Radikal DARTS

OPERATOR'S MANUAL
MODEL PF-25

VERSION 1.2

gaelco

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About RADIKAL DARTS

Radikal Darts© is a computer controlled machine and it requires some basic care as any computer. Failing to operate the machine correctly could result in malfunction, so please read this manual before starting operation.

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Radikal Darts **has been manufactured in accordance with European Community directives. Any changes or modifications to this machine has to be authorised by Gaelco S.A. and must be in accordance with the CE directives.**
Using spear parts that do not fit specifications will void the warranty.
Removal of serial numbers and/or bar codes from product or components will void the warranty as well.

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 DATA

Manufacturer	GAELCO, S.A.
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ZIP	08023
City	Barcelona
Country:	SPAIN
Tel.	34 93 417 36 26
Fax	34 93 417 28 02
e-mail	info@radikaldarts.com
website	www.gaelco.com
Name of the game	RADIKAL DARTS
Model	PF-25

1.2 LEGISLATION REFERENCES

C E   RADIKAL DARTS cumplies with the following CE regulations:

EM EMISSION

- EN 61000-3-2 (1995), Harmonics
- EN 61000-3-3 (1995), Fluctuations
- EN 55022 (1994), Continuous conducted emission (Class A)
- EN 55022 (1994), Radiated emission (Class A)

EM IMMUNITY

- EN 61000-4-2 (1995), ESD
- EN 61000-4-3 (1996) & ENV 50204 (1995), Radiated field of RF
- EN 61000-4-4 (1995), EFT burst
- EN 61000-4-5 (1995), Surges
- EN 61000-4-6 (1996), RF common mode
- EN 61000-4-8 (1993), 50 Hz H-field
- EN 61000-4-11 (1994), Dips, interruptions

ELECTRICAL SAFETY

UNE EN 60335-1 (1997) + Erratum (1997) + A11 (1997) + A12 (1997) + A13 (1999) + A14 (1999) + Erratum (1999).

UNE-EN 60825-1:1996+A11:1997+A2 C0RR:2002+A1:2003 Laser products safety.

1.3   TECHNICAL SERVICE

Gaelco S.A. or its Distributors carry out technical service.
The e-mail for technical assistance is: **info@radikaldarts.com**

1.4   RESPONSABILITY

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 operator, who must operate in compliance with the European Community directives.

In case of damage 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

MACHINE FACILITIES

RADIKAL DARTS is the first and the only dart machine in the market which allows to play tournaments without direct presence of a referee. This is possible because of a multimedia system patented by Gaelco S.A. The RRS (*Remote Refereeing System*) controls game plays held in any place of the world, at any time. The game plays are recorded by two digital cameras, then sent through Internet to a dedicated server where the information is analyzed and validated.
Gaelco's validation software is ready for all types of tournaments regarding the number of sites.
The machine includes many other facilities, such as a panoramic 17" TFT screen on top of the cabinet, a laser device to mark the line from where the players throw their darts, and a card reader to speed up player identification in tournament mode.

RADIKAL DARTS offers the traditional and most popular dart games: X01 (301, 501, 701, 901), Cricket, Shangai, Burma Road,Tic Tac Toe and others. Each game has available all most common options to play. The machine is also prepared to organize other tournaments such as Best of 3, so managers and operators have another tool to promote dart sports and improve machine profitability.

DIMENSIONS AND WEIGHT

width	depth	height	weight
665 mm	625 mm	2300 mm	100 Kg

2.1   TECHNICAL SPECIFICATIONS

Mains supply
Operating voltage: 220-230 VAC, 50 Hz
Power consumption: 160W

CPU board
RADIKAL DARTS PCB

Controls and game facilities
- Keyboard
- Graphic display
- START button
- 17" Twin Film Monitor (color TFT)
- CCD camera, front view
- CCD camera, vertical view
- Laser line module
- Magnetic card reader (optional)

Remote Refereeing System (RRS)
Server and software for accessing the RRS are provided by Gaelco S.A.

Connection to local area network and Internet
Ethernet RJ-45 cable, normal (not supplied with the machine)

2.2   ATTACHMENTS

Operator's Manual (this document)   (1)
Coin box keys   (2)
Console keys   (2)
Dart board keys   (2)
Power cord (3m)   (1)
Fixing screws   (2)

3. SAFETY NOTES

In order to use RADIKAL DARTS safely, please read carefully this Manual BEFORE the installation, use or maintenance of the machine.

This Operator's Manual and others manuals delivered with the machine must be always available to the operating and service personnel.

When transporting or reselling the machine, please be sure to attach this Manual.

The RADIKAL DARTS machine has been designed for indoor use only, within residential or commercial areas, and must be used exclusively for the purpose intended.

GAELCO S.A. bears no responsibility for accidents, injury or damage resulting for unauthorized changes or improper use of the machine.

3.1 GENERAL CONSIDERATIONS

- Before operating the machine, check that it has been installed correctly and in accordance with this Manual.

- The warning notices (stickers) for the laser device must be kept in such condition that customers can read them easily.

- Before connecting the machine to the mains supply, verify that it is set for the correct voltage and that the proper fuses are already installed.

- When replacing fuses, use spare fuses of the same type and rating than the originals. The use of other material can cause serious damages on the electronic circuits or even a fire hazard. Check the Parts List to know the exact specifications.

- As the machine is controlled by a computer, it should be switched off if the mains voltage is not stable.

- Use the lateral switch, not de mains switch, when you wanto to switch off the machine.

- Do not turn ON the power switch until the machine has been installed on its dedicated place.

If there is any problem or malfunction with the machine, operation must be stopped immediately.

3.2 SAFETY PRECAUTIONS CONCERNING LOCATION

⚠️

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

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 locations near containers holding liquids or liquid dispensing equipment. In general, precautions should be taken against spilling liquids of any kind whatsoever over the machine

- 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

Furthermore:

- Do not run the power cord across passages where pedestrian's feet could get caught on the cord.

- Do not connect the machine to a power line that also supplies power for freezers or other power consuming and noise-making equipment.

GAELCO shall not be held responsible for any damage resulting from the failure to observe these instructions.

3.3 CLEANING

When cleaning the machine, avoid cleaners containing agressive disolvents. Please use a mild cleaner and a soft cloth.

4. HANDLING

⚠ This machine should be transported or moved with care. Failing to do so could result in injury or product damage.
The machine includes a computer and some other parts which are sensible to vibration and blows. Furthermore, it is a quite heavy cabinet of about 100Kgs. So please be careful.

4.1 TRANSPORT OF THE PACKAGED UNIT

The packaged machine must be transported in a closed means of transport with sufficient carrying capacity for the gross weight of the machine, which is about 100 Kgs. The machine should remain packaged on its pallet and suitably secured to the means of transport.
It is very important that the lifting forks are pushed right to the back of the wooden pallet, to give optimum stability to the load. 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 +45ºC / minimum -5ºC.

4.3 RECEPTION

The packaging should be carefully inspected upon receipt to ensure that the product is delivered in good conditions. Shipping damage may void warranty. In case of shipping damage, contact your Distributor and the Transportation Carrier immediately. Please refer to section 6 for further inspection.

5. SITE CONDITION

The location for the dart machine should have a suitable, grounded electrical outlet, as well as an accesible connection to Internet or local network.
The machine has a computer inside and should be powered by a dedicated circuit. If a separate circuit is not available, care should be taken to provide clean and stable voltage. Therefore it is not allowed to connect the machine to a circuit that also supplies power to freezers, motors or any other equipment that makes electrical noise or consumes a lot of power.

The floor must be even and flat. Light reflections or irregular surfaces should be avoided at the area of the throw line.

The machine should not be located where games will be interrupted by people playing through the playing area.

6.   UNPACKING, ASSEMBLING & INSTALLATION

It is best to unpack the machine where it is going to be used or in a place as near as possible to this. Once the packaging is removed, the machine looks as shown in the drawing.
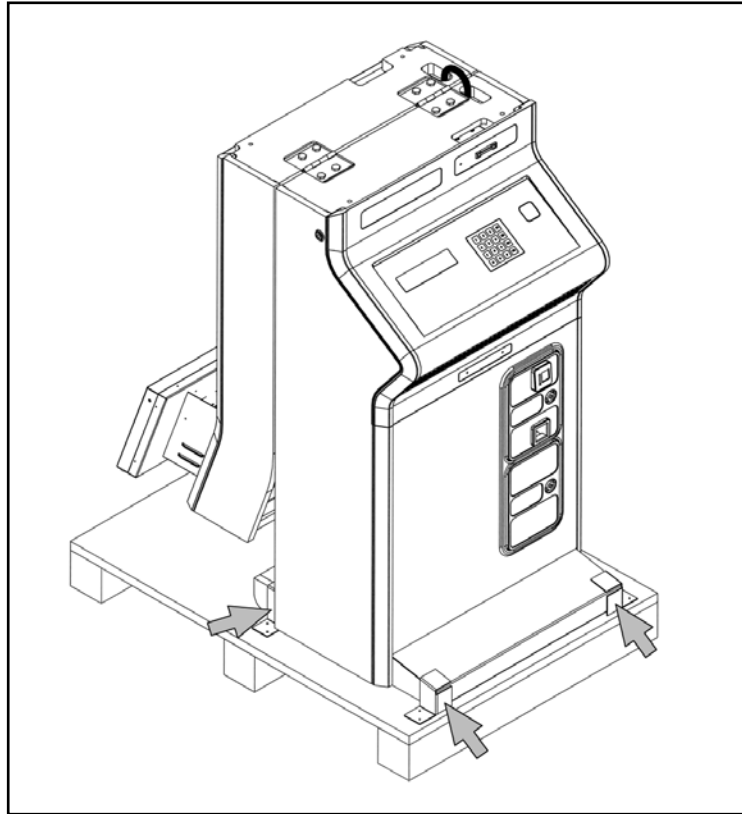
To place the machine on site remove the brackets that fix it to the pallet. There are four brackets, three of them marked in the drawing.

6.1   INSPECTION BEFORE ASSEMBLING

Normally, GAELCO products are ready to be assembled immediately after transporting to the location. Nevertheless, some mishandling might occur during transportation. Check the following points to ensure that the machine has been properly delivered:

- Examine the cabinet exterior for dents, chips, or broken parts
- Verify that levellers are not damaged
- Verify that the keys delivered with the machine open all doors.
- Check if all the accessories are included.
- Ensure that the power supply voltage and frequency requirements meet those of the location.

6.2   ASSEMBLING & INSTALLATION

To assembly the machine push up the target section of the cabinet until it rests on the base section, as shown in the drawing. This operation should be done carefully to keep the cabinet balanced.
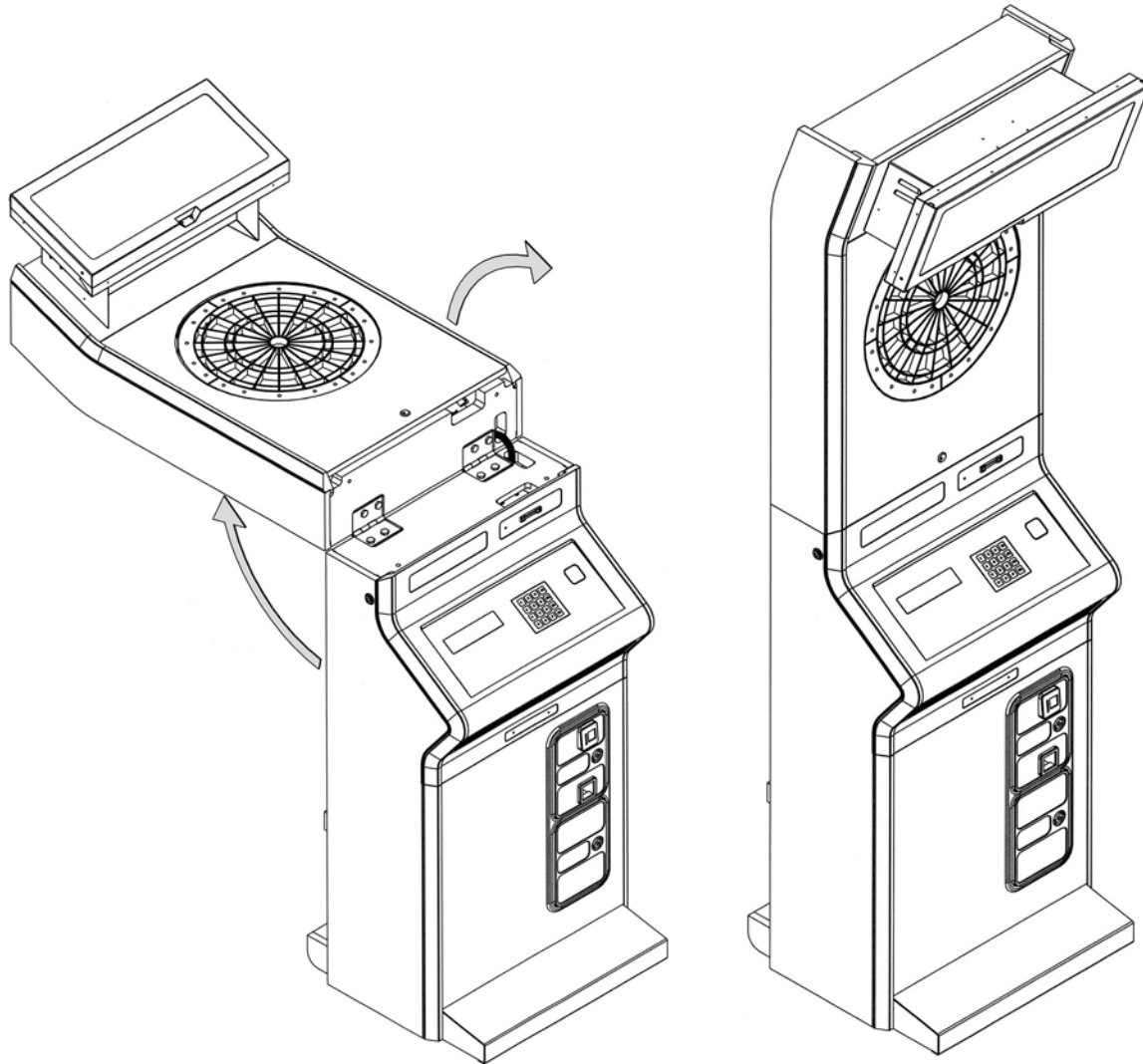
Then fasten the two sections of the cabinet, by using the screws stored in the coin box. Please proceed as follows:

