Switch to position "I" and the machine should turn ON. The machine can be switched OFF (position "0") in any moment that is considered to be necessary. If a game is in progress on the machine, the credit will be lost.

To avoid possible damage to the electronic components, wait several seconds before turning the machine on again.

5.4 How to replace the fuse

The operation described below must be carried out by a trained person.

Previously to any operation turn the main switch OFF and unplug the power cable. The fuse holder is on the filter box, between the power cable socket and the power switch.

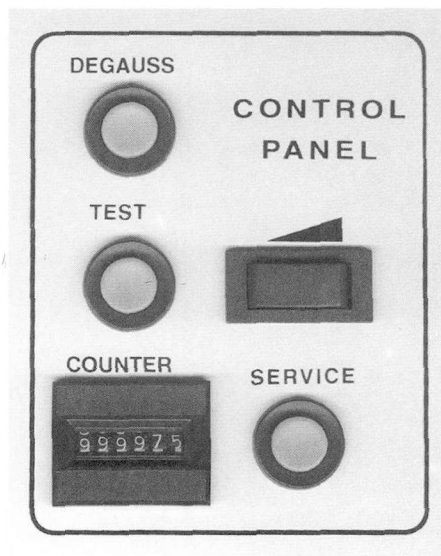
- Unplug the power cable from the filter box
- Pull out the fuse holder and remove the fuse to check it
- Replace the fuse if necessary (Europe: 3A/250V)
- Attach the fuse holder
- Plug the power cable

6 PROGRAMMING THE MACHINE AND TEST MODE

When the machine is switched on an automatic check of the memories and other connected systems is made. This coincides with the presentation on the screen of the ADJUSTMENT CARD, where faults or failures in the system are indicated if they occur. After a few seconds, if no error occurs, it passes automatically to show the game. The HANDLEBAR is also adjusted dynamically each time that a machine is switched on.

Any other adjustment should be made in TEST MODE.

The access to TEST MODE as for the other controls (monitor, global volume, etc.) is made from the CONTROL PANEL which is situated behind the coin box door, and consists of a button to access TEST MODE, a SERVICE button, and a commuter to adjust the GLOBAL VOLUME (raise, lower) of the loud speakers.



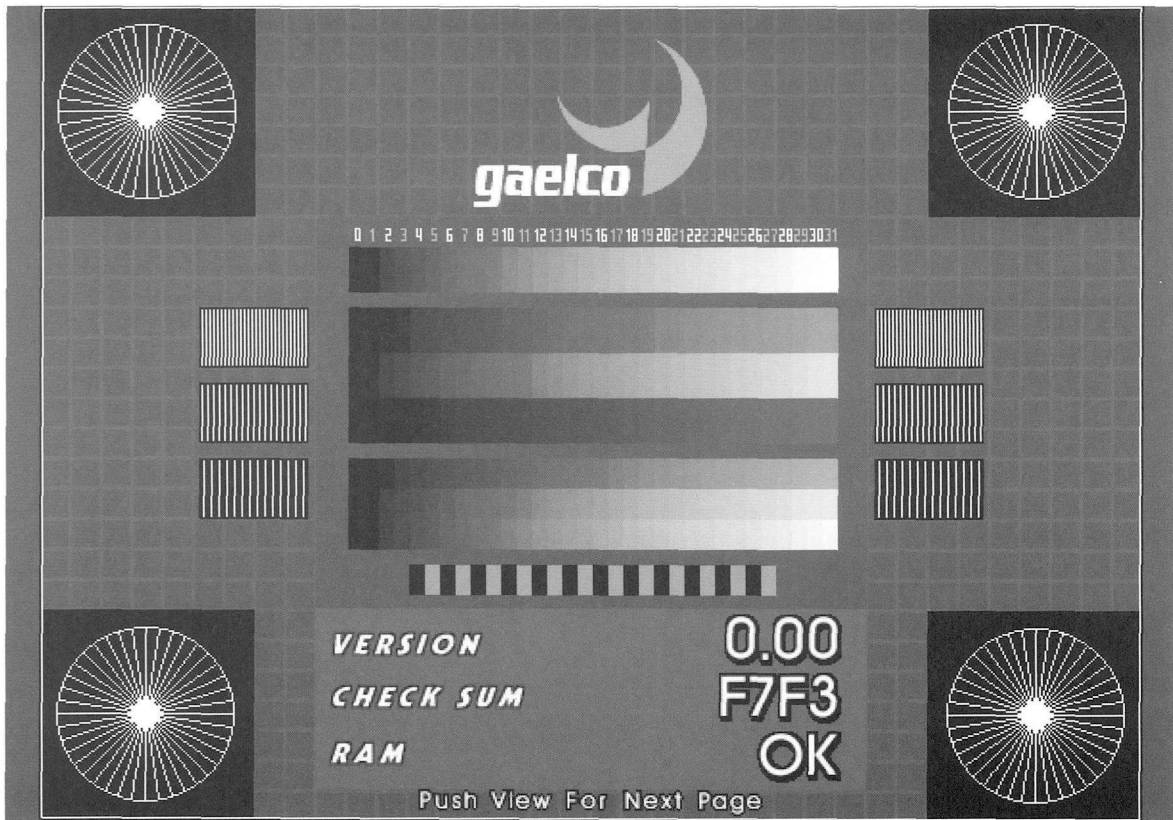
Pushing the SERVICE button introduces game credits without moving the coin counter. Pressing the TEST button enters TEST MODE, where the game variables, such as level of difficulty, linkage of machines, etc., can be adjusted. Handlebar adjustment and a check on controls can also be made.

The TEST MODE is a rotary system of 12 menus (screens). By pushing the VIEW CHANGE button the player can jump from one to another. Within each menu the different options are looked over by operating the brake of the handlebar. The selection is made by pushing the START button. The VIEW CHANGE button is on the right side and the START button on the left.

In order to retain permanently the changes that have been introduced, the machine should not be switched off without first exiting TEST MODE using the option EXIT AND SAVE CHANGES on the EXIT screen (see 6.12).

6.1 Screen Adjustment

This screen is the ADJUSTMENT CARD, which should be used to suitably adjust the monitor. It shows you, also, the following information:



- software version
- checksum of the program memory
- check of the RAM memory

To jump from this screen to the next is necessary to push the VIEW button.

6.2 Input Test

The INPUT TEST screen enables you to check the correct functioning of the following controls:

INPUT TEST	
START:	OFF
VIEW CHANGE:	OFF
BRAKE:	OFF
ACCELERATOR:	OFF
HANDLE:	000 127
HANDLE UP:	OFF
COIN CHUTE:	OFF
SERVICE:	OFF
Push view for next page	

- START button (placed on the left side of the control panel)
- VIEW CHANGE button (placed on the right side)
- BRAKE (digital sensor)
- ACCELERATOR (digital sensor)
- HANDLE (sensor which detects the inclination to right and left)
- HANDLE UP (digital sensor which detects the inclination to the rear of the handlebar)
- COIN CHUTE (entry of the Coin Box)
- SERVICE button

All these controls, except that of the handlebar slope, ought to be normally at OFF. When they are operated the message ON appears on the screen.

To check that the functioning of the handlebar is correct the numbers that appear in the position HANDLE of the menu should be looked at.

The number on the left shows the following values depending on the position of the handlebar.

000	limit of turn to the left
128±40	handlebar centred
256	limit of turn to the right

The number on the right shows a reading having the following values depending on the position of the handlebar.

020	limit of turn to the left
120±20	handlebar centred
240	limit of turn to the right

If any of these conditions are not correct the handlebar has to be adjusted following the procedure explained in part 6.4

6.3 Settings

On this screen you can change the following game parameters:

GAME ASSIGNMENTS	
1 COIN(S)	1 CREDIT(S)
1 CREDIT(S)	START
1 CREDIT(S)	CONTINUE
LINK TYPE:	NO LINK
ADVERTISE SOUND:	YES
DIFFICULTY:	NORMAL
PASS NEXT LEVEL:	YES
PROCESS BAR:	NO
Push view for next page Push brake for select Push start for confirm	

6.3.1 COIN BOX / CREDITS ADJUSTMENT

To adjust the number of credits (games) that the machine gives for a defined number of coins, the parameter is chosen with the BRAKE control (the selected variable flashes) and changed with the START button.

If the number of coins is set at zero, the machine remains adjusted for FREE PLAY.

It is also possible to program the number of coins required to continue the game, irrespective of the initial price to start.

6.3.2 LINK TYPE

To link two machines you have to assign a different identity to each one of them. One should be MASTER and the other SLAVE. It is recommended that the left machine is defined as Master and the right machine as Slave.

If there is no interconnection the option NO LINK will be selected.

6.3.3 ADVERTISING SOUND

By means of this option you can program the machine for sound production (or not) when it is in exhibition mode.

6.3.4 DIFFICULTY

To adjust the difficulty of play four options are available: EASY, NORMAL, HARD and HARDEST. These levels of difficulty determine the time limit available to the player for completion of the races.

6.3.5 PASS NEXT LEVEL

This option decides passage or not to the next level (circuit) of the three that the game offers (Margherita, Capricciosa, Diabola). Each circuit consists of four stages: three pizza deliveries and return to the pizzeria.

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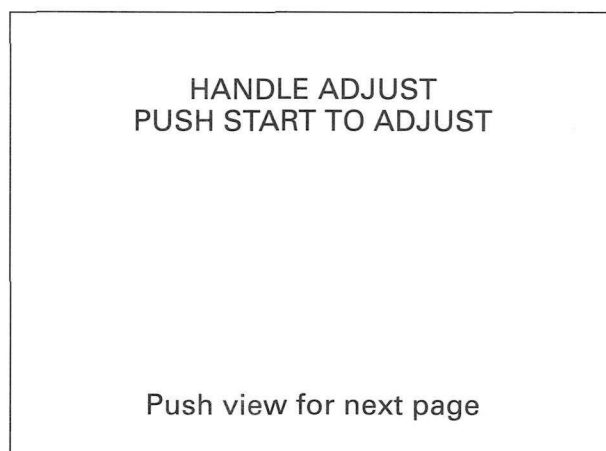
In the YES position the player will pass to the next circuit when he/she wins in all the stages.

In the NO position the game finishes after the completion of the four stages, that is, the player does not go to the next level even if he/she wins in all the stages of the circuit chosen.

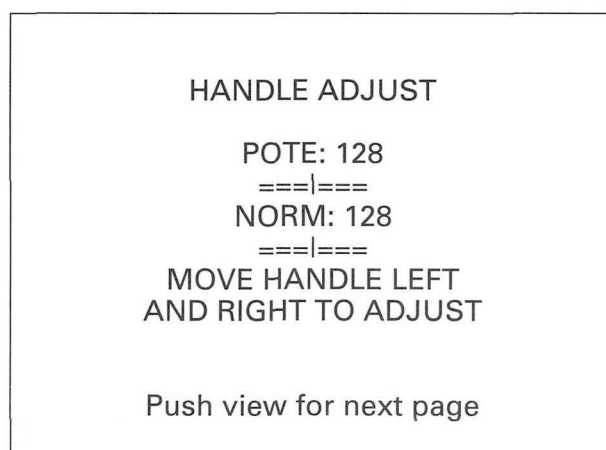
6.3.6 PROCESS BAR

This option is for development only and should always be in the NO position.