1. Take the keys set.
2. Find the key for the target door and insert it in the lock. Press a bit and turn 90º anticlockwise.
3. Move away the door from the cabinet by pulling the key, as shown in drawing 1 of page 13. Pull down the door to remove it (drawing 2).
4. Open the two doors corresponding to the coin acceptor and the coin box. Turn the key 90º anticlockwise to open.
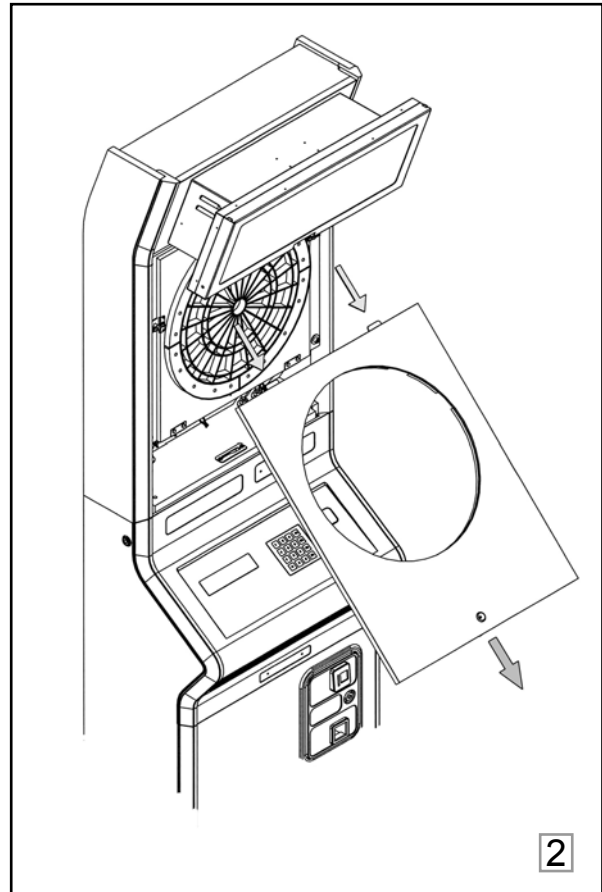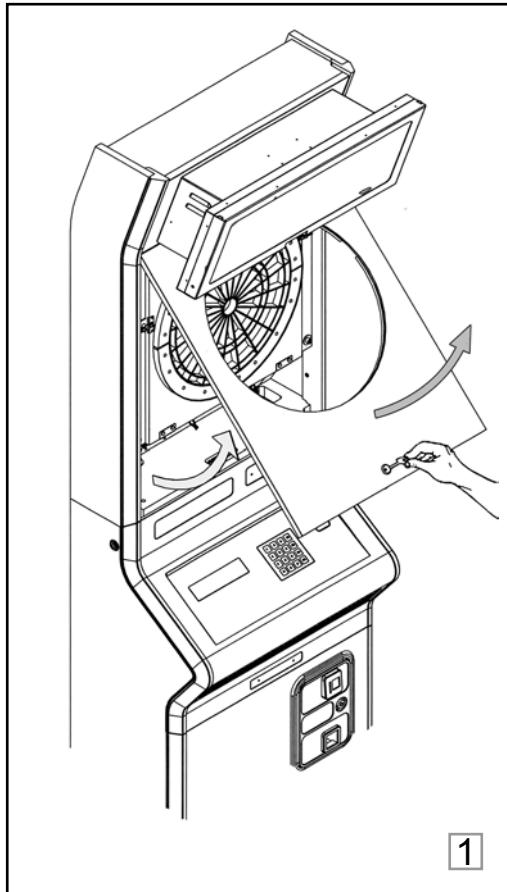
5. Remove the bolt that holds the coin box, then take the box away from its housing as shown in the pictures. You will find two screws M8X70 there, as well as other items delivered with the machine.

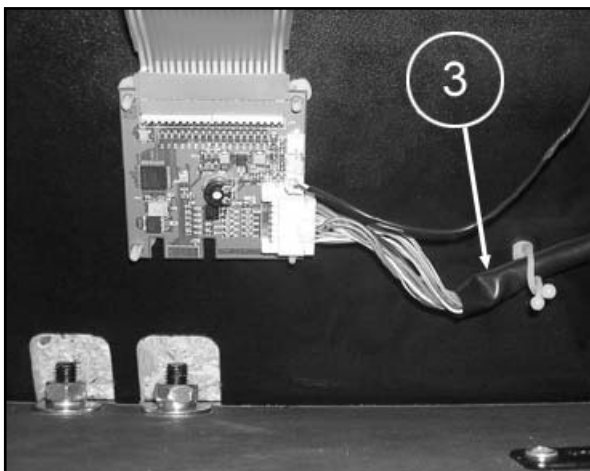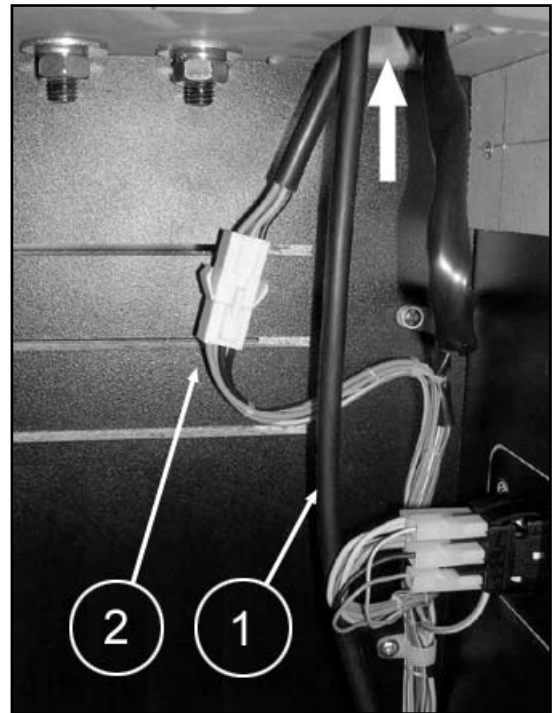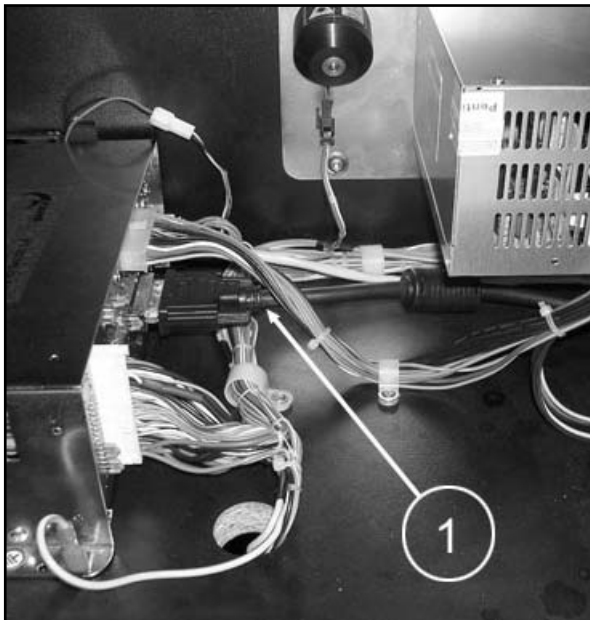6. Tighten the two sections of the cabinet using the M8X70 screws.
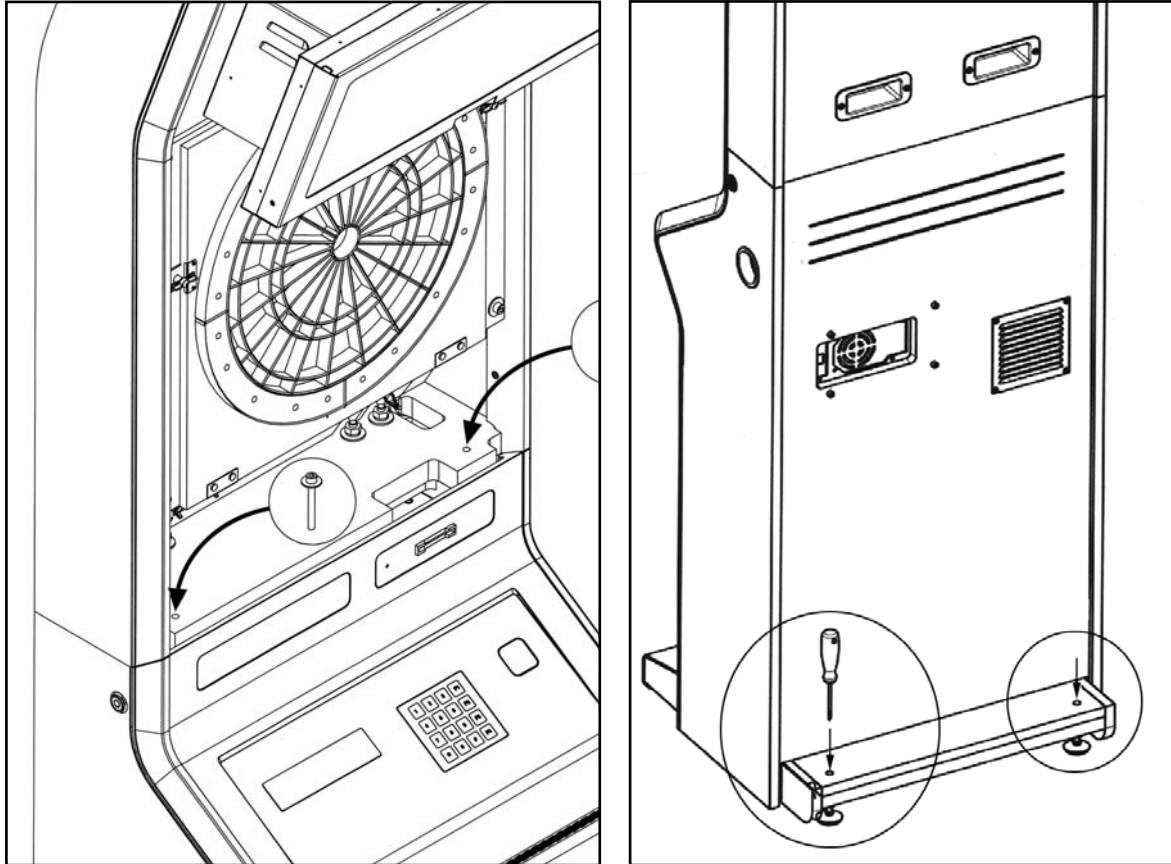
7. There are two levellers that can be adjusted by inserting a flat screwdriver through the holes of the back base, as shown in the drawing. Tighten the locknuts of the levellers when the cabinet is level.

8. Install the target door and lock it. This door should be closed during the setup process.

6.3   DISASSEMBLY OF TARGET SECTION FROM BASE SECTION

When you have to transport the machine, and you have not access to a large van, you may need to disasemble the cabinet. In that case, please follow the procedure below.

1. If the cabinet comes from factory, remove the brackets that fix it to the pallet, then place the assembly on the ground. Then open the console door and the target door.

2. If the cabinet is already installed on site, unplug the power cord from both ends and store it in the coin box. Then open the console door and the target door.

3. Disconnect the following cables:
- DVI cable connected to the CPU (1)
- Power harness (2)
- Harness connected to the contro PCB (3)

When the two sections of the cabinet are disassembled, cable 1 and harness 2 remain attached to the target section, while harness 3 goes with the base section.

Therefore, cable 1 and harness 2 have to pass from the base section to the target section, through the hole shown in the above picture, while harness 3 should be pulled out to come to the base section.

3. If the cabinet is already assembled, remove the screws that fix the two sections, then fold down the target section until it rests back to back whith the base section.

4. Disassemble the two sections of the cabinet. Remove the nuts that fix the hinges to the <u>base</u> section, then lift the target section upwards until the hinge screws come out from the base section. Move the target section over and place it on the floor, the TFT facing upwards. Two persons are needed to lift and move over the target section.
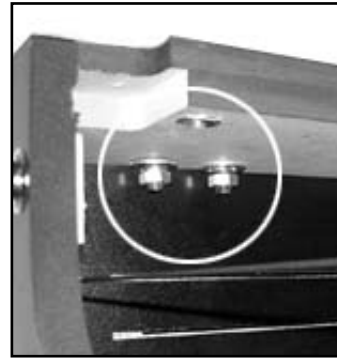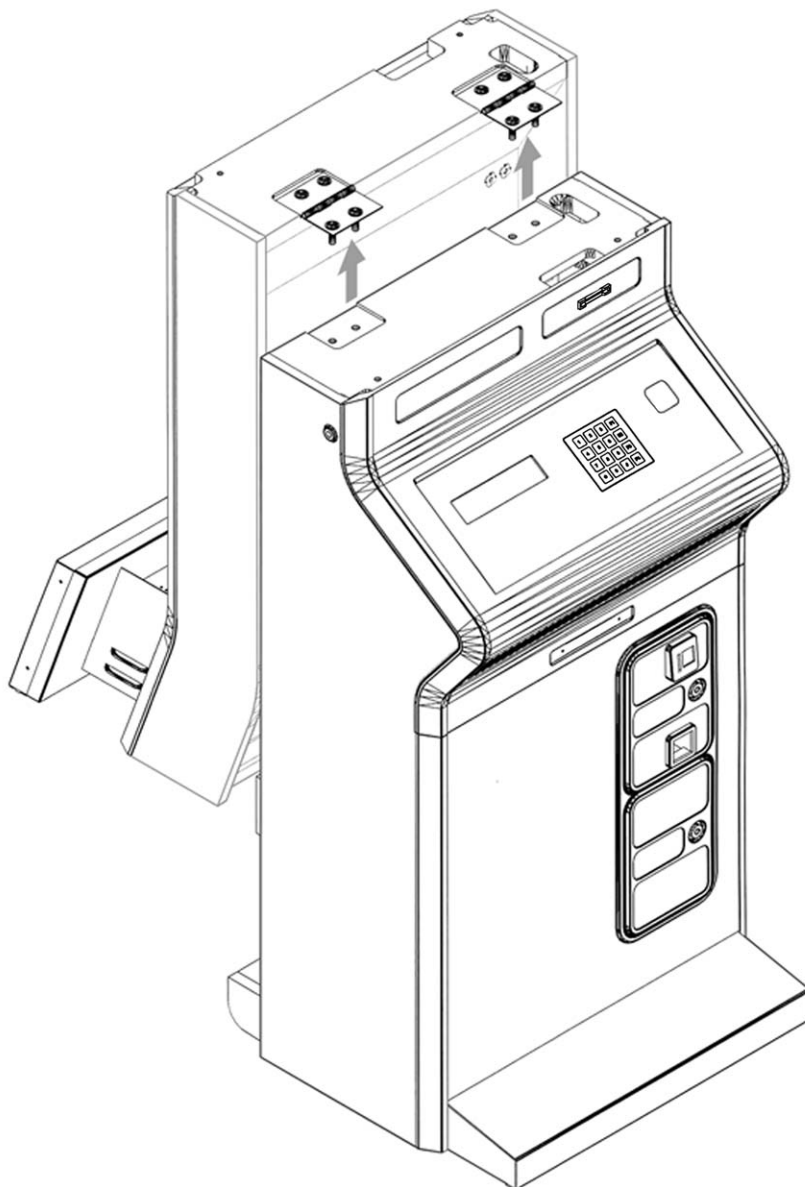
5. Protect the two sections in order to avoid any damage during transportation. Do not forget to include all items removed when disassembling the cabinet (nuts and bolts, etc.)