6.4 Handle Adjustment



If the START button is pressed on this screen you pass to handlebar adjustment.



The value read to the right of the word POTE is the direct reading of the potentiometer that controls the turning of the handlebar. A range of values from 0-255 can be read. This adjustment is not very critical as the machine automatically adjusts itself using as a left limit the minimum value read, and the maximum value as the right hand limit. The centre value is the arithmetic mean of these two limit values.

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A value between 100 and 150 should be read with the handlebar centred. At the left hand limit the value should be greater than 20, and for the right hand limit the value should be less than 235.

The value that can be seen to the right of the word NORM is the standardized value that the program uses to control the turn that is being read from the handlebar.

6.5 Output Test

OUTPUT TEST	
LAMP START	
COIN COUNTER	
BASS:	6
SOUND CHANNEL	1
SOUND CHANNEL	2
SOUND CHANNEL	3
Push view for next page	
Push brake for select	
Push start for confirm	

This screen allows you to check the operation of the output signals from the CPU. On LAMP START option the lamp of the Start button flashes.

Pushing the START button into the position COIN COUNTER, the corresponding output is activated.

The option BASS allows adjustment of the volume for low frequencies. They are reduced in position 0, whilst they are reinforced in position 9.

The three options SOUND CHANNEL produce a tone for each channel that is selected. Channel 1 activates the upper left speaker, channel 2 is for the upper right speaker, while the channel 3 is for the very low frequency speaker (woofer).

6.6 Book Keeping 1/2

This screen displays data for the activity of the machine.

BOOK-KEEPING 1 / 2	
COINS:	1234
COIN CREDITS:	1234
SERVICE CREDITS:	1234
TOTAL CREDITS:	1234
NUMBER OF GAMES:	1234
CONTINUE GAMES:	1234
P1 GAMES:	1234
P2 GAMES:	1234
Push view for next page	

Reading from top to bottom, the following data are displayed:

- Coins entered
- Credits owed for the coins entered
- Credits entered with the SERVICE button
- Total number of credits
- Number of games started
- Number of games continuing
- Number of games of an individual player
- Number of games of two simultaneous players (Link Mode)

6.7 Book Keeping 2 / 2**BOOK-KEEPING 2 / 2**

TOTAL TIME:	0346 45 56
PLAY TIME:	0301 40 26
AVERAGE TIME:	02 59
LONGEST TIME:	12 34
SHORTEST TIME:	01 20

Push view for next page

This screen displays time data for the activity of the machine
Reading from top to bottom:

- Total time the machine is connected in hours, minutes and seconds
- Total time the machine is busy in hours, minutes and seconds
- Time of the average credit in minutes and seconds
- Time of the longest credit
- Time of the shortest credit

6.8 Time Histogram

This screen displays a detailed distribution of the number of credits according to their duration, from 0 to 2 minutes until 8 minutes. It also includes the number of times each level has been surpassed by winning the corresponding four stages.

TIME HISTOGRAM

0-2:	1234	2-2.5:	1234
2.5-3:	1234	3-3.5:	1234
3.5-4:	1234	4-4.5:	1234
4.5-5:	1234	5-5.5:	1234
5.5-6:	1234	6-7:	1234
7-8:	1234	8-x:	1234
WINNERS MEDIUM:	1234		
WINNERS HOT:	1234		
WINNERS LIGHT:	1234		

Push view for next page

6.9 Game Statistics - Capricciosa

This screen displays the number of Game Over, Continues and Winners that have been produced in each stage of the "Medium" phase.

GAME STATISTICS					
CAPRICCIOSA					
GAMEOVER/ CONTINUE/WINNERS					
1:	123	/	123	/	123
2:	123	/	123	/	123
3:	123	/	123	/	123
4:	123	/	123	/	123
Push view for next page					

6.10 Game Statistics - Diabola

This screen displays the number of Game Over, Continues and Winners that have been produced in each stage of the "Hot" phase.

GAME STATISTICS					
DIABOLA					
GAMEOVER/ CONTINUE/WINNERS					
1:	123	/	123	/	123
2:	123	/	123	/	123
3:	123	/	123	/	123
4:	123	/	123	/	123
Push view for next page					

6.11 Game Statistics - Phase Light "Marguerita"

This screen displays the number of Game Over, Continues and Winners that have been produced in each stage of the "Light" phase.

GAME STATISTICS					
MARGUERITA					
GAMEOVER / CONTINUE / WINNERS					
1:	123	/	123	/	123
2:	123	/	123	/	123
3:	123	/	123	/	123
4:	123	/	123	/	123
Push view for next page					

6.12 Exit Menu

On this screen the following options are displayed:

EXIT WITHOUT SAVE CHANGES
EXIT AND SAVE CHANGES
RESET HALL OF FAME
RESET BOOK-KEEPING
Push view for next page
Push brake for select
Push start for confirm

Reading from top to bottom:

- Exit from Test Mode without keeping the changes.
- **Exit from Test Mode retaining memory of the changes that have been made in the previous screens.**
- Erase data of the game record tables that accumulate from day to day. For this choose the option RESET HALL OF FAME and push the START button.
- Erase the book-keeping data. Choose the option RESET BOOK KEEPING and push the START button.

7 HOW TO PLAY

Put in your coins. Once the cost of the game is covered the message PRESS START appears and at the same time the number of games that can be played is shown via the message CREDIT: _

When the number of coins is different to the number of credits, the message is CREDIT: _ / _ . The number that appears to the left shows the coins already put in, whilst the number to the right shows the amount that have to put in.

Once the coins have been entered and the START button is pressed the menu for circuit selection appears, consisting of three pizzas corresponding to the three initial levels of difficulty: MARGHERITA (Easy), CAPRICCIOSA (Medium), and DIABOLA (Hard).

Selection is made by moving the handlebar in whatever direction, right or left, that causes the rotation of the circuit icons. To confirm the choice it is sufficient to press either of the buttons, brake or accelerator. If the player takes more than 10 seconds in confirming it, the machine will automatically choose the circuit being selected at this time.

Next appears the screen which allows the player to choose one pizza delivery biker. It is possible to choose one of the four bikers shown on the screen when the machine is working in the independent mode, or between two when it is in the link mode (two players competing on the same circuit). The selection and confirmation procedure is the same as that for choosing the circuits.

The game begins as soon as the confirmation of biker has been made. The goal of the player is to complete the selected circuit in the least possible time, dodging the obstacles that cut across his path, at the same time keeping up a hard struggle with the competing biker, who is controlled by the CPU (or by the other human player if the machines are linked).

Each circuit consists of four stages: three deliveries and the return to the pizzeria. To win it is not enough to arrive on time in each stage, but to come first in each one of them. If this objective is achieved, the player has access to the next circuit, unless this option has been cancelled or the game is between two linked players. The game finishes when the player has successfully completed all the circuits.

During the course of the race the following indicators appear superimposed on the view of the game:

SCORE:	Points accumulated up to that moment
BEST LAP:	Best lap made up to that moment and the initials of the player who made it
LAP TIME:	Time of the current trip
X_LEFT:	Time remaining for the player to complete the circuit
REV COUNTER	
SPEEDOMETER	
ICON	showing the position of the competitor, named CPU if the competition is against the machine, or 1UP/2UP if the competition is against another player.

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The player can find for himself a series of helping features and time bonuses:



Gives a considerable increase in speed for a short span of time.



Allows to open a way between vehicles using a "super-kick" to the side, for a short span of time.



Gives extra time.



Concedes 3000 extra points.



Give one of the previous facilities randomly (joker function).

Additionally there are TIME EXTENDED lines drawn on the road that expand the margin of time for reaching the finish of the circuit. Each pass across an icon adds 1000 points to the score of the player. These points can be decisive in case of a game between two players, in that they give an additional rating to each player.

Any player who reaches the end of the four levels with a higher score than the last of the players registered in the records table may enter his/her initials.

8 HOW TO LINK TWO MACHINES

RADIKAL BIKERS allows you to connect two machines so that two players can compete directly. To do this the following steps should be taken:

- Make sure that the connection cable is correctly plugged into both machines.
- Switch on both machines.
- Press the TEST button on the CONTROL PANEL of both machines.
- Go to the GAMES ASSIGNMENTS on both machines (See section 6 of this manual).
- Choose the option LINK TYPE on both machines, and define the condition of each one, **Master** or **Slave**. Recommended:

Left Cabinet	→	Master
Right Cabinet	→	Slave

- Go to the EXIT SCREEN, choose EXIT AND SAVE CHANGES option and validate with START button.

When you want to disconnect the two machines, you should unplug the connection cable and proceed in the same way, going into TEST MODE, GAME ASSIGNMENTS screen and choosing NO LINK in the LINK TYPE parameter for both machines, then exit from the Test Mode with the option EXIT AND SAVE CHANGES of the EXIT screen.

If the message "CONFIGURATION ERROR IN ONE CABINET" appears, it could be due to one of these reasons:

- The machines do not have the same version of firmware. Check this on the SCREEN ADJUST screen
- The level of difficulty is not the same on both machines
- The condition is not well defined: one has to be Master and the other Slave

9 MAINTENANCE

In all maintenance operations these directions should always be observed,

- **When replacing parts, be sure to use parts of the correct specifications.**
- **Adjustment is required whenever the game PCB, handlebar or potentiometers are changed.**
- **Do not attempt to repair the PCB. It contains sensitive chips that could easily be damaged by even the small internal voltage of a meter. Always return the PCB to your distributor for any repairs.**

9.1 Basic Troubleshooting

PROBLEM	POSSIBLE SOLUTION
Turn on the cabinet and nothing appears	<p>Check wiring connector connections</p> <p>Check fuse of the line filter</p> <p>Check voltage value for +5VDC</p>
Monitor screen is black and no picture or distorted picture	<p>Check for faults on monitor</p> <p>Check for disconnected video signal cable</p> <p>Check for faulty PC Board</p>
The colour or the image on the monitor screen is incorrect	<p>Enter Test Mode (section 6) and check the Screen Adjust (6.1) making the right adjustments.</p>
No sound or the quality is poor	<p>Enter Test Mode and check the Sound Test for channels 1,2 and 3</p> <p>Check the speakers and their connections</p> <p>Check voltage value for +12VDC</p> <p>Check the volume button on the Control Panel</p>
No response from the Handlebar	<p>Check that the potentiometer belonging to the handlebar is functioning correctly.</p> <p>Check the connections between the handlebar potentiometer and the game PC Board: the potentiometer should be supplied between the voltage limits of +5VDC and GND.</p> <p>On the cursor of the potentiometer should be a voltage of approximately 2.5VDC</p> <p>Adjust the handlebar using the option included in the test HANDLE ADJUST following the instructions on the screen</p>
The message CONFIGURATION ERROR IN ONE CABINET appears on the screen	<p>Check the firmware version on the SCREEN ADJUST menu. Should be the same on both machines.</p> <p>Check the level of difficulty. Should be the same on both machines.</p> <p>Check the condition of each machine. One should be Master and the other Slave.</p>