REASSEMBLY OF TARGET SECTION TO BASE SECTION

The process of reassembly is qute similar to that of disassembly. Please proceed in the following way, systematically:

6. Install the base section on the floor, then lift the target section and position it so that the hinge screws are aligned with the holes of the base section. Let the target section down, very carefully, so that the hinge screws get into the holes of the base section.

7. Screw up the nuts that fix the hinges, but do not tight them yet, as the cabinet has to be aligned first. Do not forget the spring washers.

8. Fix the two section of the cabinet, using the M8X70 screws, but do not tight them yet. Refer to page 14 for further information.

9. Align the back surface of the cabinet, as shown in the drawing below, then tight the fixing screws. If there is any tolerance, it will be absorbed inside the cabinet.

10. Tight the nuts that fix the hinges.
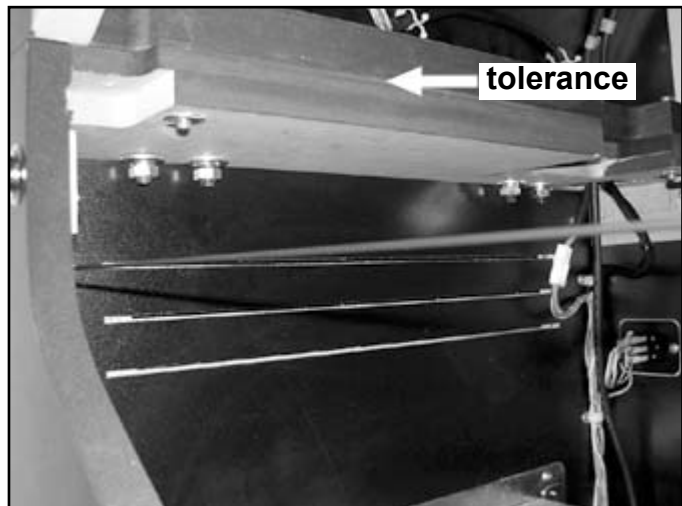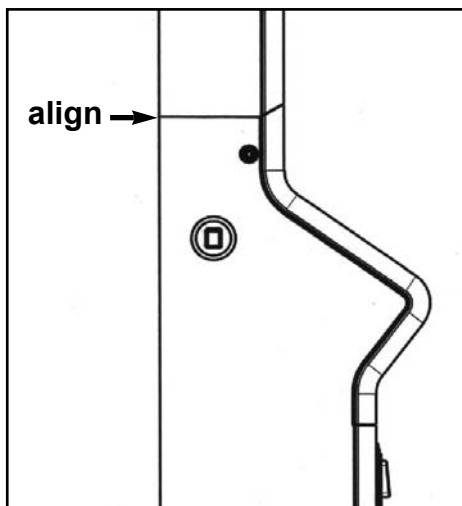
11. Connect the cables which communicate the target section with the base section, undoing the process explained in the setp 2 of this procedure.

12. Level the cabinet as shown in page 14 of this Manual.

7.   SET UP

The setting up of the machine should be done where it is going to be used. Please proceed step by step and strictly follow the instructions.

Step 1
Plug the power cord in the connector placed on the rear of the cabinet. The other end of the cord should be plugged in a grounded electrical outlet, providing clean and stable voltage.

Step 2
Plug the Ethernet cable in the RJ-45 connector. The Ethernet cable is a standard type and can be purchased at any computer shop. Refer to step 9 to know more details about how connecting the machine to a local area network and to Internet.

Step 3
Switch on the POWER SWITCH (position I).
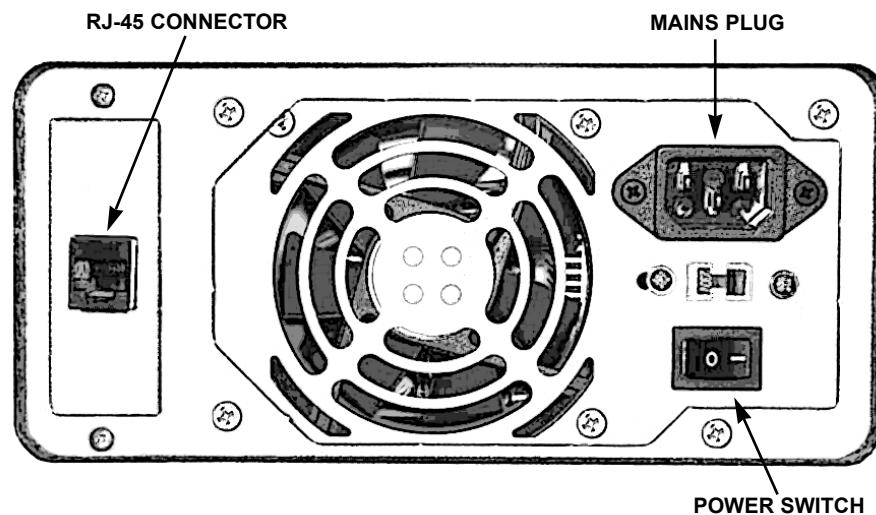
Step 4
Switch on the switch placed at the rigth side of the cabinet. The red LED should turn on.

PLEASE WAIT ABOUT 2 MINUTES UNTIL THE MACHINE IS COMPLETELY INITIALIZED.

The exhibition routine will be displayed on the TFT screen when the initializing process is finished.
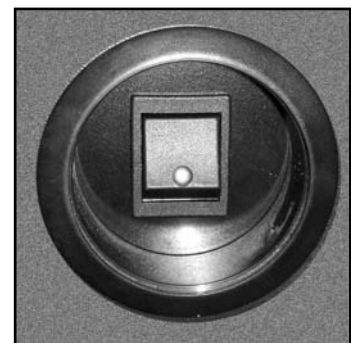
FAST GUIDE

This guide offers an overview of the setting up process. Complete information is available in the steps indicated at the end of each point.

1. Enter **TEST** menu by opening the coin door and pushing the red button of the PCB placed on the rear side. (Step 5)

2. Select **Language** and choose the appropiate language. (Step 6)

3. Enter **Set up** menu. The operator's card and password are requested if the machine has been already allocated to the operator. If this is not the case, go ahead. Select **Internet Settings** to configure the connection to Internet. (Step 9)

4. Leave **Set up** menu and select **Status** to check if the Internet connection is working properly. (Step 10)

5. If the machine is **new**, allocate it to you. Enter **Set up** menu again and select **Activate**, then use your operator's card or name, and your password when requested. (Step 11)

6. Select **Distance** to adjusti the distance from the dartboard to the throw line. (Step 12)

7. Select **Customize** to register the location. (Step 14)

8. Start to play **Games**, if you like. To play **Tournaments** is also avilable, provided that a tournament is already assigned to the machine. In that case fill in the **provisional entry form** to be allowed to play. (Step 16)

9. The other settings will be defined according to site conditions and operator's criteria. The **Video** test is for manufacturing and maintenance purposes. The **Laser Test** option (Step 13) can help if the automatic setting of the throw distance is hard to be done.

10. When **switching off** the machine, please do it following the instructions of

Step 5

Open the coin door and push the **red button** of the PCB installed at the back of the door. This PCB is shown in the picture below. The red button allows the access to **TEST** options, which are displayed in the little blue window placed on the left side of the console**.**

The PCB includes three more buttons, two of them for adjusting the VOLUME of the sound. The SERVICE button allows the technician to introduce game credits without moving the coin counter. The volume of the alarm is adjusted from the **Audio** option, as well as the coin detection sound.
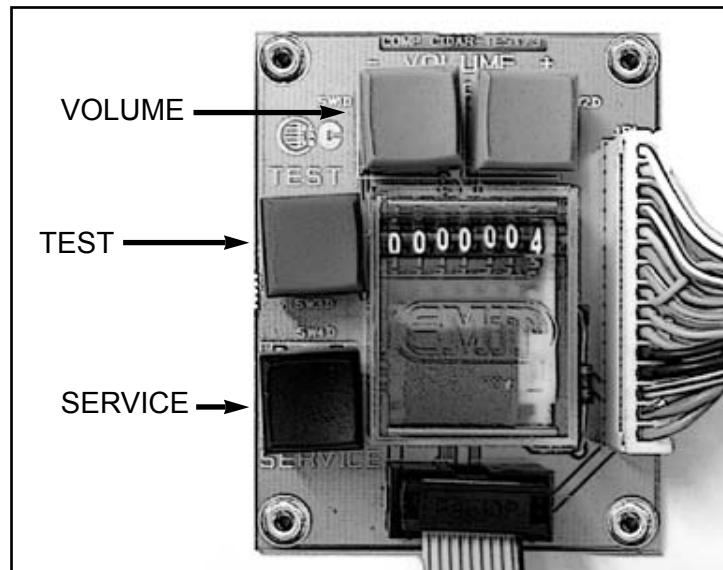
The arrows (up / down) of the keyboard are used to select the options of the TEST menu. OK key is used to enter or validate the selection. The bent arrow key is used to go back to the previous menu.

The TEST menu includes the following options:

```
                               ┌ English
              Language ────────┤ Spanish
                               └ German

                                        ┌ Internet Settings
                                        │ Date / Time set up
                                        │ Coin acceptor
              Set up ─────[card]───────┤ Game parameters
                                        │ Distance
                                        │ Customize
                                        └ Activate [card]

              Status

                               ┌ Camera Test
              Video ──────────┤ RGB adjustment
                               └ YUV adjustment
TEST ────────
                               ┌ Sound Test
                               │ Micro Test
              Audio ──────────┤ Exhibition sound
                               │ Alarm level
                               └ Credit level

                               ┌ Keyboard Test
              In/Out ─────────┤ Dartboard Test
                               └ Card Test

              Laser Test

              Halogen lamp

                               ┌ Automatic
              Remove darts ───┤ Manual
```
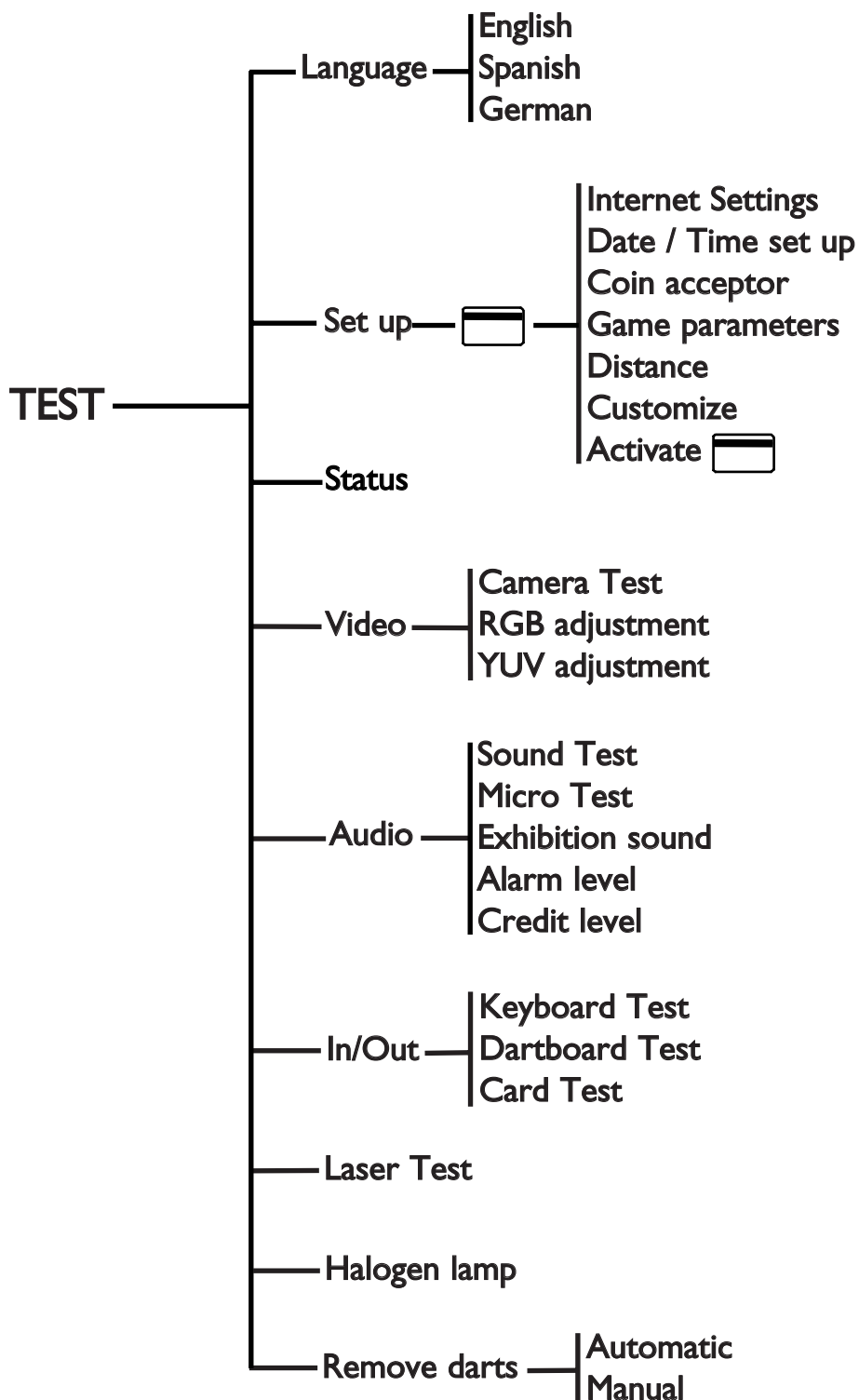
[card] The operator's card and password are requested to use the options of the **Set up** menu. The operator's card is also required when allocating the machine. (**Activate** option).

Step 6
Select **Language** option and press OK. Choose a language and validate with OK.

Step 7
Select **Set up** and press OK. If the machine is not allocated go to step **9**.

Step 8
If the machine is already allocated to an operator, the following message will be displayed after step 7:

Insert operator's card
or operator's name:_

Insert your **red** card as shown in the picture, or write your registered name.

Once the machine recognizes you as Operator, your 4 digits password will be requested. Please write it.

If the password is OK, you are allowed to configure the machine with the **Set up** options.
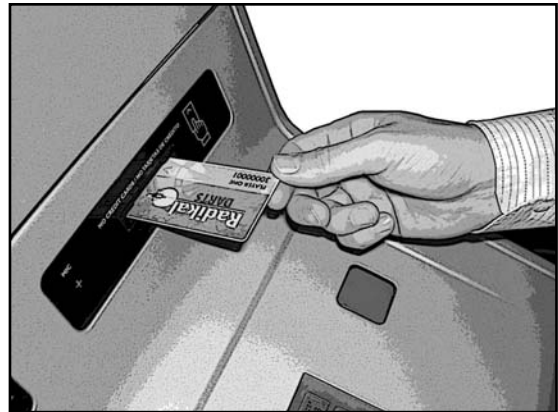
Step 9   INTERNET SETTINGS

In order to play **tournaments**, the machine must be connected to **Internet**.
Gaelco recommends the **ADSL** connection, which includes an ADSL **router** and a dedicated **phone line** with ADSL service.

> <u>VERY IMPORTANT</u>: When contracting for the ADSL service, please make clear that you want to be connected through a **router with automatic assignment of the IP address**. A personal computer is necessary for connecting up the ADSL line. RADIKAL DARTS does not use the USB port.

If the Internet connection is not available at the moment, please go to <u>step 12</u>.

The following instructions are adressed to persons with informatic knowledge, when the Internet connection is already operative.

1. Connect the machine to the network with an standard Ethernet cable (RJ-45, available at any computer shop). The RJ-45 connector is on the back of the cabinet, as shown in page 15.

2. Select **Internet Settings** on the **Set up** menu, then press OK. Three options are available: **Local Area Network / Proxy / Modem**.

3. Choose an option depending on the conditions of the Internet connection. Please follow the instructions of the diagram below and refer to the adecuate procedure.

```
                            ┌─────────────┐
                            │    START    │
                            └─────────────┘
                                   │
                                  ◇
                    Do you have
        YES      a local network      NO
                  with Proxy server?
     ┌──────────────────┐        ┌──────────────────┐
     │ Follow procedure A │        │ Follow procedure B │
     └──────────────────┘        └──────────────────┘
                                   │
                                  ◇
                    Do you have
        YES      an ADSL router      NO
                 with automatic IP
                   assignment?
     ┌──────────────────┐        ┌──────────────────┐
     │ follow procedure C │        │ Follow procedure D │
     └──────────────────┘        └──────────────────┘
                                   │
                            ┌─────────────┐
                            │     END     │
                            └─────────────┘
```
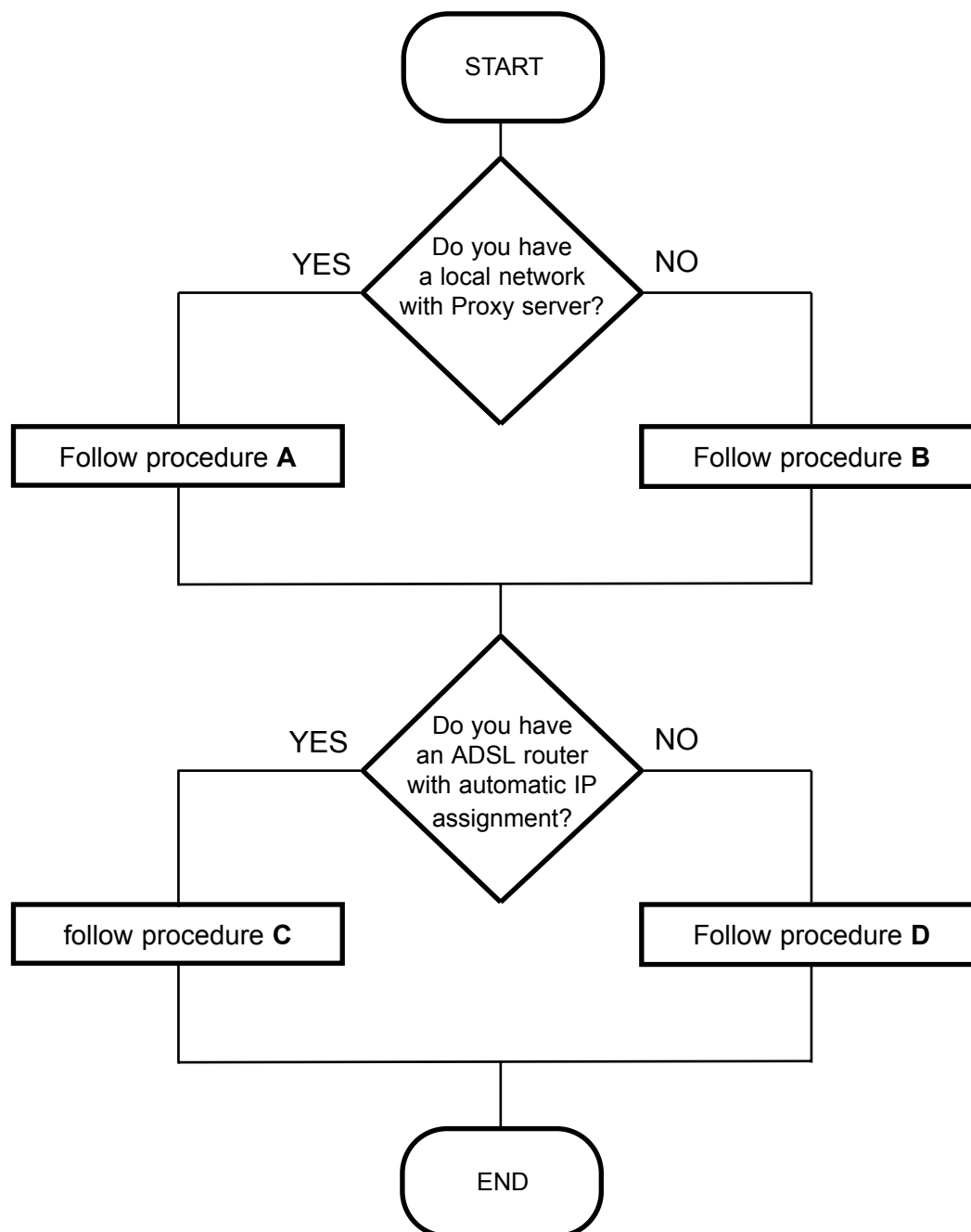
A) You have a LAN which uses Proxy server to connect to Internet
- Select **Proxy** from **Internet settings**.
- As the machine does not detect the Proxy automatically, please set up Proxy IP address and port using numeric keys.
- Exit with OK to validate the settings. If you exit with "go back" key (bent arrow) the previous settings remain unchanged.
- Press "go back" key to leave **Proxy** menu.

B) You have a LAN without Proxy server
- Select **Proxy** from **Internet settings**.
- Set up the IP Proxy address to 0.0.0.0 and press OK.
- Press the "go back" key.
- Follow procedure C if the **router** can assign the IP address automatically. Otherwise follow procedure D.

C) You have an ADSL router with automatic IP assignment
- Select **Local Area Network** from **Internet settings**.
- Select **Auto** and press OK. The **router** will assign the IP address automatically.
- Press "go back" to leave **Local Area Network** menu.

D) Manual assignment of IP address:
- Select **Local Area Network** from **Internet settings**.
- Select **Manual** and press OK.
- Set up the IP address using numeric keys.
- Set up the default **gateway** using numeric keys.
- Exit with OK to validate the settings. If you exit with "go back" key (bent arrow) the previous settings remain unchanged. When you assign the IP address, the **net mask** will be set to default for your network class (A, B o C)
- Press "go back" to leave **Local Area Network** menu.

HOW TO MANAGE THE SET UP MENU:
1. Press TEST button on the coin acceptor panel: Test menu appears in the display.
2. Select **Set up** option using arrow keys, then confirm with **OK**: the message **Insert operator's card or operator's name** is displayed.
3. Insert your **red** card or write your registered name. When it is accepted you are prompted to enter your password. Do it to open the **Set up** menu.
4. Select **Internet settings** and make the necessary settings. Quit with OK to confirm the settings. Quitting with "go back" leaves the old settings unchanged.

Step 10   CONNECTION CHECK

To verify the Internet connection, please proceed as follows:

- Enter Test menu by pressing the TEST button above mentioned.
- Select **Status** and press OK.

An automatic check is done periodically. Depending on the actual status of the connection, the message will be **Machine connected** or **Machine not connected**.

Step 11   MACHINE ALLOCATION

Once the machine is installed and ready to work, it is time to activate the connection with Gaelco's server. When the machine is new, the CPU uses to be programmed in **Production** mode. In that case proceed as follows:

- Enter **Set up** menu.
- Select **Activate** and press OK
- Insert your operator's card as requested by the machine.
- Write your password and press OK

The server will register the machine if the operator's data are correct and the Internet connection is operative. As soon as the message **Machine activated** appears, the machine is allocated to you. Since then, only you will be allowed to set up the machine and adjust some customized parameters, using your own operator's card and password.

Step 12   THROW LINE DISTANCE

RADIKAL DARTS uses an automatic system for controlling the throw line distance.The toe line mark is a laser line displayed on the floor. A digital camera detects the line, checking if there is any infringement during the game play. The procedure to set up the system is the following:

1. Enter **Set up** menu, select **Distance** and press OK. This turns on the laser line.

NEVER LOOK STRAIGHT TO THE LASER DEVICE INSIDE THE CABINET, AS EYES COULD BE DAMAGED
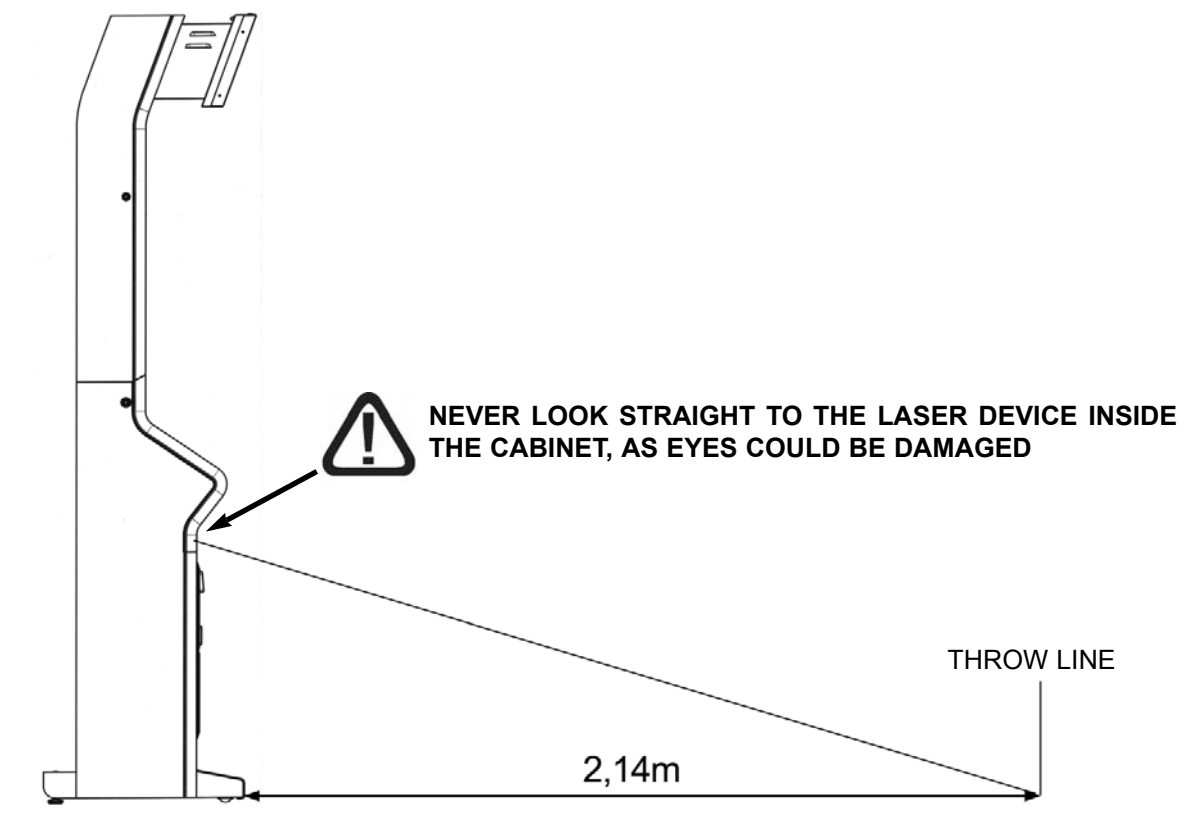
THROW LINE

2,14m

2. Check the laser line is at a distance of 2,14 meters (about 7 feet) measured from the base of the cabinet, as shown in the drawing. The actual distance between the throw line and the face of the target will be 2,44 meters (8 feet). The machine should be installed on a level surface.