10 ATTACHMENTS

10.1 Parts List

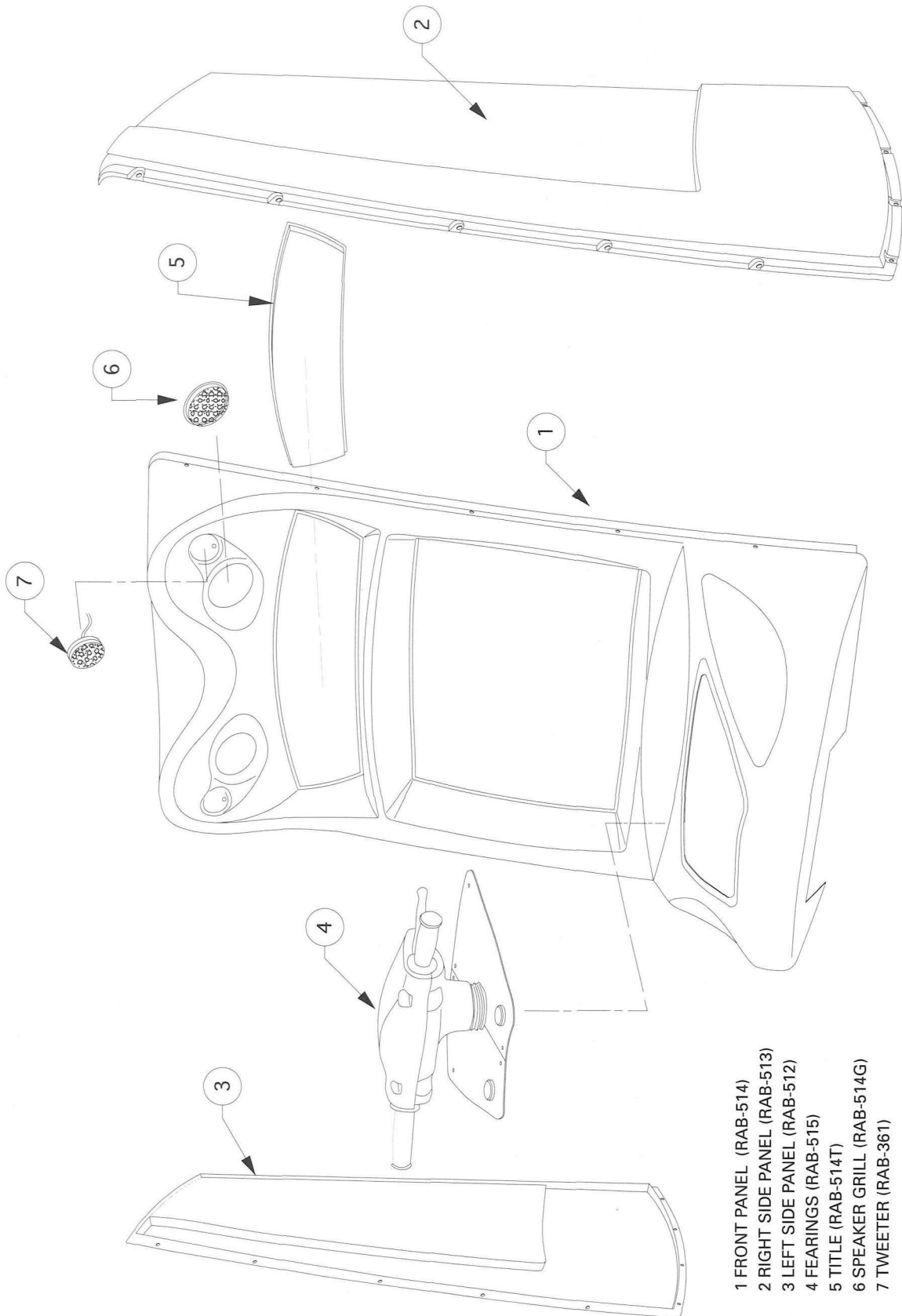
10.1.1 GENERAL LIST

CODE	DESCRIPTION	QTY
RAB-100	UPRIGHT CABINET	1
RAB-150	SOUND BOX, SUBWOOFER	1
RAB-210	DOUBLE FRAME MINI DOOR (COIN DOOR AND CASH BOX DOOR)	1
RAB-215	METAL U SECTION FOR FIXING REAR DOOR	1
RAB-220-l	CONTROL PANEL, LEFT	1
RAB-220-r	CONTROL PANEL, RIGHT	1
RAB-220-t	FIXING SCREWS 1001-10,9 M6X30	6
RAB-225	HANDLEBAR BRACKET	1
RAB-226	FASTENING PLATE FOR HANDLEBAR BRACKET	2
RAB-230	SOUND BOX BRACKETS	2
RAB-300	HANDLEBAR UNIT INCLUDING FAIRINGS	1
RAB-301	START PUSH BUTTON, REF.A 0113 ORANGE COLOUR	1
RAB-302	VIEW PUSH BUTTON, REF.A 0113 ORANGE COLOUR	1
RAB-307	HAND BRAKE COVER	1
RAB-308	HAND BRAKE STOPPER	1
RAB-309	HAND BRAKE	1
RAB-311	HAND BRAKE GRIP	1
RAB-312	HAND ACCELERATOR GRIP	1
RAB-313	MICROSWITCH LEVER	2
RAB-314	HAND BRAKE CABLE	1
RAB-315	HAND ACCELARATOR CABLE	1
RAB-316	HAND ACCELERATOR DRUM	1
RAB-317	BRAKE CABLE ATTACHMENT PIN	1
RAB-320	HANDLEBAR MECHANIC ASSEMBLY	1
RAB-330	HANDLEBAR UPPER PROTECTOR	1
RAB-331	HANDLEBAR LOWER PROTECTOR WITH FIXING RING	1
RAB-332	EXPANSION RING	1
RAB-350	"28" HANTAREX MEDIUM PLANAR MONITOR	1
RAB-353	REMOTE CONTROL MONITOR SUPPORT	1
RAB-355	POWER SUPPLY - SAMBERS US150	1
RAB-356	CREDIT ADAPTOR BOARD	1
RAB-357	RADIKAL BIKERS CPU BOARD	1
RAB-360	"5" SPEAKER, 60W/4Ω	2
RAB-361	TWEETER, 80W/4Ω	2
RAB-362	"8" SUBWOOFER, 100W/4Ω	1
RAB-363	FAN, 220 V 120x120	1
RAB-364	COMPACT AC FILTER, POWER SWITCH & FUSE ASSEMBLY	1
RAB-365	FAN GRILL	2
RAB-366	REAR VENTILATION GRILL 15X15	1

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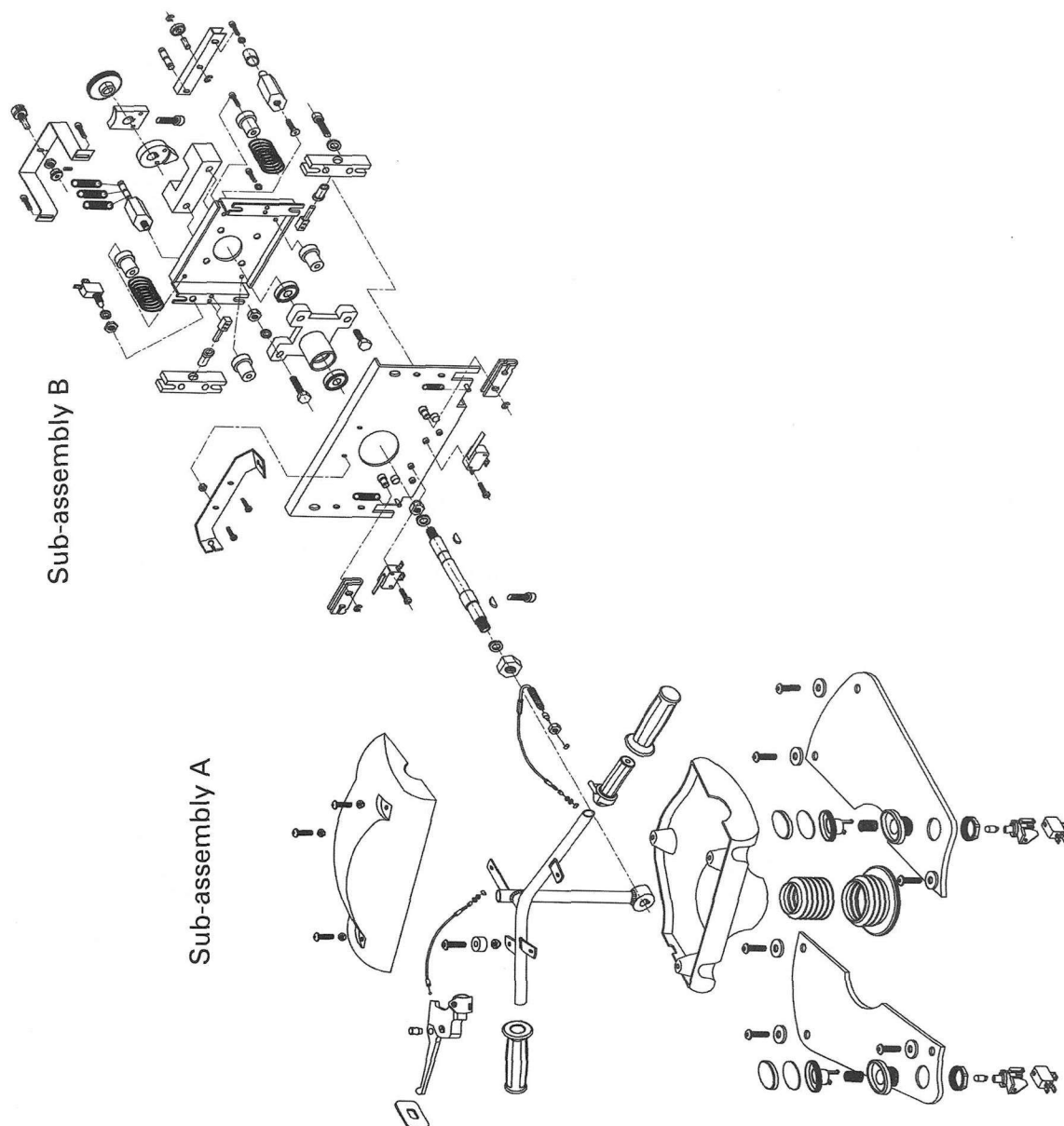
RAB-367	FRONT GRILL 10X10	2
RAB-370	POWER CABLE	1
RAB-371	FLUORESCENT TUBE SOCKETS + REACTANCE	1
RAB-372	15W FLUORESCENT TUBE	1
RAB-380	GENERAL WIRING	1
RAB-389	LINK CABLE	1
RAB-390	SERVICE PANEL	1
RAB-395	SOUND BUTTON	1
RAB-396	TEST BUTTON	1
RAB-396	SERVICE BUTTON	1
RAB-396	DEMAGNETISATION BUTTON	1
RAB-399	6V COUNTER CLIP	1
RAB-419	ELECTRONIC COIN SELECTOR C120	1
RAB-421	GRAB HANDLE	2
RAB-431	LEVEL ADJUSTER	4
RAB-432	REAR WHEEL	2
RAB-433	SWIVELLING FRONT WHEEL	2
RAB-440	ASHTRAY	1
RAB-512	LEFT SIDE PANEL, DECORATED PLASTIC	1
RAB-512-t	PANEL FIXING SCREWS 1001-10,9 M8x30	20
RAB-513	RIGHT SIDE PANEL, DECORATED PLASTIC	1
RAB-514	FRONT PANEL WITH TITLE AND SPEAKER GRILL	1
RAB-515-i	LOWER HANDLEBAR FAIRING	1
RAB-515-s	UPPER HANDLEBAR FAIRING	1
RAB-515-t	FASTENING SREWS, TORX M5X15	3
RAB-520	RADIKAL BIKERS DECORATED TITLE	1
RAB-521	TRANSFER FOR UPPER FAIRING	1
RAB-599	OPERATOR'S MANUAL	1

10.1.2 PLASTIC PARTS WITH ACCESSORIES

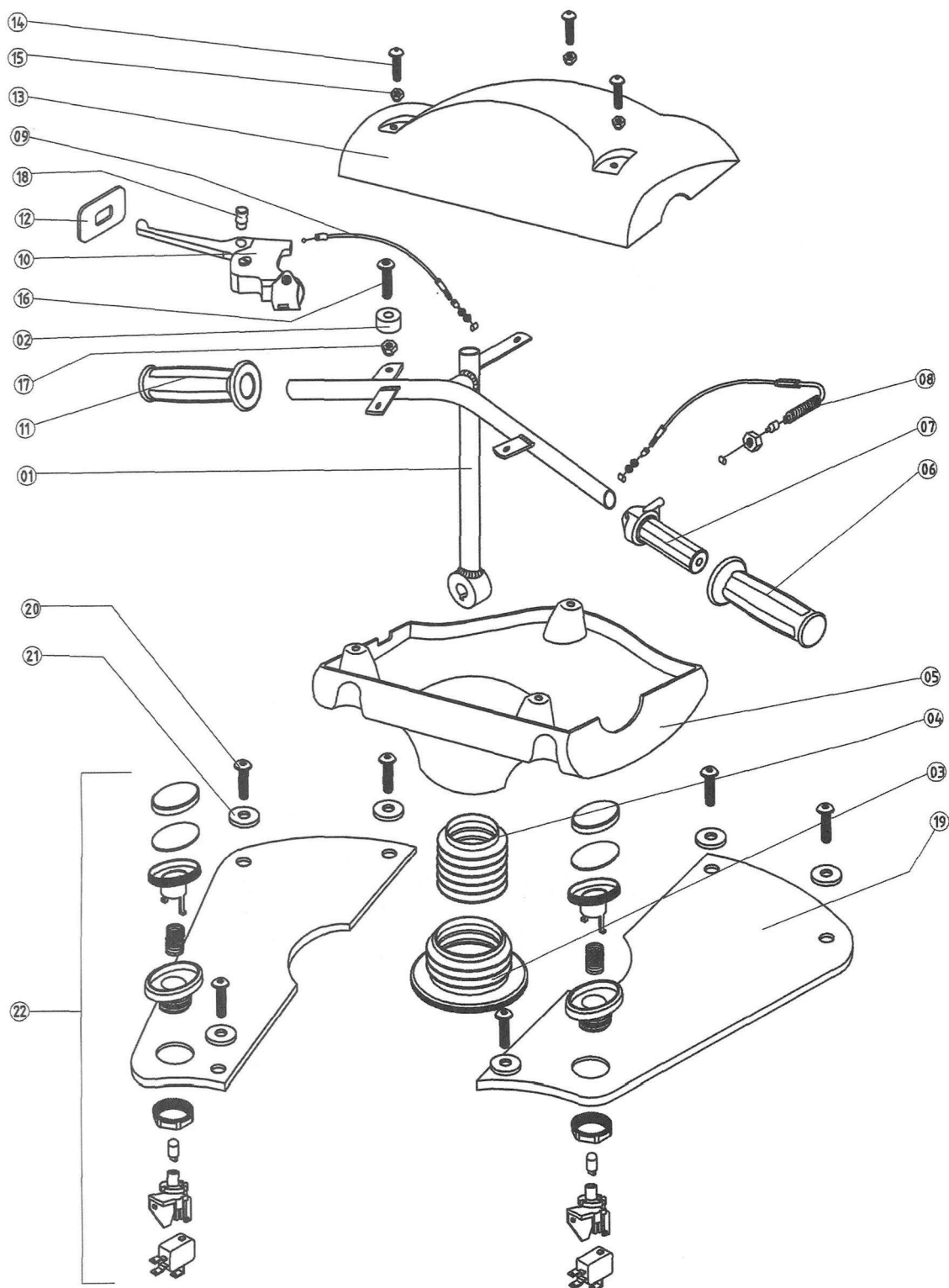


- 1 FRONT PANEL (RAB-514)
- 2 RIGHT SIDE PANEL (RAB-513)
- 3 LEFT SIDE PANEL (RAB-512)
- 4 FEARINGS (RAB-515)
- 5 TITLE (RAB-514T)
- 6 SPEAKER GRILL (RAB-514G)
- 7 TWEETER (RAB-361)

10.1.3 HANDLEBAR GENERAL ASSEMBLY



10.1.4 SUB-ASSEMBLY "A"



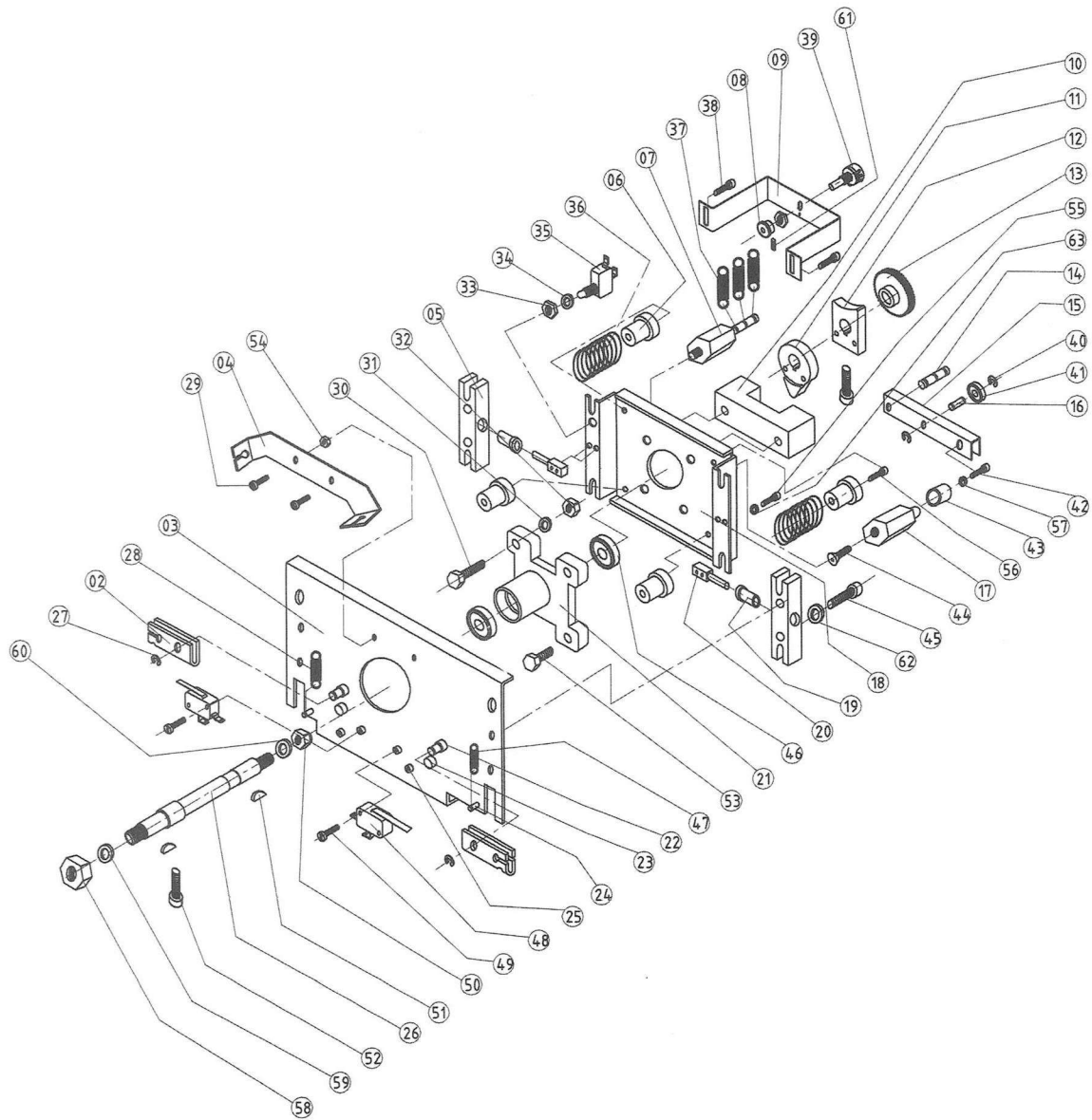
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Sub-assembly "A" - Parts List

Pos.Num.	Description	Code	Quantity
01	HANDLEBAR	RAB-320	1
02	HAND BRAKE NYLON STOPPER	RAB-308	1
03	LOWER HANDLEBAR PROTECTOR	RAB-331	1
04	UPPER HANDLEBAR PROTECTOR	RAB-330	1
05	LOWER HANDLEBAR FEARING	RAB-515-i	1
06	HAND ACCELERATOR GRIP	RAB-312	1
07	CA—A MANETA GAS	RAB-316	1
08	ACCELERATOR CABLE	RAB-315	1
09	HAND BRAKE CABLE	RAB-314	1
10	HAND BRAKE	RAB-309	1
11	HAND BRAKE GRIP	RAB-311	1
12	HAND BRAKE PROTECTOR	RAB-307	1
13	UPPER HANDLEBAR FEARING	RAB-515-s	1
14	TORX BOLT, INOX M5X16	RAB-515-t	3
15	SELF LOCKING NUT M5	RAB-515-r	3
16	ALLEN BOLT, ISO 7380 M6X30	RAB-308-t	1
17	SELF LOCKING NUT M6	RAB-308-r	1
18	TOPE CABLE FRENO	RAB-317	1
19	CONTROL PANEL, RIGHT	RAB-220-r	1
20	BOLT 1001-10,9 M-6X30	RAB-220-t	6
21	(6mm NYLON WASHER	RAB-220-v	6
22	PUSH BUTTON A 0113	RAB-301-302	2

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10.1.5 SUB-ASSEMBLY "B"



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Sub-assembly "B" - Parts List