3. Look at the TFT screen and watch the grey window with two violet marks. The laser line should appear as a white, flickering line in the middle of those two marks. Level the cabinet until the white line is centered as shown in the picture below. There are two levellers that can be adjusted by inserting a flat screwdriver through the holes of the back base. Once the line is centered, tighten the locknuts of the levellers using a wrench.
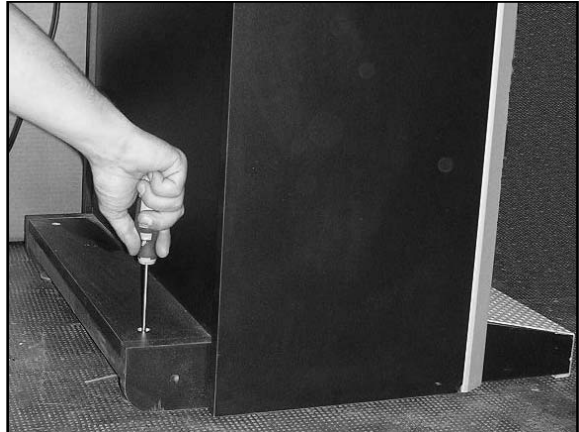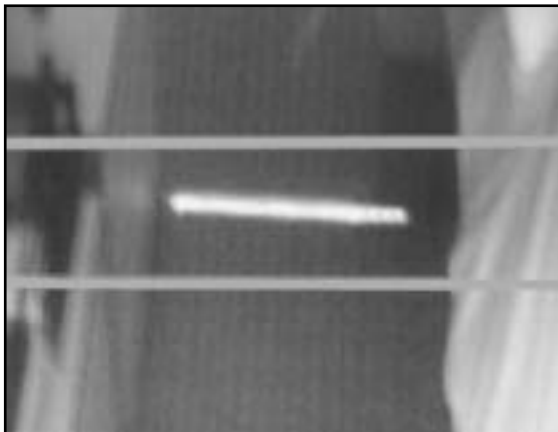
4. When the distance is already adjusted, push OK and wait for the automatic set up. The process takes few seconds and ends with the following message: **Completed, 0 errors, Threshold=XX.X**

PLEASE DO NOT INTERFERE THE LASER BEAM WITH ANY PART OF YOUR BODY WHEN THE MACHINE IS TUNING THE THROW LINE DISTANCE.
AVOID LIGHT REFLECTIONS OVER THE THROW LINE AREA, AS LINE DETECTION COULD BE AFFECTED BY.
IT IS RECOMMENDED TO MAKE THIS ADJUSTMENT UNDER THE SAME LIGHT CONDITIONS HELD DURING THE GAME PLAY.

---

5. The message **Laser setting up error** might be displayed if the automatic set up fails. In that case try again watching the above recomendations. The band delivered with the machine should be used If the number of errors is higher than 5. Sitck the band on the floor, along the throw line. The purpose of it is to improve the reflection of the laser line. Try again and check if the number of errors is lower than 5.

6. The line detection is satisfactory when the number of errors is lower than 5 and the **Threshold** is higher than 4.

7. Press the "go back" key (bent arrow) to leave the menu.

Step 13   LASER TEST

When playing, the laser line uses to flick at a rate of 1 time per second, aproximately. If the laser line flicks very fast, it shows that the line detection is critical. In that case would be convenient to perform the **Laser Test** to see what is wrong.

The **Laser Test** allows you to check the actual performance of the laser line detection, by means of a graphic displayed on the TFT screen.
The attached graphics show two typical examples of line detection. The left image belongs to a throw line which is being detected properly. As you can see, the signal keeps a good level all along the line, with regards to the reference level.
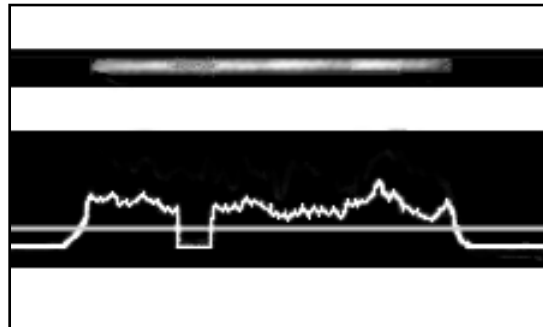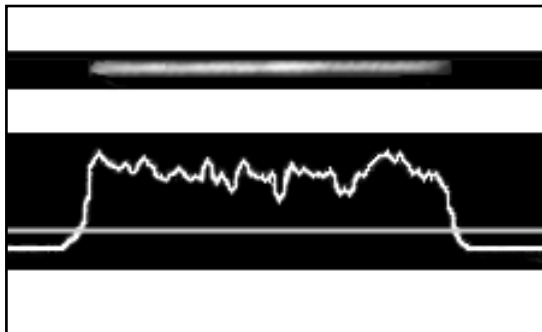
On the other hand, the right image belongs to a throw line which is hard to detect. In this case the signal is close to the reference level, showing a rather poor detection, while the segment under the reference level gives some clue about an eventual problem in that area (bad reflection, solid interference or whatever).

WARNING ABOUT LIGHTING CONDITIONS

When the site where the machine is installed remains dark all time, it is recommended to remove the red filter of the front camera.
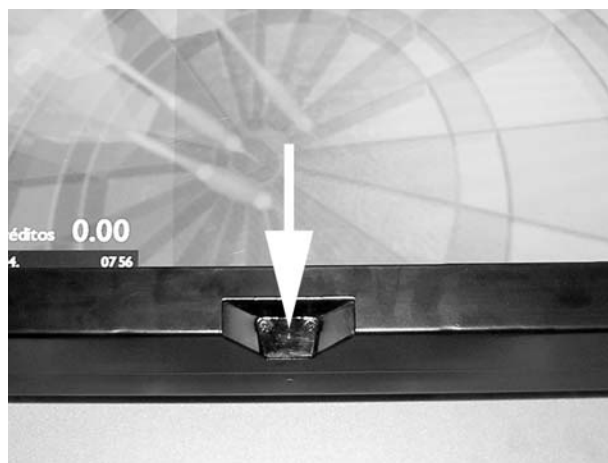
Store the filter for a later use in the case the machine is moved to a lighted site.

Step 14   OTHER SETTINGS OF THE SET UP MENU

The complete **Set up** menu includes the following options:

> **Internet settings**
> **Date / Time set up**
> **Coin acceptor**
> **Game parameters**
> **Distance**
> **Customize**
> **Activate**

Some of these options have been considered in previous adjustments. The rest of them would be used to make the final adjustments when the machine is already functioning.

CUSTOMIZE

The machine can be allocated to a site, besides to the operator. To make it select **Customize**, press **OK** and fill the entry form:

> **Site:**   (site name)
> **City:**
> **County:**
> **Country:**   (choose one from the menu)

COIN CONTROLLER SET UP

The **Coin acceptor** menu is used to select the currency. The **Free Play** option allows to play without inserting coins, for exhibition or service purposes. **Bonus** credits are also possible.

> **Free Play**
> **Euro**   (select a currency and press OK)
> **Sterling Pound**
> **US Dollar**
> **Bonus 1 in:**
>   **bonus:**
> **Bonus 2 in:**
>   **bonus:**

The menu for determining the coin controller type is displayed after selecting the currency:

> **Mechanical**
> **Electronic**
> **Bill aceptor**
> **Mechanical an bill acceptor**

The set up per channel of each coin controller is programmed at the factory and can not be modified. The attached table shows the programming for euros of an electronic coin controller:

Coin Control C-120	Coin 1	Coin 2	Coin 3	Coin 4	Coin 5	Coin 6
currency: euro	2.00€	1.00€	0.50€	0.00€	0.20€	0.10€

The operator can program extra credits (bonuses) to provide incentives for playing further. In the example below, when the player insert coins for 5 credits, he gets one additional free credit. If the coins pay 10 credits, the bonus would be 3 extra credits.

Bonus 1 in: 5
bonus: 1
Bonus 2 in: 10
bonus: 3

When no bonus are available, all lines must be set to zero.

PRICE PER CREDIT AND NUMBER OF ROUNDS

Price per credit is programmed at the factory. When you want to change it, select **Game parameters** option and press **OK**.
Suppose that you want to change the price per credit for the **301** game. The programmed price is shown at the right side, 0,50 euros in the example below.

301   **0.50**

If you want to program 1 euro instead of 0.50, just write 100. If some mistake occurs, you can follow through until **1.00** is displayed, then leave the menu by pressing the "go back" key (bent arrow).

The **Rounds** option is at the end of the **Game parameters** menu. This option is used to determine the number of rounds allowed for a game. If there is no limit, the counter is set to zero.
Use the "go back" key to leave the menu.

DATE / TIME SET UP

The date is automatically set up when the machine connects to the server through Internet. However, it could be necessary to make the set up manually in some specific cases. For example, if the local time of the site is different from the local time of the server, or if there is an eventual lost of data. The option **Date / Time set up** will be used in such circumstances.

Step 15   FINAL ADJUSTMENTS

The TEST menu includes other adjustments that can be done when the main Set up is completed or whenever you want.

AUDIO SETTINGS

The **Audio** menu offers the following options:

* **Sound Test :**   Samples of sound can be tested.
* **Micro Test:**   The signal from the microphone is shown in the display.

* **Exhibition sound:**
  Always   The exhibition sound is always activated.
  Random   The exhibition sound is activated at random.
  Never   The exhibition sound is eliminated.

* **Alarm level:**   Programmable from 00 to 99 by means of the keyboard.
* **Credit level:**   Programmable from 00 to 99 by means of the keyboard.

IN / OUT DEVICES

The **In/Out** menu allows to check the following devices:

* **Dartboard Test :** Every segment of the target head is tested by pressing it. The identification of each segment is shown in the display

* **Keyboard Test:** Each key is identified in the display when pressed.

* **Card Test:** This option allows to check the card reader operation when inserting an authorised card.

HALOGEN LAMP BRIGTHNESS (TARGET LIGHTING)

The **Halogen lamp** option allows to adjust the light which illuminates the target. The light level goes from 00 to 99, programmed through the keyboard.

PASSING FROM ONE ROUND TO THE NEXT

The **Remove darts** option allows two working modes. In **Automatic** mode, the machine is ready for the next round as soon as darts are removed. When the machine is in **Manual** mode, it is necessary to press the START button after removing darts.

VIDEO TEST

The **Video** test is only for manufacturing and maintenance purposes.

To go back to the main menu, press the bent arrow key as many times as necessary until the **Radikal Darts** logotype is displayed.

Customer Support - CPU programmed in Test mode

If the machine fails to operate properly, and depending on the decision of the Customer Support, you may receive a new CPU programmed in **Test** mode. This CPU is used to check the machine and it can be allocated to you as spare unit through Internet, provided that problems are eliminated after installing it and the original CPU is already allocated to you. The server will ask for the ID number of the original CPU to be replaced. If everything is correct, the new CPU will be activated for you with the same features and data than the original CPU.

The ID number of the CPU to be replaced is shown through the window implemented in the box, as shown in the picture below.
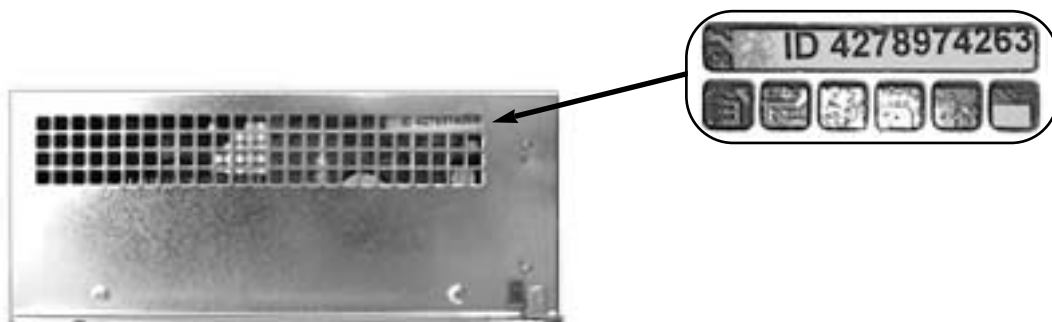
The replacement process is the following:

- Check that the Internet connection is working.

- Enter **Set up** menu.

- Select **Activate** and press OK.

- Insert your operator's card, then your password, as requested by the machine.

- Write the identification number (ID) of the <u>rejected</u> CPU.

- If the ID is accepted and belongs to you as operator, the new CPU imports from the server all stored data correspondig to the removed CPU. The new CPU is then allocated to you, keeping all features of the original one.

Paso 16   PLAYING THE FIRST TIME

Two requisites should be complied in order to play **tournaments**:

1) At least one tournament should be already assigned to the machine,
2) Internet connection must be operative.

If any of these two conditions can not be fulfilled, the use of the machine will be limited to **games** and **local tournaments**. A detailed description about how to play is offered in next sections. However, if the machine complies the conditions to play tournaments, you can go ahead following the instructions below:

- Enter main menu.

- Select **Tournaments** and press OK.

- Select a tournament and press OK.

- Select **Provisional entry form** and press OK.

- Fill in the entry form:

        ID: (+OK) (no letters, no spaces, no dots)
        Nick: (+OK)
        Mobile number: (+OK)

- Press OK to accept data.

- Make a photography of your face following the instructions displayed on the screen. Press the flashing button as many times as necessary until the take is good enough, then press OK to accept the photography.
  If everything is correct, the machine will welcome you. Your ID number will be requested next time you want to play a tournament.

- Use the SERVICE button to enter credits, then start to play. Credits given by SERVICE facility are not computed for the tournament.

Chapter 10 explains how to play tournamens. Further information can be consulted on the machine, if you enter **General Information** menu and select **About tournaments**. Remember that OK key must be pressed whenever you want to confirm a selection.

Step 17   SWITCHING OFF THE MACHINE

Radikal Darts is a computer controlled machine, so it requires some basic care as any computer. Please use the lateral switch, not the mains switch, when you want to switch off the machine.

The switch off process must be always done in the following way:

Press the LATERAL SWITCH, so the red LED turns off. The message **Shutdown system** will remain in the display for a few seconds until the system is completely shot down. This is the normal way to switch off the machine.
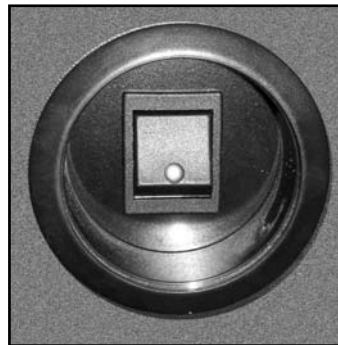
The mains switch can be always on. However, it can be used for a complete switch off when the machine has to be moved to another place or the mains voltage is not stable.