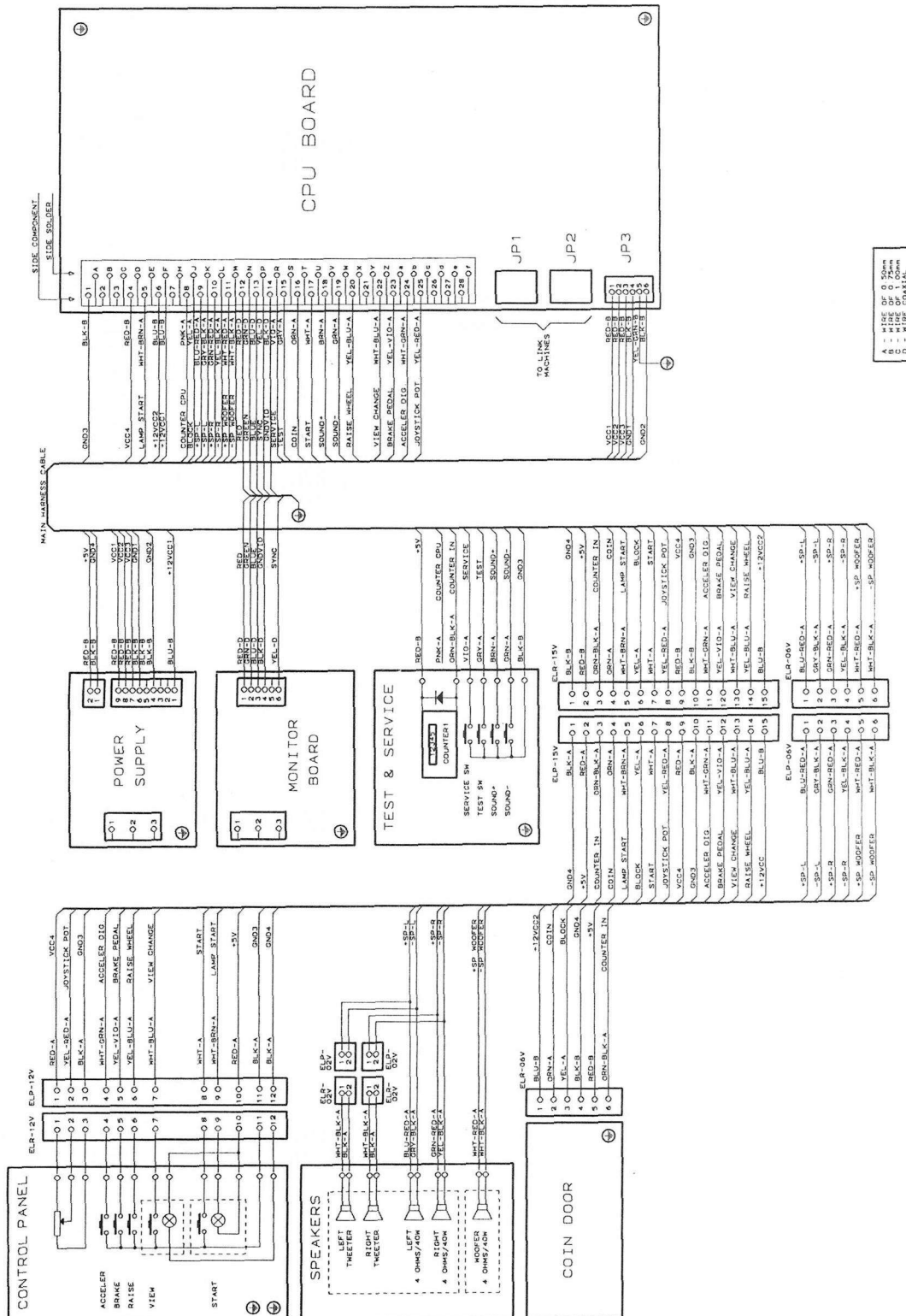
Pos. No.	Description	Code	Qty
02	MICROSWITCH LEVER	S-40-4011102	2
03	FRONT ATTACHMENT PLATFORM	S-40-4010101	1
04	FIXING BRACKET FOR CABLE TENSORS	S-40-4010201	1
05	ZAMAK MOUNTING	S-40-0004001	2
06	PLATFORM/CHASSIS SEPARATORS	C-40-074017	4
07	HEXAGONAL ATTACHMENT AXLE	S-40-4014101	1
08	POTENTIOMETER GEAR M/O 75, Z=19	C-40-401510	1
09	POTENTIOMETER BRACKET	S-40-4010401	1
10	POLIAMIDA-6 STOPPER, END	C-40-074116	1
11	ZAMAK STOPPER, SHAFT	C-40-000302	1
12	HANDLEBAR POSITION FIXER	C-40-045010	1
13	CENTRAL GEAR M/0.75 Z=80	C-40-022087	1
14	PIVOT BOLT FOR ARM SPRINGS	S-40-4014201	1
15	CENTERING BAR	S-40-0220101	1
16	PIN, BEARING HOLDER	S-40-0320301	1
17	HEXAGONAL PIVOT POST	S-40-0320201	1
18	BASE PLATE FOR HANDLEBAR	S-40-0210101	1
19	SLEEVE FOR MOUNTING PIVOT	S-40-4013101	2
20	MOUNTING PIVOT FOR BASE PLATE	S-40-4013201	2
21	BEARING HOUSING	C-40-000300	1
22	LEVER FIXING BUSH	C-40-401130	2
23	LEVER STOPPER BUSH	C-40-401120	2
24	SPRING BUSH	C-40-401140	2
25	MICROSWITCH SPACER	C-40-401210	4
26	HANDLEBAR SHAFT 270	C-40-010200	1
27	E-RINGS DIN 6799 7mm	C-22-04017	2
28	BRAKE RECOVERY SPRING	C-11-404111	1
29	FIXING SCREWS FOR BRACKET 04	C-22-0105410	2
30	HEXAGONAL BOLT DIN 933 10X50	C-22-01031050	2
31	WASHERS AET 10mm	C-22-030410	4
32	NUTS DIN 934 M.10	C-22-020110	4
33	POTENTIOMETER NUT 3/8	C-22-028038	1
34	POTENTIOMETER MOUNTING WASHER 3/8	C-22-038038	1
35	REAR MICROSWITCH	C-09-57131	1
36	SPRINGS 51X29X3 7 1/2	C-11-404011	2
37	ARM SPRINGS	C-11-402010	3
38	SCREW DIN 7985 M4X10	C-22-0105410	2
39	POTENTIOMETER	C-29-405619	1
40	E-RINGS DIN 6799 6mm	C-22-04016	2
41	ROCKER ARM BEARING 608-ZZ	C-40-202608	1
42	ALLEN SCREW DIN 912 M6X10	C-22-0112610	1
43	AMES SLEEVE 8X12X10	C-40-202001	1
44	SCREW DIN 7991 M6X15 FOR HEX. AXLE	C-22-0107615	1
45	ALLEN SCREWS DIN 912 M6X14	C-22-0112614	4

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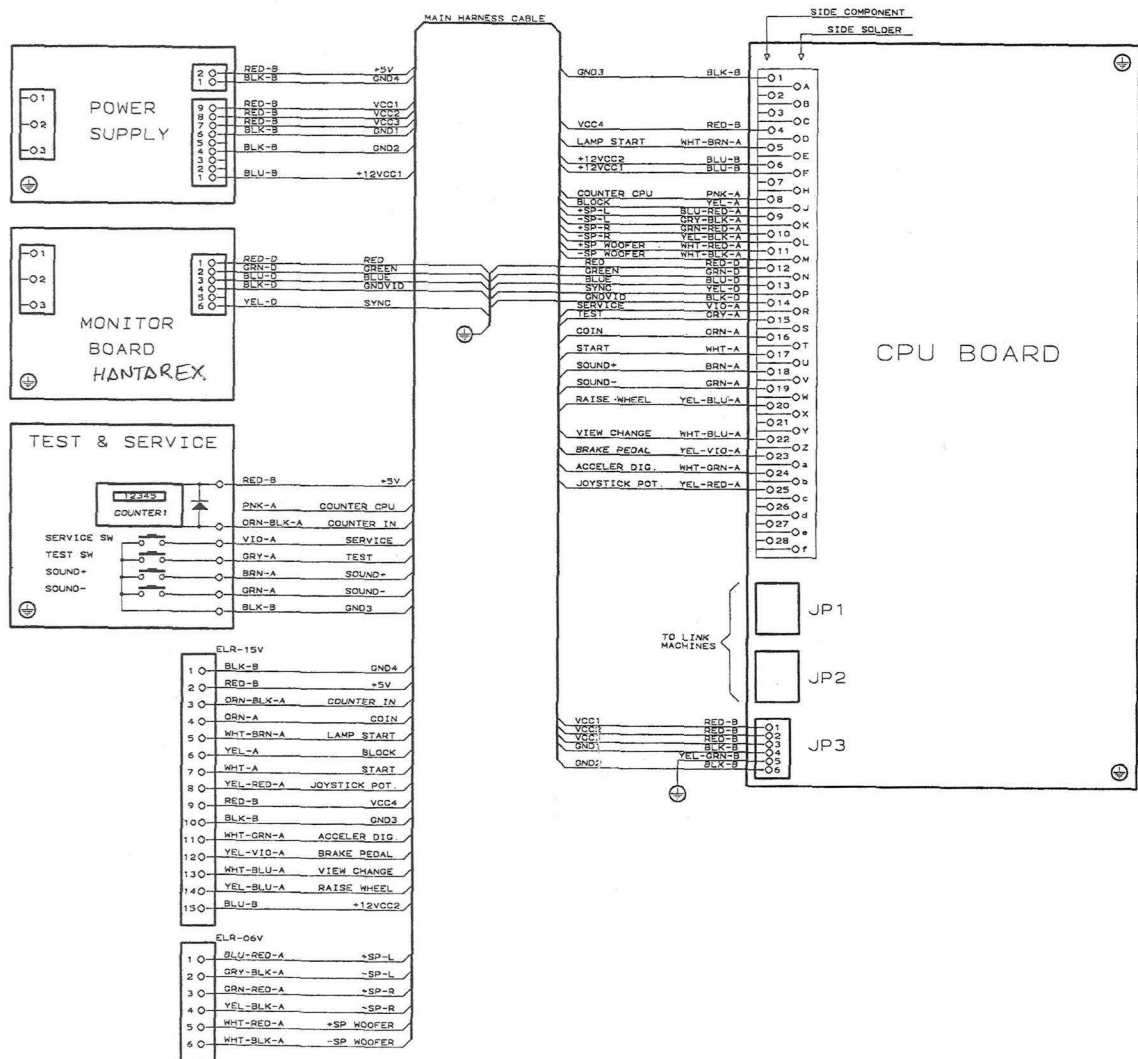
46	BEARING 60022-ZZ	C-40-206002	2
47	RECOVERY SPRING 30X5,1X0,50	C-11-404211	1
48	MICROSWITCH SAIA P/27,8XGC52B-91-J23(85gs)	C-09-21238	2
49	FIXING SCREWS DIN 84 M3X20	C-22-0104320	4
50	SELF LOCKING NUT M10	C-22-020210	1
51	KEY WODRUF D/19-4X7	C-22-800147	2
52	ALLEN BOLTS DIN 912 M6X35	C-22-0112635	2
53	HEXAGONALES BOLTS DIN 933 10X20	C-22-01031020	2
54	NUTS DIN 934 M4	C-22-02014	2
55	SCREWS DIN 912 M5X16	C-22-0112516	4
56	ALLEN SCREWS DIN 912 M6X16	C-22-0112616	2
57	WASHER DIN 125 6mm	C-22-03016	1
58	NUT M12	C-22-020112	1
59	WASHER ADE 12mm	C-22-030812	1
60	FLAT WASHER M10	C-22-030110	1
61	SPLIT PIN DIN 913 M4X10	C-22-0501410	1
62	AET WASHERS 6mm	C-22-03046	4
63	GLOWER WASHERS 5mm	C-22-03065	4

10.2 Wiring Diagrams

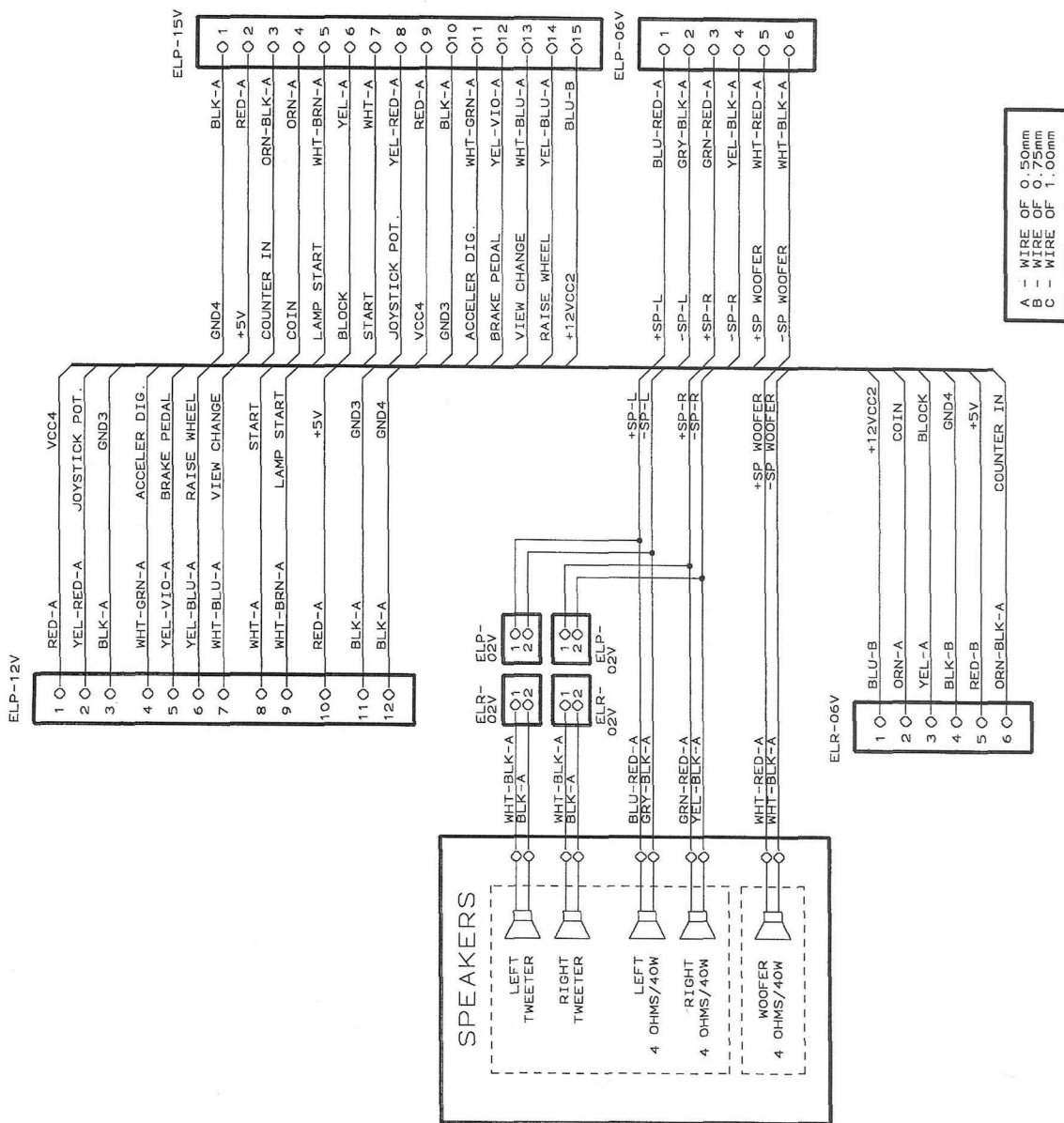
10.2.1 CABINET WIRING DIAGRAM



10.2.2 JAMMA WIRING DIAGRAM

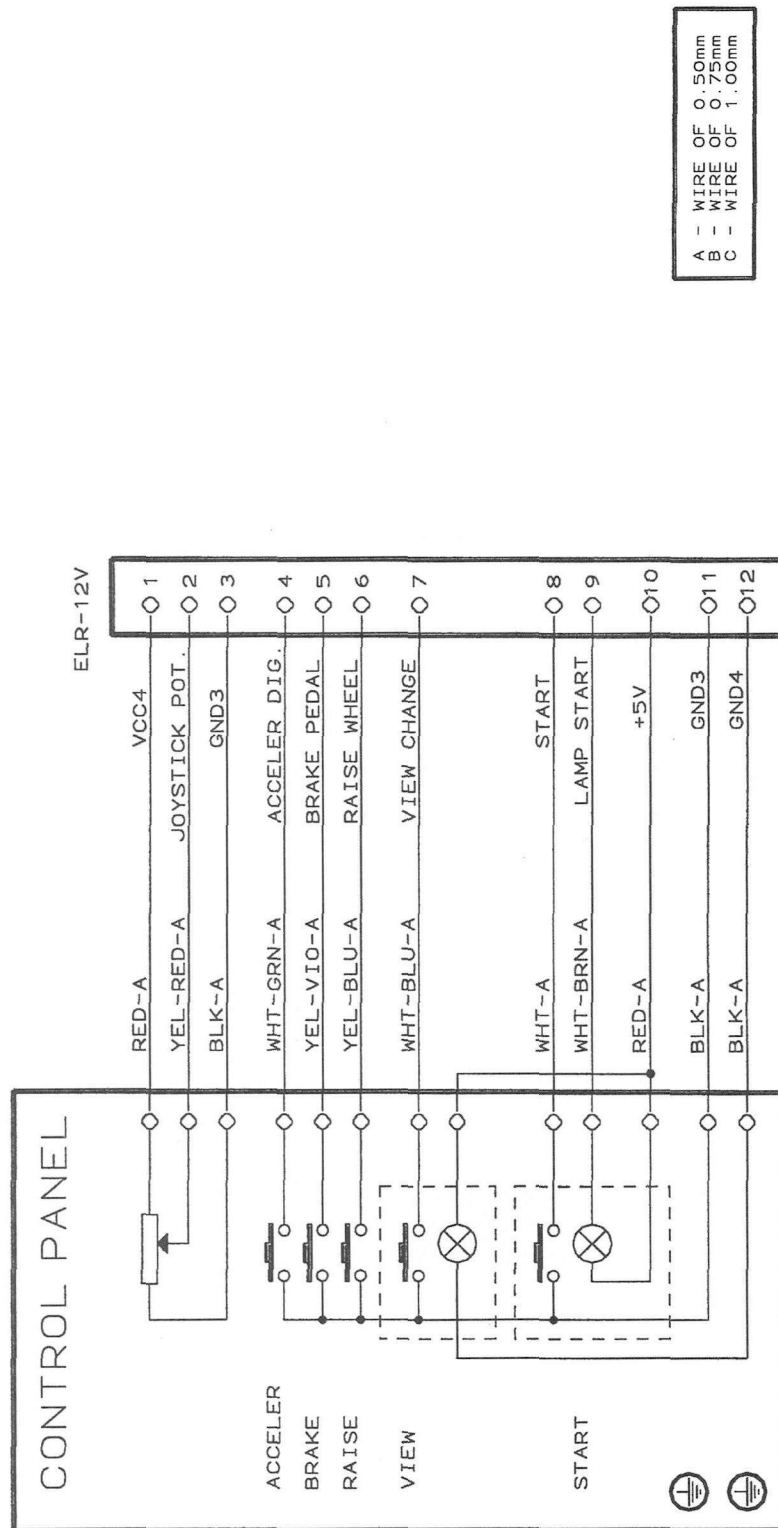


10.2.3 CABINET WIRING DIAGRAM - M_ALT_MO

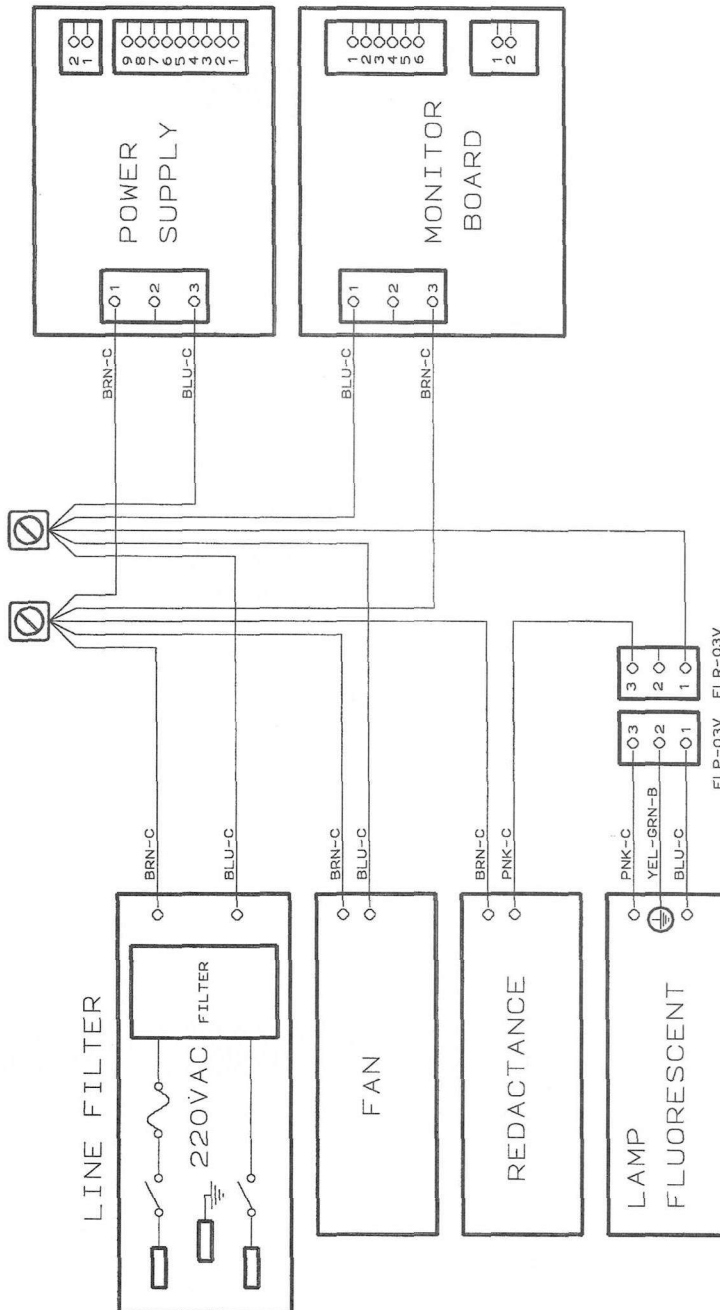


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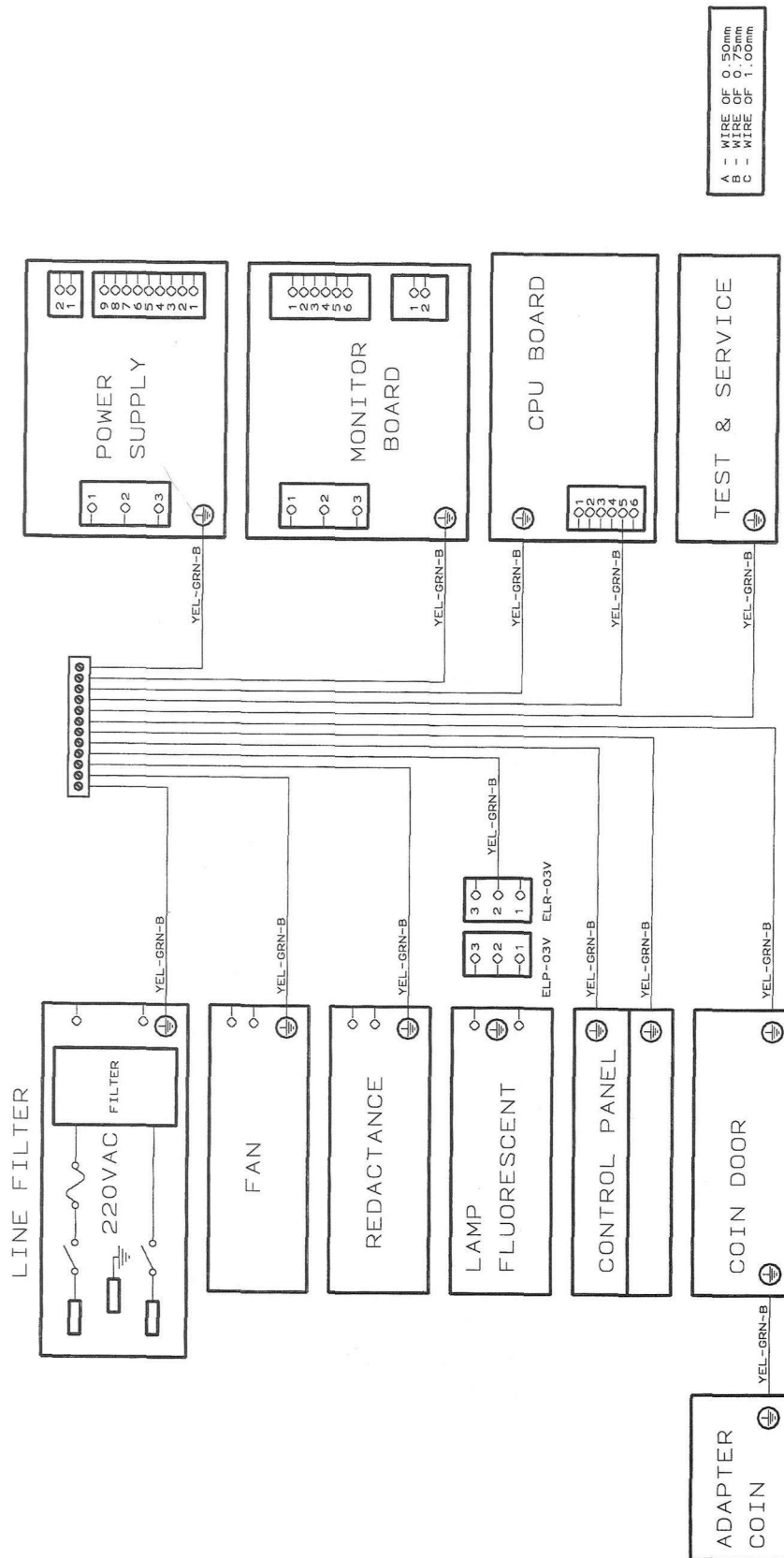
10.2.4 CONTROL WIRING DIAGRAM



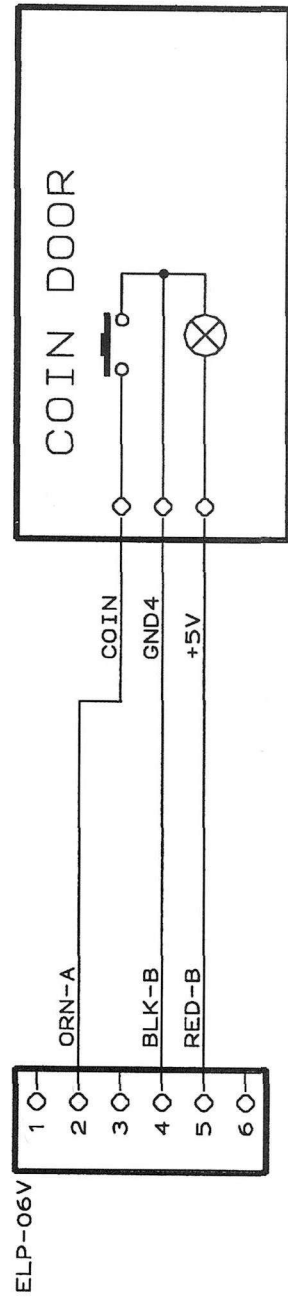
10.2.5 POWER WIRING DIAGRAM



10.2.6 GROUND WIRING DIAGRAM

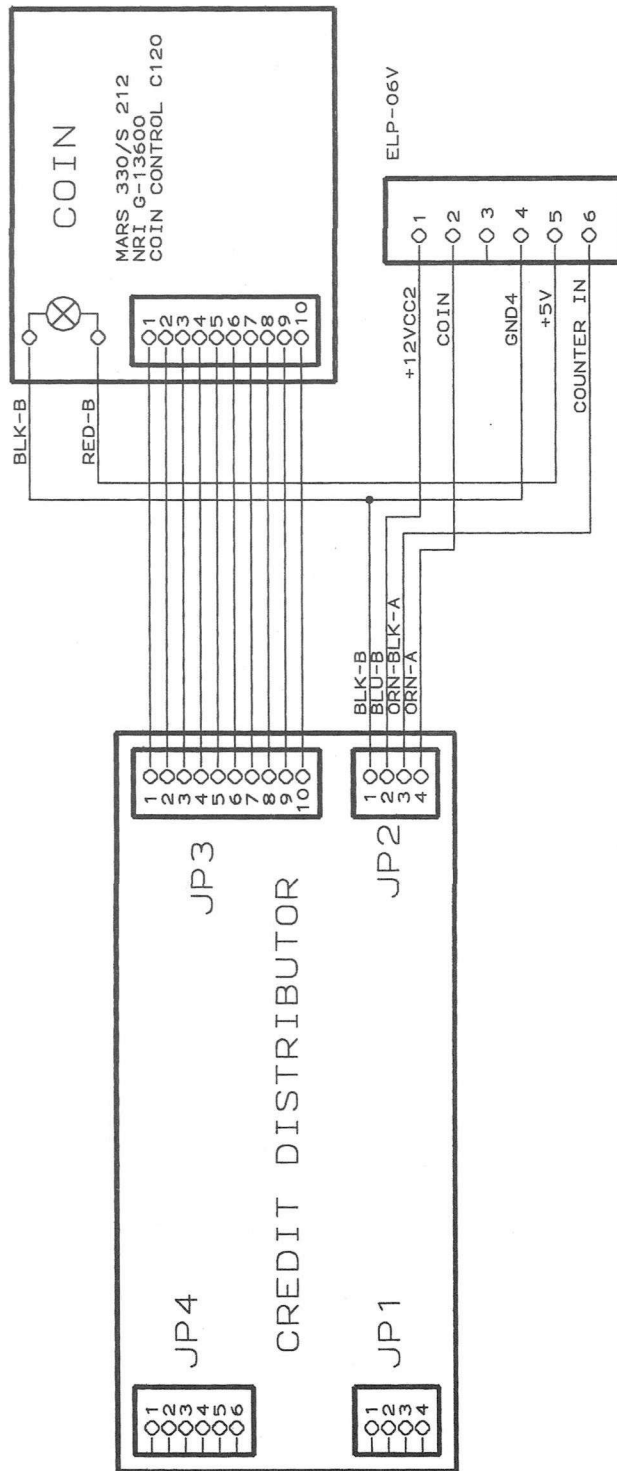


10.2.7 COIN DOOR WIRING DIAGRAM - MECHANIC



A - WIRE OF 0.50mm
 B - WIRE OF 0.75mm
 C - WIRE OF 1.00mm

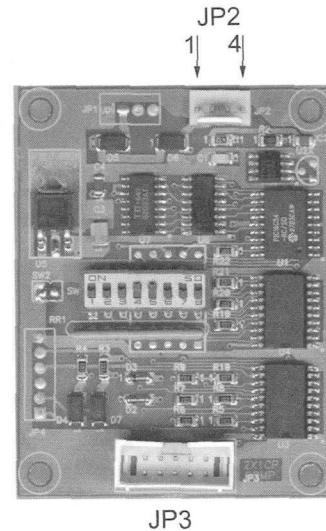
10.2.8 COIN DOOR WIRING DIAGRAM - ELECTRONIC



A - WIRE OF 0.50mm
B - WIRE OF 0.75mm
C - WIRE OF 1.00mm

10.3 Credit distributor setup

JP1: Not used
 JP2: Cabinet
 JP3: Coin controller
 JP4: Not used



Connector JP2

This connector should be connected to RADIKAL BIKERS PCB wiring

JP2	Description:	Values:	Source/Destination:
Pin 1	Input GND.	GND	GND power supply.
Pin 2	Input Vcc.	+12 VDC	DC power supply.
Pin 3	Counter output.	0/+5/+12 VDC	Coin counter
Pin 4	Credits output.	+5/0 VDC	Credits for CPU.

Connector JP3

Input connector of electronic coin controller, programmable per channels.

PIN	Signal	Active
1	0V	0V
2	+12VDC	+12VDC
3	Output 5	0V
4	Output 6	0V
5	---	
6	Lock	High
7	Output 1	0V
8	Output 2	0V
9	Output 3	0V