8. GENERAL INFORMATION

Information about games and other topics can be accessed from the main menu, which is entered by pressing any key when the TFT screen shows the exhibition routine. At this time, the display presents the **Radikal Darts** logo or the message **INSERT CARD** or **INSERT COIN**, alternatively.

The main manu offers the following options,
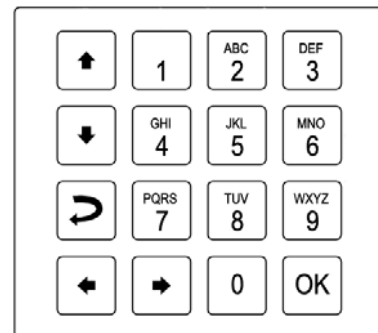
> **General information**
> **Games**
> Tournaments / Production / Test / Machine not connected
> **Local tournaments**

The arrow keys (up / down) allow to select an option, whilen pressing the **OK** key opens the menu of the selected option.

The "go back" key (bent arrow) allows to leave the option.

The third line of the main menu may display up to 4 different messages, depending on the actual condition of the machine.

- **Tournaments** is displayed when the machine is ready to play tournaments.

- **Production** is displayed when the CPU of the game is new and it is pending to be allocated to the operator.

- **Test:** is displayed when the machine has a CPU programmed for testing the game. Please refer to page 32 if you need further information.

- **Machine not connected** appears if the machine can not communicate with the server.

If you select **General information** and press **OK**, the following menu is displayed,

Scoreboards	Arrow keys (up / down) are used to select the topic.
Personal rating	
About dartboard	
About tournaments	The information about each topic is displayed when pressing **OK**.
About other competitions	
About games	

8.1 GENERAL INFORMATION \ SCOREBOARDS

To get access to the scoreboards of a tournament, two conditions should be fulfilled: 1) the machine must be **activated** for that specific tournament, and 2) the machine must be connected on line to **Internet**. The process of consultation is the following:

Select **Scoreboards,** then press **OK**. The list of available tournaments is shown, for example,

Cricket Fun
Caribe 501

Select a tournament, then press **OK**. A list of available categories is shown, for example,

General
Master
Women
Gen_local
Wom_local

Select one category, then press **OK**. The scoreboard is shown, for example,

Cricket Fun		MPR	PPJJ
001	Samuray	P3.56	05
002	Ike	3.10	05
003	Mel	I3.04	05
etc.			

In this example, the scoreboard ranking is according to marks per round (MPR). On the other hand, a minimum of 5 games should be played (PPJJ) in order to get access to the general ranking of the tournament.

The average score is computed from the 5 best scores achieved by the player, provided that all of them have been validated.

If a **P** is ahead the average score, and the message **Provisional** flicks on the display, this means that one or more scores, among the top 5, are pending for validation. Therefore the actual average is not computed yet.

If an **I** is ahead the average score, and the message **Invalidated** flicks on the display, this means that one or more scores have been invalidated.

If the average score has no letter ahead, this means that all computed scores have been validated. Therefore the average have been already certified by the RRS and counts for awards.

Detailed information can be obtained by pressing OK. The machine downloads the player's data from the server and displays his top ten games, for example,

003	Nickname	Date	Time	
3.29	site name	01.07.04	22:36	
3.13	site name	30.06.04	01:54	
3.09	site name	I30.06.04	01:21	(**I** = INVALIDATED)
2.89	site name	29.06.04	20:40	
etc.				

In this case there is an invalidated game. If the player would like to know the cause, he should select the corresponding line and press OK. A short message will explain the cause of invalidation, for example "manualy scored points" or whatever.

To return to the main menu press the "go back" key as many times as necessary.

NOTE

The scoreboard shown in the TFT is coded as follows:
Validated scores are displayed in BLACK, provisional scores are displayed in BLUE and invalidated scores are displayed in RED.

If there is an invalidated score and the player disagrees with the referee decision, he or she can make opposition within a term of 5 days after the game's date, by sending an e-mail to the address **infodarts@radikaldarts.com** indicating his or her claims. The opposition process is explained in the section 8.4.6.

## 8.2 GENERAL INFORMATION \ PERSONAL RATING

Personal rating option allows to know the average points per dart of a player. In order to get access to the information, it is necessary to note the ID number. Pressing OK makes the connection with the server, which sends the following data:

<p align="center">(Player's nickname) rating = XX.X</p>

Press OK to leave the option and return to the main manu.

8.3 GENERAL INFORMATION \ DARTBOARD

Information about dartboard is displayed on the TFT screen when you select **About dartboard** an press **OK**.
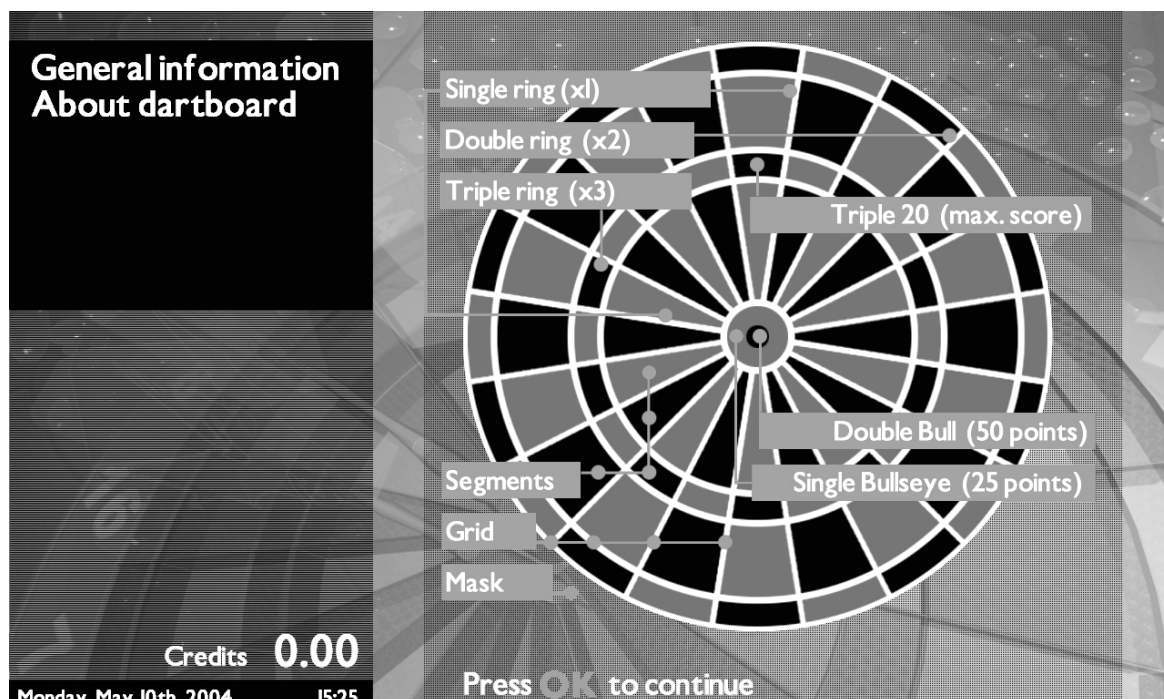
If you press **OK** again, the following message is shown both on the TFT screen and display

Player throws 3 darts at 2,44 meters distance.

If Double Bull is on, the inner bull is worth 50 and outer bull 25.

If Double Bull is off, inner and outer bull are worth 50.

8.4 GENERAL INFORMATION \ TOURNAMENTS

Information about tournaments is available if the machine is activated and connected to Internet. Pressing **OK** after selecting **About tournaments** opens the following menu,

Legal
How to play
Entry form
Fill the entry form
Validation process
Opposition process

8.4.1 TOURNAMENTS \ LEGAL

Pressing **OK** from **Legal** displays the information below,

Players must be 18 years old or over to take part in tournaments.

Compulsory to enter the following data correctly: Nickname, ID number and mobile number. It will not be possible to take part in tournaments if this information is not fulfilled.

Every Tournament will have its own game decided by the Organization.

Tournament duration will also be determined by the Organization. All this information will be displayed in the machine at every moment.

Game play is video recorded by the machine, the Remote Refereeing System will validate the results.

8.4.2 TOURNAMENTS \ HOW TO PLAY

Pressing **OK** from **How to play** displays the following text,

To take part in a tournamnet the player has to fulfill the entry form .

A provisional entry form is available through the Tournaments menu.

A player who has filled the provisional entry form will be able to enter Tournament mode with his ID number.

8.4.3   TOURNAMENTS \ ENTRY FORM

Pressing **OK** from **Entry form** displays the following information,

An entry form has to be fullfilled to enter Tournaments.

All players can ask for their own ID card in order to be identified by the machine and get access to the personal rating.

Players without ID card will be able to identify themselves through ID number.

You can fill the entry form now and will receive your ID card in your address.

Press OK to fill the entry form.

When pressing **OK** again, the message below will be shown on the TFT screen:

You must fill in all data correctly
on order to validate

Follow instructions on the display
next to the keyboard

Next step will be to fill the entry form shown on the display,

ID number:
Name:
Surname:
Date of birth: _ _ / _ _ / _ _ _ _
Nick:
Address
Street:
Number: (✳)
Floor: (✳)
Door: (✳)
City:
ZIP:
Country:
Mobile:

(✳) These entries are alfanumeric. To write a number press the corresponding key as many time as necesssary, until the number appears.

The entry form is completed with a photography of the player, following the instructions below,

1) Look at the camera
2) Press flashing button to make a photo
3) If you want another take, press the button again
4) Press OK key to accept photo

Please be aware to actually look at the camera, not at the screen where the image is displayed.The process ends when you accept the take.

8.4.4   TOURNAMENTS \ FILL THE ENTRY FORM

If you select **Fill the entry form** and press **OK**, the entry form is presented directly.

8.4.5   TOURNAMENTS \ VALIDATION PROCESS

Pressing **OK** from **Validation process** displays the following information,

In General Scoreboards, results in black are valid while results in blue indicate that there is one or more games pending for validation. Results in red indicate invalidated games and/or in opposition process.

If there is no opposition, an invalidated result will be null after 5 days from game play date.

8.4.6   TOURNAMENTS \ OPPOSITION PROCESS

Pressing **OK** from **Opposition process** displays the information below,

If there is an invaliated result, the player can know the cause by selecting the result and pressing OK.

If the player disagrees, will be able to make opposition to the referee decision during 5 days after the play game date.
To begin the opposition process, the player has to send an e-mail to the following address indicating his claims: infodarts@radikaldarts.com

In case there is not opposition in the 5 days after the game play date, the result will be invalidated at all means.
Once the Opposition Process is over, the decision of the Organization will be unappealable.

8.5 GENERAL INFORMATION \ ABOUT OTHER COMPETITIONS

The option **About other competitions** is selected from the **General information** menu. There are four local tournaments available. When pressing **OK**, a brief explanation of each competition will be displayed.

BEST OF ONE
Single elimination tournament, best of one format with repechage system. Number of players from 4 to 16. Choose among all available games to play.
First round losers have a second chance. The first round winner and the player who comes through the repechage system are drawn into the Final round.
In the Final round, the player who comes through the repechage has to win two consecutive games to be the winner, while the top player of the first round only needs to win one game.

BEST OF ONE - DIRECT KO
This tournament is played the same as the Best of One tournament, but players are eliminated on a straight knockout basis.

BEST OF THREE
Single elimination tournament, best two out of three format with repechage system. Number of players from 4 to 16. If a player wins the first two games, the third game will not be played. First round losers have a second chance. The first round winner and the player who comes through the repechage system are drawn into the Final round.
Rules for the final round are the same as for the Best of One format.

BEST OF THREE - DIRECT KO
This tournament is played the same as the Best of Three tournament, but there is no second chance for losers.

8.6 GENERAL INFORMATION \ ABOUT GAMES

Information about games is available from **About games** when pressing **OK**. Please refer to chapter **9** for details about each game.

9. GAMES

The **Games** prompt is displayed on the screen when the player inserts a coin. Pressing **OK** opens the menu and shows all available games. The price of each one is indicated on the right side.

301	0.50
Team 301	0.50
501	1.00
Team 501	1.00
701	1.50
901	2.00
Cricket	1.00
Team Cricket	1.00
Cricket Cut Throat	1.00
Wild Card	1.00
High Score	1.00
Low Score	1.00
Shangai	1.00
Burma road	0.50
Tic Tac Toe	1.00

The arrow keys are used to choose a game, by scrolling up and down. The **OK** key makes the selection.

9.1 GAMES '01 (301 - 901)

All players start with 301, 501, 701 or 901 points and attempt to reach exactly zero. If a player scores more than the total required to reach zero, the player "busts" and the score returns to the score that was existing at the start of the turn.
Each '01 game can be played according to the following formats:

Open In / Open Out
Open In / Double Out
Open In / Master Out
Double In / Double Out
Master In / Master Out

Open In
The score begins when any number is hit.

Open Out
The player finishes the game with a hit on any number that reduces the score to exactly zero. If a player scores more than the total to reach zero, the player "busts" and the score returns to the score that was existing at the start of the turn.

Double In
To start, the player must hit in the double's ring or a double Bull's Eye. No score will be counted until this condition is met.

Double Out
To win, the player must hit a number in the double's ring or a double Bull's Eye that reduces the score to exactly zero.

Master In
To start, the player must hit a number in the double's ring, a double Bull's Eye or a number in the triple's ring. No score will be counted until this condition is met.

Master Out
To win, the player must hit a number in the double's ring, a double Bull's Eye or a number in the triple's ring that reduces the score to exactly zero.

Furthermore, there are the following options,

Number of players	(from 1 to 8)
Double Bull's Eye	(yes or not)
Last chance	(yes or not)
Insert names	(up to 8 players)
Instructions	

Arrow keys (left-right) are used to define the status of **Double Bull's Eye** and **Last chance** options.

Some further information about '01 games is shown when selecting the **Instructions** option,

- **Number of players**. From 1 to 8.

- **Double Bull's Eye**. When this option is activated (yes) the inner Bull's Eye will count 50 points, while the outer Bull's Eye will count 25 points. When it is not activated (no) the inner and the outer Bull's Eye will count 50 points.

- **Last chance**. The player who closes the game must wait until all the oponents finish the round.

TEAM 301 / TEAM 501

Team games have two additional rules,

- A player can close and win if the score of his or her partner is lower than the combined score of the oponent team.

- A player is "frozen" when his score is 1 point (2 points in Double out or Master out) and his partner's score is higher than the combined score of the opponent team.

9.2   CRICKET GAMES

RADIKAL DARTS allows to play the following Cricket games:

Cricket
Team Cricket
Cricket Cut Throat
Low Ball
Wild Card

The object of the **Cricket** game will be to close the numbers 20,19,18,17,16, 15 and Bull's Eye in any order. The player that closes all numbers and the Bull's Eye first, and has a greater or equal point score, wins.
To close a turn, a player has to score three of a number to own it.
A number is scored when the player closes it and the opponent does not.

In the **Team Cricket** game, a player can close and win if the total scoring of his team is higher than the total scoring of the opponent team.
A team scores when their players close a number that has not been closed by the opponent team.

A player is "frozen" if, after closing all numbers, the score of his team is lower than the score of the opponent team.

Cut Throat Cricket is played the same as **Cricket** except when a player opens a number an begins scoring, the points are given to all oponents that do not have that number closed. The winner is the player who opens all numbers and has lower or equal score than the rest of participants.

Low Ball Cricket is played the same as **Cricket** except that the numbers are 1,2,3,4,5,6, and the Bull's Eye.

Wild Card Cricket is played the same as **Cricket** except the numbers 7 through 20 are used. All numbers unmarked will randomly change after every turn. The winner is the first player to open all numbers and have the highest or equal score.

The option **Score difference** applies for all Cricket games and defines the maximum score difference between two players. Pressing **OK** makes the selection and it is possible to choose **No** (no limit) or **200** (200 points).

9.3   HIGH SCORE

High Score is a game where the player with the highest score at the end of 8 rounds, wins. Play begins at zero and the total of player's three darts is added to the previous total, each round.

9.4   LOW SCORE

Low Score is a game where the winner is the player with the lowest score at the end of 8 rounds. Players start with zero points an add to their score with each throw. A missed dart is penalized with 50 points.

9.5   SHANGAI

There is a maximum of 7 rounds for the **Shangai** game.
Each player has to proceed for score around the board from 1 through 20.
Shangai is thrown if a player hits three consecutive numbers of different level (single, double, triple) in any order and in the same turn. Players with a throw still remaining on that round may attempt to throw a Shangai for the draw.
Otherwise, the player who gets the most scores wins.

9.6   BURMA ROAD

Burma Road is a game where each player throws in turn for the following numbers, in this order -15, 16, double (any) 17, 18, triple (any), 19, 20 and Bull's Eye. Players start the game with 40 points.
The current target must be scored with at least one dart. If of all three darts miss the current target, the player's score is halved (rounding up).
The winner is the player with the highest score at the end of the game.

9.7   TIC TAC TOE

The object of this game is getting a tic tac toe just like the regular game by having three X's or O's in a row horizontally, vertically or in diagonal.
To close a number, four of that number must be scored. Doubles and Triples count as two or three scores.

SPECIAL OPTIONS

WARM UP THROWS

Before to begin the game, the machine allows to throw no more than 8 darts per turn, as a facility for warming up. Players can obviate this facility or make a partial use of it. The game begins as soon as the START button is pressed.

THROWING ORDER

The order of throwing can be modified at will, by pressing the START button before to begin the game. For example, if there are three players A, B and C, the order of throwing changes to B, C, A when the START button is pressed. Pressing again makes the order rotate to C,A,B, and so on.

REPETITION OF THE LAST GAME

When a game is finished, it is possible to play it again keeping the game parameters if the START button is pressed; otherwise the OK key is used to exit. It is also possible to enter new players.
When a game is repeated, the throwing order is automatic, from lower score to higher score.
The last game repetition is available for games and tournaments, but not for other competitions like local tournaments.

CANCELED THROWS

Up to three throws can be canceled in a game, provided it is not for a tournament. When the cancelation is justified, it will be done by removing the dart an pressing the "go back" key (bent arrow).

10. TOURNAMENTS

Two requisites should be complied in order to play **tournaments**,

1) At least one tournament should be already assigned to the machine.
2) Internet connection must be operative.

Tournaments option is available on the main menu if the machine meets the above conditions. The message **Not connected** may appear if the Internet connection fails. When the machine is in exhibition mode, the main menu will be displayed by pressing any key,

> **General information**
> **Games**
> **Tournaments**   (please see the note at the bottom of this page)
> **Local tournaments**

The **Tournaments** menu is selected with the arrow keys, scrolling up and down. The menu of the available tournaments will be displayed when the **OK** key is pressed. For example,

> **Cricket Fun**
> **Caribe 501**

The participation menu is displayed after selecting a tournament and pressing **OK**,

> **Introduce ID number**
> **Provisional entry form**
> **Get card**
> **Rules**

If the player is a current participant of the tournament, he just needs to introduce his ID number to get access and play. Otherwise, if it is the first time he plays in that tournament, he must fill in the provisional entry form to be accepted as a participant.

NOTE

- **Tournaments** is displayed when the machine is ready to play tournaments.

- **Production** is displayed when the CPU of the game is new and it is pending to be allocated to the operator.

- **Test:** is displayed when the machine has a CPU programmed for testing the game. Please refer to page 32 if you need further information.

- **Machine not connected** appears if the machine can not communicate with the server.

Pressing **OK** opens the following entry form,

ID:	(+OK) (no letters, no spaces, no dots)
Nick:	(+OK)
Mobile number:	(+OK)

All entries should be completed.
Data are accepted by pressing **OK**. To complete the entry form it is necessary to take a photography of the player, according to the following instructions,

1) Look at the camera
2) Press the flashing button to take photo
3) If you want another take, press the button again
4) Press OK to accept the photo

Steps 1 and 2 can be repeated as many times as necessary, until the take is good enough. The previous take is shown in the LEFT frame of the screen, while the RIGHT frame shows the image catched by the camera in that moment. In order to have a good take, the player should look directly <u>at the camera</u>, not at the screen. The photography is accepted by pressing the **OK** key. When it is done, the machine displays a welcoming message and opens the following menu,

Add new player	(if anyelse wants to participate)
Play	(to play immediately)
Personal scoring	(for those players who already have it)

The **Play** option allows to play immediately, if the player inserts the coin.

10.1 GAME INSTRUCTIONS

To know the rules of each available tournament, go to **Rules** option and press **OK**, then select the your tournament.

10.2 PLAYER'S CARD

The player's card allows a fast access to all available tournaments at RADIKAL DARTS machines. If a player wants to have this facility, he or she can get it through the option **Get card**. When this option is selected by pressing **OK**, the player must fill in the following entry form,

ID:
Name:
Surname:
Birth date: _ _ / _ _ / _ _ _ _
Nickname:
Address
Street:
No.:
Floor:
Door:
City:
ZIP:
Country:
Mobile:

When all data are accepted by the player, the machine gives the intructions to take a photography for identification. A detailed explanation of the process is offered in the previous page.

11. OTHER COMPETITIONS

RADIKAL DARTS allows to play local tournaments that can be held without the support of the Remote Refereeing System. Therefore it is not necessary the connection to Internet. To get access to the available formats, go to the main menu, select **Other competitions** and press **OK**. The formats are,

> **Best of One**
> **Best of One - direct KO**
> **Best of Three**
> **Best of Three - direct KO**

Any game can be choosed for these local tournaments, except Team 301, Team 501 and Team Cricket. The rules of each tournament are explained in section **8.5** of this Manual.
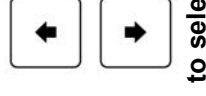
FAST GUIDE TO START PLAYING

LOCAL TOURNAMENTS

1. Enter main menu, then select **Best of 3** competition and push **OK**

2. Select a tournament (Best of 3, etc.) and push **OK**

3. Select a game and push **OK**

4. If appropiate, select a game modality and push **OK** (Open In / Open Out, etc.)

5. The game parameters can be changed (Number of players, Double bullseye, Last chance).

6. Insert the name of at least 4 players. 0+ID number can be used instead of name.

7. **INSERT COIN** and push **OK** to start the competition

START

FURTHER INFORMATION: Select **General Information** and push **OK** if you have any doubt about the rules or

GAMES

1. Enter main menu, then select **Games** and push **OK**

2. Select a game and push **OK**

3. If appropiate, select a game modality and push **OK** (Open In / Open Out, etc.)

4. **INSERT COIN**

START

If you accept the current parameters for that game, push **START** to begin the game.

5. The game parameters can be changed (Number of players, Double bullseye, Last chance). Insert the name of each player (or zero + ID number) and push **OK** to start.

FURTHER INFORMATION: Select **General Information** and push **OK** if you have any doubt about the game

CONTROLS:

| ← | → | to select |

| ↓ | ↑ | change parameters |

| ↩ | go back/exit |

| OK | accept |

| START | start to play |

TOURNAMENTS

1. Enter main menu, then select **Tournaments** and push **OK**

2. Select a tournament, push **OK** and register the player's ID number

3. When playing the first time, select **Provisional entry form**, push **OK** and...

   ▶ Fill all requested data (ID number, Alias, sex, mobile phone) and push **OK**

   ▶ Look at the camera and push **START** to take a picture of your face. Push START again if you want another try. Push **OK** to accept the take.

4. Select **Adding new player** if anyelse wants to be registered, then push **OK**

5. **INSERT COIN** and push **START** to begin the competition

START

INFORMATION ABOUT SCOREBOARDS

Select **General Information** and push **OK**
Select **Scoreboards** and push **OK**
Select the tournament or go to **Personal** and write your ID number

P means that the score is **pending** for validation

I means **invalidated** (the player can get further explanation by pushing OK)

12. MAINTENANCE

Technical service and maintenance must be carried out by qualified staff.

No modifications shall be made to the machine, unless these have been approved by the manufacturer in writing. Fail to observe this requirement may cause damage to the equipment and will automatically render the guarantee null and void.
Do not attempt to repair the CPU. It contains sensitive chips that could easily damaged. Always return the CPU to your nearly Distributor for any repairs.

If a task needs to be performed and it is not described in this Manual, please contact the Distributor for instructions. The manufacturer declines any liability for damages and injuries at the machine arising from fail to comply with this requirement

12.1 TARGET SEGMENTS

To access target segments, for cleaning or replacement purposes, please proceed as follows:

1. Remove the target door as shown in page 13 of this manual.

2. Turn slide latches that fix the target panel (see left drawing below)

3. Take down the target panel as shown in the right drawing below.
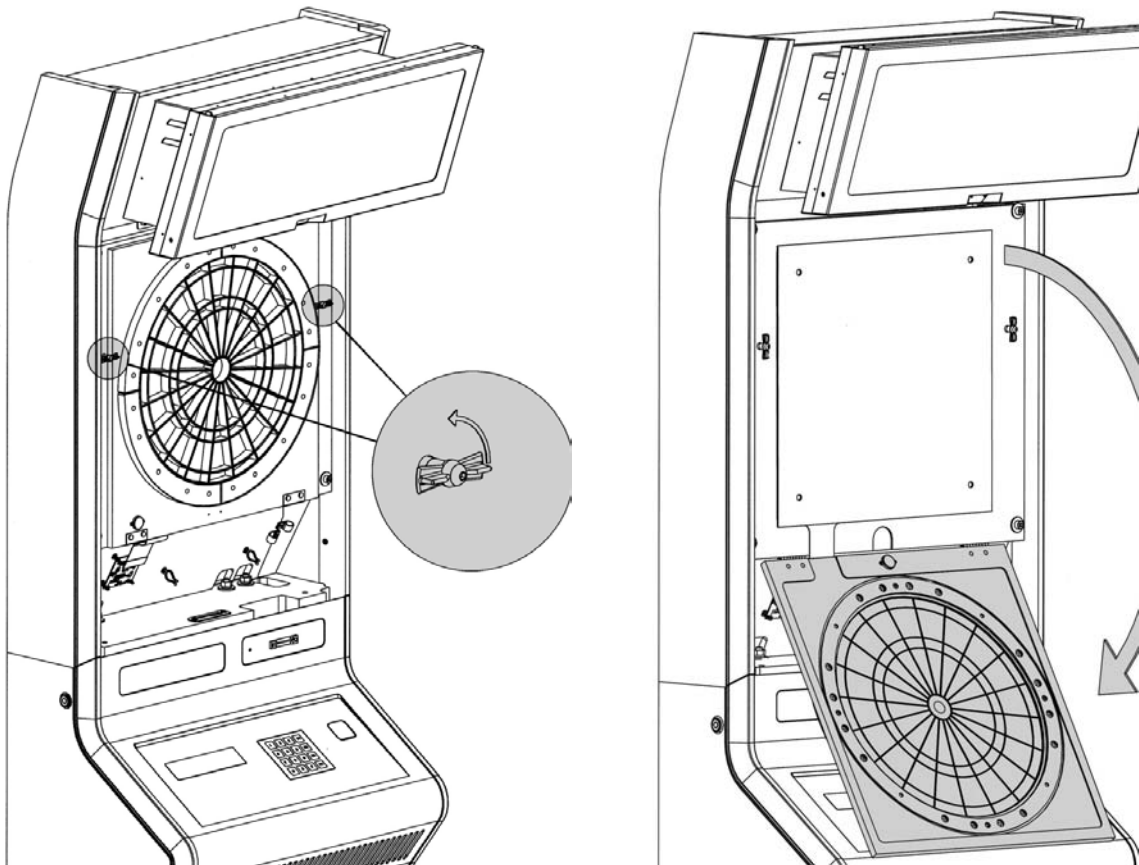
4. Clean or replace segments, to your convenience.

5. Install the segments in the spider, paying attention to the observations offered in the next point (12.2). The best way to avoid mistakes is to begin at the sector close to the mark of the spider, using the RED color, then assemble the other segments systematically.