10	Output 4	0V

9	7	5	3	1
10	8	6	4	2

Note: Layout view corresponding to components side

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PROGRAMMING OF COIN CONTROLLERS

Controllers supported:

COIN CONTROL

C-120

NRI

G-13.6000

MARS

CASHFLOW 330

MARS 330/S 212	OPA	OPB	OPC	OPD	OPE	OPF
NRI G-13.6000	Channel 1	Channel 2	Channel 3	Channel 4	Channel 5	Channel 6
Coin Control C 120	Coin 1	Coin 2	Coin 3	Coin 4	Coin 5	Coin 6
PIN Controller:	7	8	9	10	3	4
Germany	==	==	5 DM	==	2 DM	1 DM
Switzerland	==	==	5 FS	==	2 FS	1 FS
France	20FF	10 FF	5 FF	==	2 FF	1 FF
Italy	==	==	500 L	==	200 L	100 L
USA	==	==	==	1 \$	50 Ct	25 Ct
Great Britain	==	1 £	50 Pe	==	20 Pe	10 Pe
Spain	500Pt	==	200 Pt	100 Pt	50Pt	25 Pt
Australia	==	==	5 \$	==	2 \$	1 \$
Belgium	==	==	50 FB	==	20 FB	==
Norway	20 Kr	10 Kr	5 Kr	==	==	1 Kr
Greece	==	==	==	==	100 Dr	50 Dr
Portugal	==	==	==	200 ESC	100ESC	50ESC

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SWITCH SETUP

SW1: Always OFF

SW2: Coin multiplication factor

SW2= OFF (Europe except Spain)	Channel:	1	2	3	4	5	6
	Value:	x 20	x 10	x 5	x 4	x 2	x 1
SW2= ON (Spain and USA)	Channel:	1	2	3	4	5	6
	Value:	x 20	x 10	x 8	x 4	x 2	x 1

SW3: Not used

SW4-SW5: Extra Credits (Bonuses)

Combination of these two dip switches is used to program bonuses (free games)m according to the scale shown in the table. The table varies according to the game price selected.

SW6-SW7-SW8: Game Price

These dip switches are used to choose the game price. The bonus table shows the combination of game prices with the payments that allow the player to obtain extra games (bonuses).

CREDITS table				BONUS table(SW4/SW5)			
SW6	SW7	SW8	Val/Cr	off/off	on/off	Off/on	on/on
off	off	off	1	0	5	4	2
on	off	off	2	0	5	4	2
off	on	off	3	0	*5	3	6
on	on	off	4	0	20	16	8
off	off	on	5	0	25	20	10
on	off	on	8	0	20	16	8
off	on	on	10	0	25	20	10
on	on	on	12	0	20	16	24

(*)Adds another credit for the second lap.

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APPLICATION EXAMPLES

Example No. 1

Spain: 25 Pts = 1 pulse	SW1=	off	SERIAL input. (25 Pt via PIN 8) = (Channel 6)
	SW2=	on	Input values x1 x2 x4 x8 x20
	SW3=		Not used.
	SW4=	on	EXTRA credit for 500Pt.
	SW5=	off	
	SW6=	on	8 pulses / 1 credit.
	SW7=	off	
	SW8=	on	
RESULT:	200 Pts / 1 credit; 500 Pts / 3 credits;		

Example No. 2

Germany: 1 DM = 1 pulse	SW1=	off	SERIAL input. (1 DM via PIN 8) = (Channel 6)
	SW2=	off	Input values x1 x2 — x5
	SW3=		Not used.
	SW4=	on	EXTRA credit on the 5th Coin.
	SW5=	off	
	SW6=	off	1 pulse / 1 credit.
	SW7=	off	
	SW8=	off	
RESULT:	1 DM / 1 credit; 5 DM / 6 credits;		

Example No. 3

France (1): 1 FF = 1 pulse	SW1=	off	SERIAL input. (5 FF via PIN 5) = (Channel 3)
	SW2=	off	Input values x1 x2 — x5
	SW3=		Not used
	SW4=	off	EXTRA credit on the 20th pulse (=20FF)
	SW5=	on	
	SW6=	off	5 pulses / 1 credit.
	SW7=	off	
	SW8=	on	
RESULT:	5 FF / 1 credit; 20 FF / 5 credits;		

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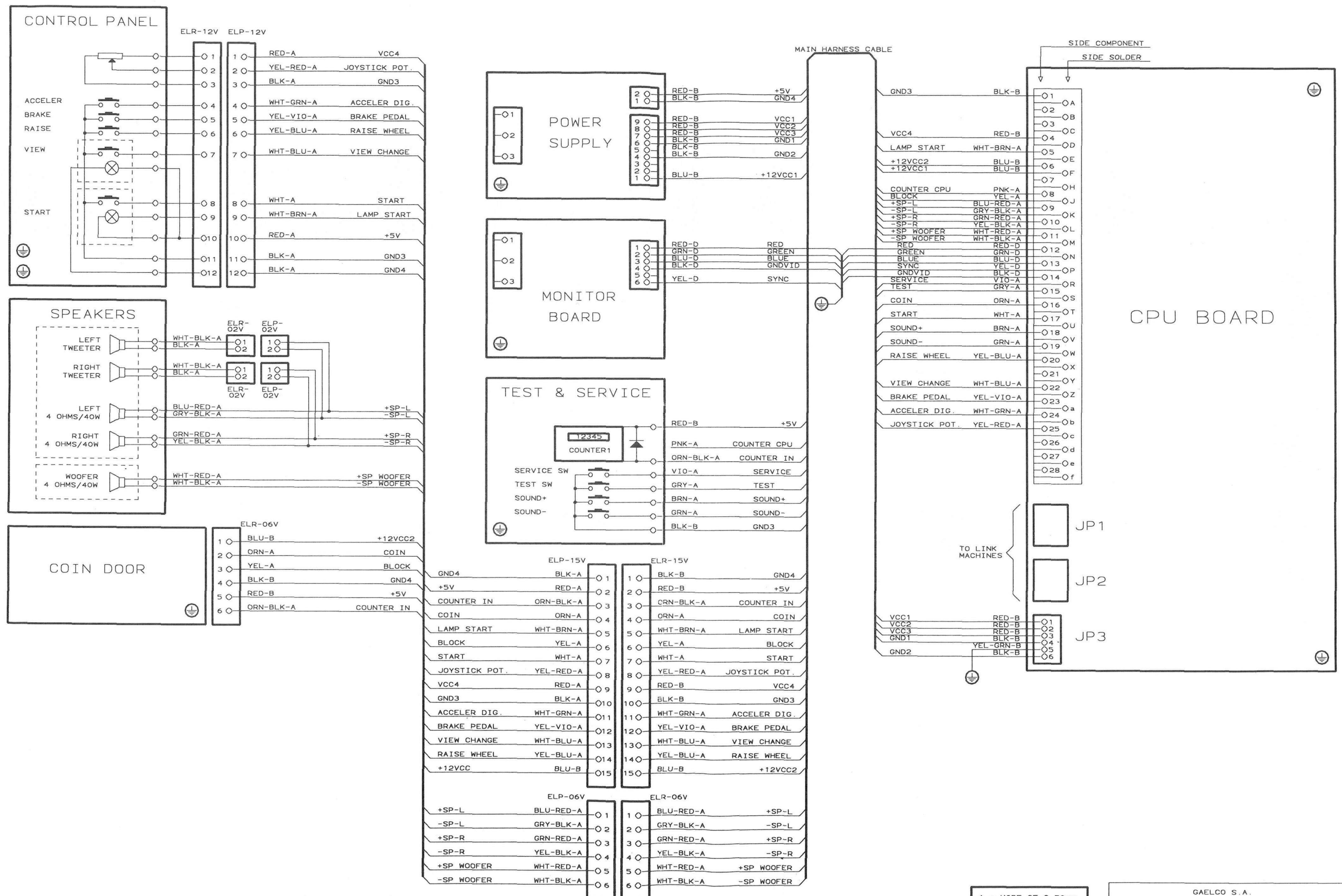
Example No. 4

France (2): 1 FF = 1 pulse	SW1=	off	SERIAL input. (5 FF via PIN 5) = (Channel 3)
	SW2=	off	Input values x1 x2 — x5
	SW3=		Not used
	SW4=	off	EXTRA credit on the 20th pulse (=20 FF)
	SW5=	on	
	SW6=	off	10 pulses / 1 credit.
	SW7=	on	
	SW8=	on	
RESULT:	10 FF / 1 credit; 20 FF / 3 credits		

Example No. 5

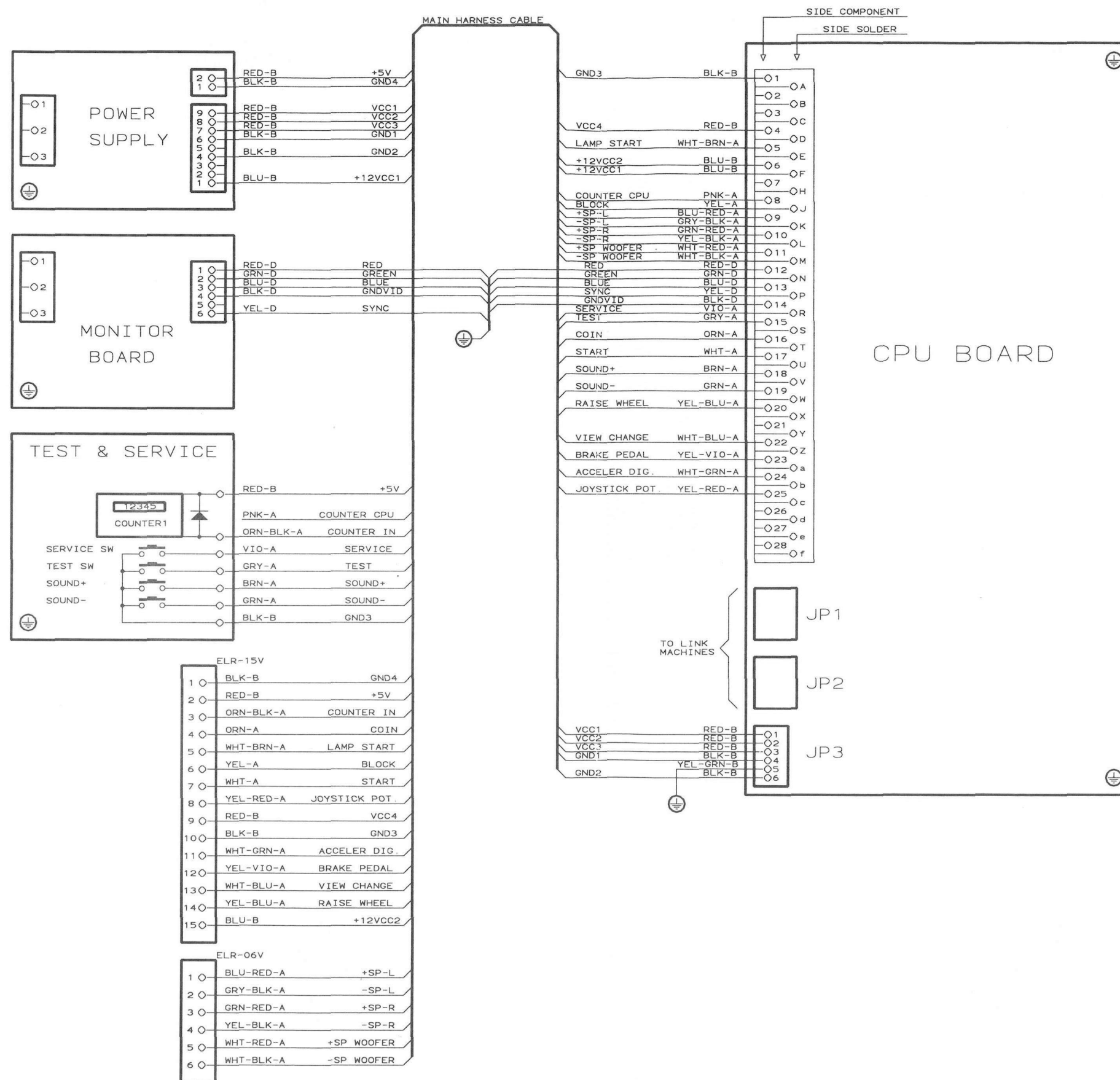
Great Britain: 10 Pen=1 pulse	SW1=	off	SERIAL input. (10 Pen via PIN 8) = (Channel 6)
	SW2=	off	Input values x1 x2 — x5
	SW3=		Not used.
	SW4=	on	EXTRA credits on the 5th pulse (= 50 Pen) and 10th pulse (=1 £)
	SW5=	off	
	SW6=	off	3 pulses / 1 credit.
	SW7=	on	
	SW8=	off	
RESULT:	30 Pn / 1 cred.; 50 Pn / 2 cred.; 1 £ / 5 cred.		

CABINET WIRING DIAGRAM



A - WIRE OF 0.50mm
B - WIRE OF 0.75mm
C - WIRE OF 1.00mm
D - WIRE COAXIAL

JAMMA WIRING DIAGRAM



A - WIRE OF 0.50mm
B - WIRE OF 0.75mm
C - WIRE OF 1.00mm
D - WIRE COAXIAL