6. Rise the target panel and fix it with the slide latches.

7. Assemble the target door and lock it.

12.2 REPLACEMENT OF THE SPIDER

Please pay attention to the spider position at the time to replece it. The mark shown in the drawing should be oriented upwards when the target panel is already assembled in the cabinet, fixed with the slide latches.
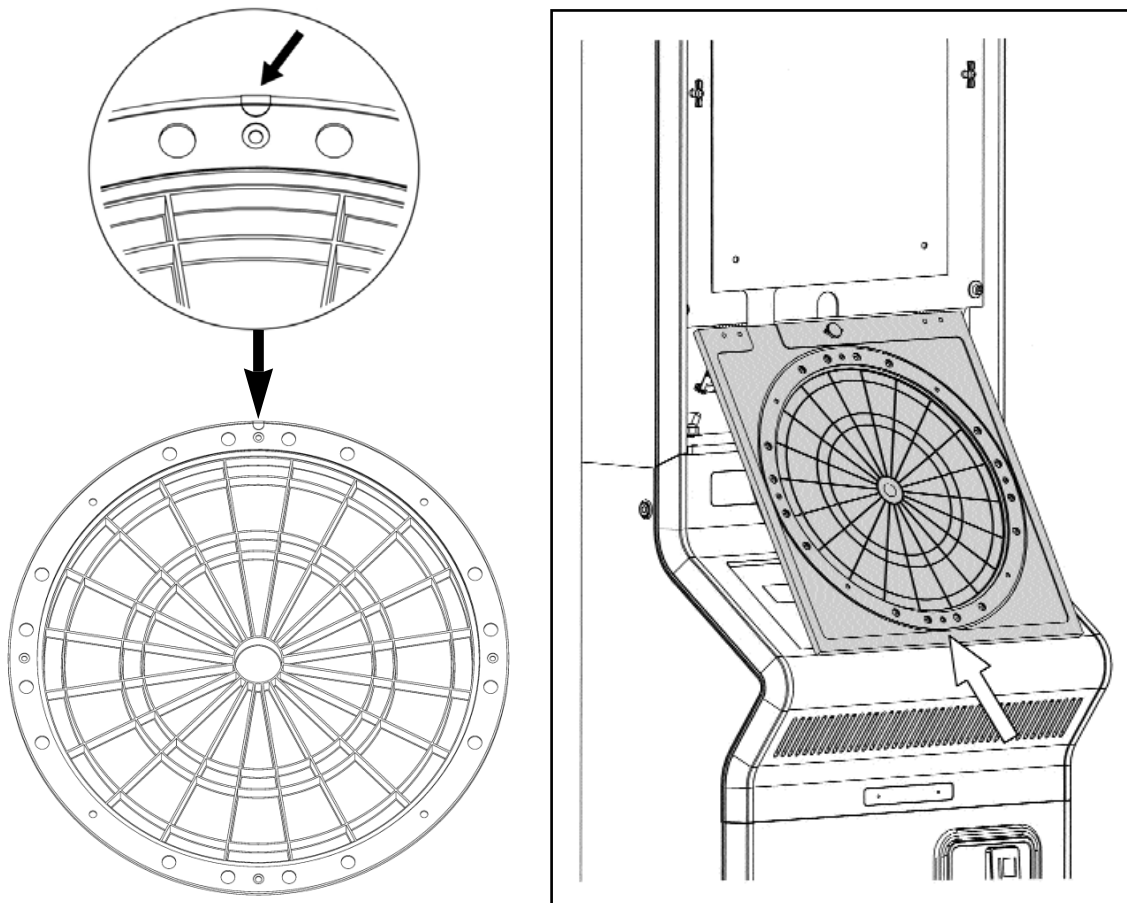
Segments will be fit into sectors starting with the one closest to the spider mark (triple, RED color), then following with the rest.

12.3 HALOGEN LAMP REPLACEMENT

When it is time to replace the halogen lamp, please proceed as follows:

1. Remove the screws that fix cover of the TFT screen, then take the cover out.
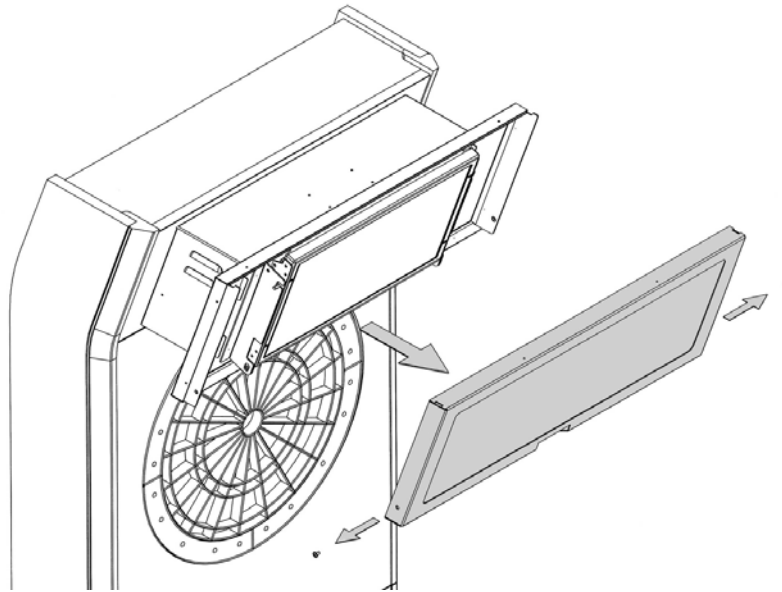
2. Take down the TFT screen as shown in the drawing below. Please be carefull.
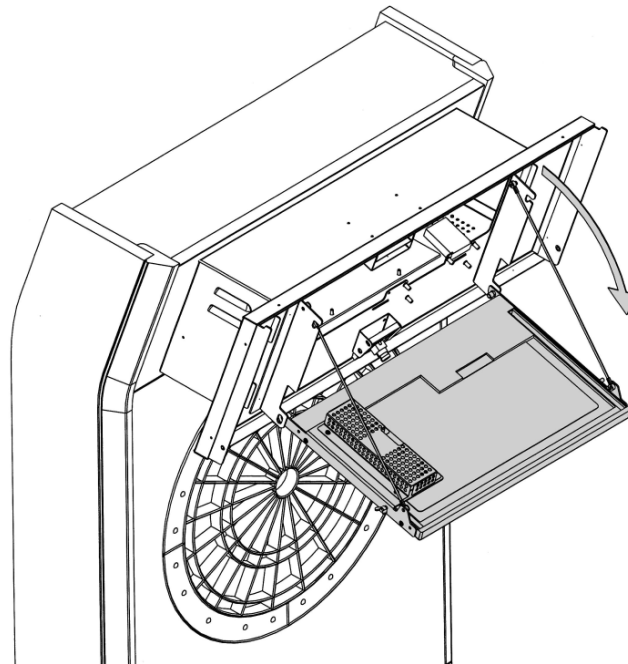
3. Remove the screws and take the bracket out, as shown in the drawing. Then remove the lamp.
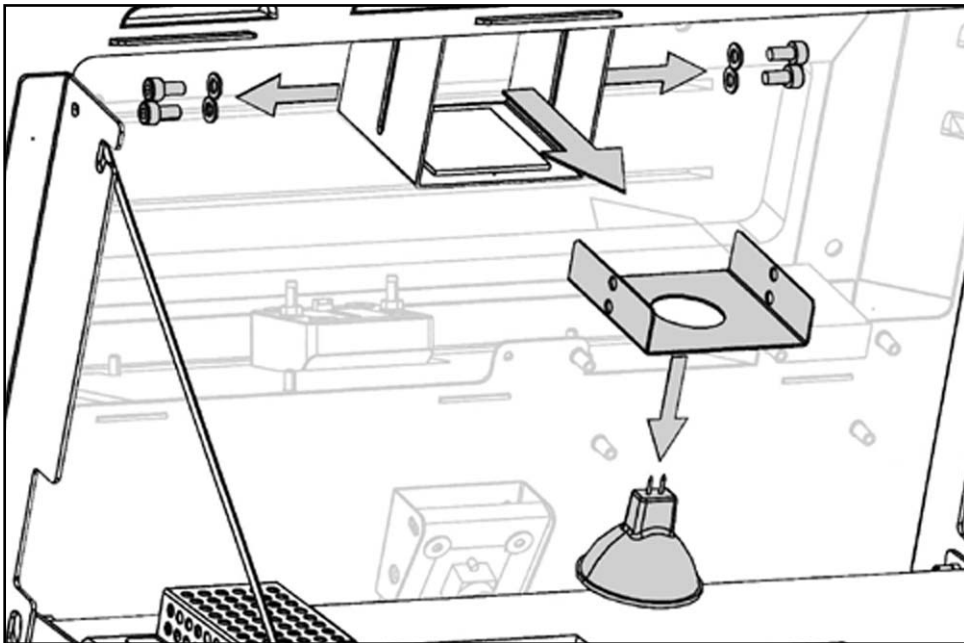
4. Install the lamp and assemble the other elements, undoing the previous steps.

12.4 CAMERA MAINTENANCE

RADIKAL DARTS uses two digital cameras. One of them faces the player and the toe line mark, while the other faces the target. Both cameras collect information for the Remote Refereeing System (RRS) and therefore should be keeped in good conditions.

CLEANING

Depending on the environmental conditions of the site, the operator will decide how often shall the cameras be cleaned. Anyway, two months would be the maximum span of time between an action and the next.

Please use a clean, soft cloth, slightly damp with the cleaner. Never use paper towels or rough clothes that could scratch the surface of the lenses, and avoid cleaners containing agresive dissolvents.

A neutral glass cleaner would be proper for cleaning the lenses. However, if the red filter of the front camera is already mounted, the ideal product would be an antistatic cleaner, special for plastics. If not available, please use a liquid soap dissolved in water.

REPLACEMENT

If a camera needs to be replaced, please make sure to use a spare camera of the same type, as there are two and both look the same. The front camera is marked with a RED sticker, while the target camera is marked with a GREEN sticker. The initial procedure to replace cameras is the same as for replacing the halogen lamp.
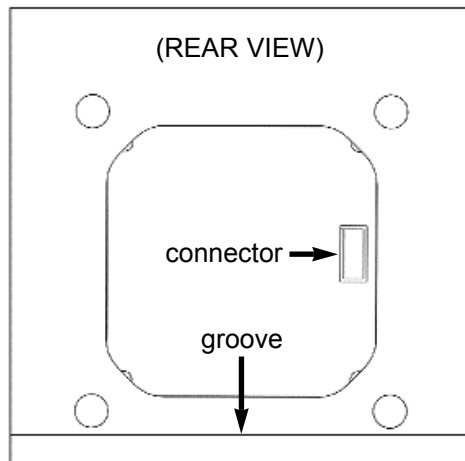
## Front camera

To replace the front camera proceed as follows:

1. Remove the screws that fix the camera assembly as shown in the drawing below. Disconnect the cable and remove the assembly.

2. Remove the screws that fix the camera to the bracket and install a new camera marked with red sticker.

Target camera
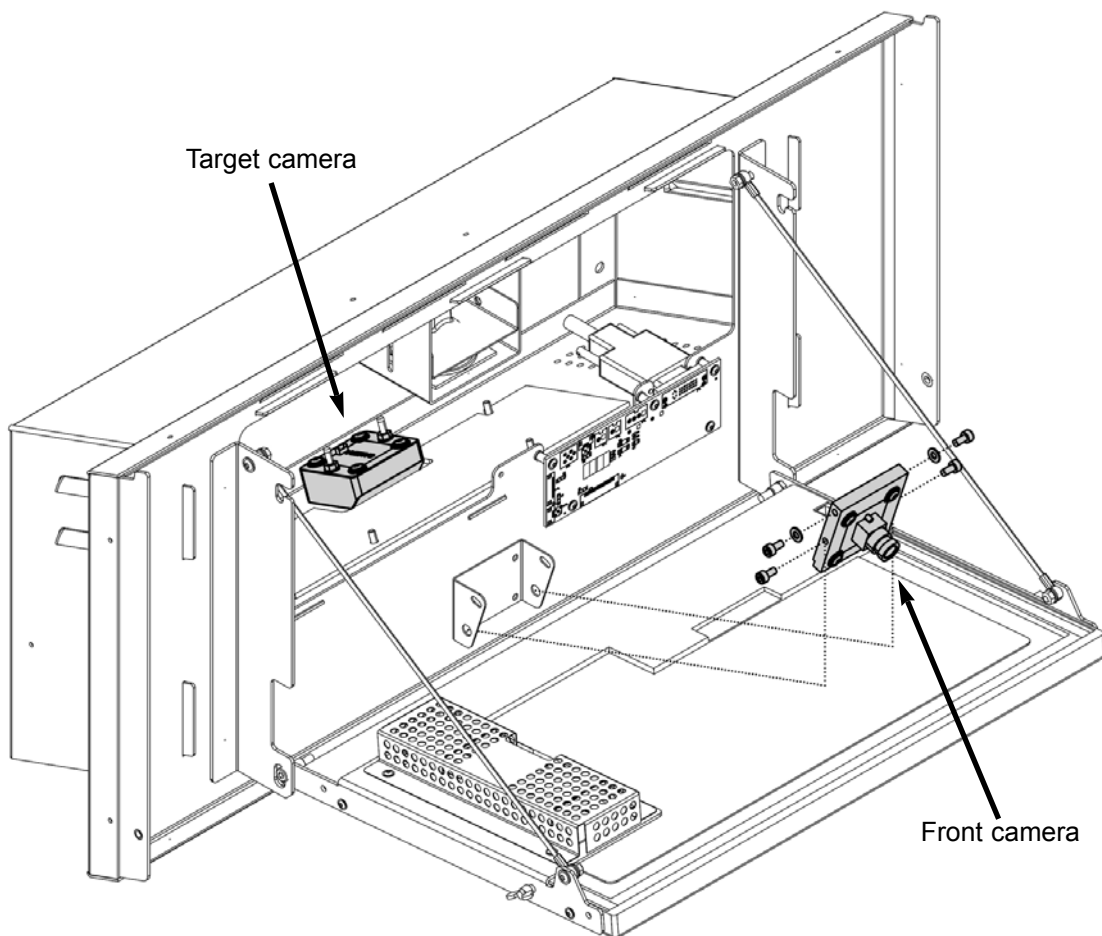
Front camera

3. The front camera is mounted in such a way that the connector is on the left side (rear view) as shown in the drawing next page. The groove must face down. The camera is fixed by means of bakelite washers screwed to the plastic bracket.

4. Connect the cable BEFORE to install the camera assembly. Do not forget the foam ring which is mounted around the lens.

(REAR VIEW)

connector

groove

**FRONT CAMERA**

connector

chamfer
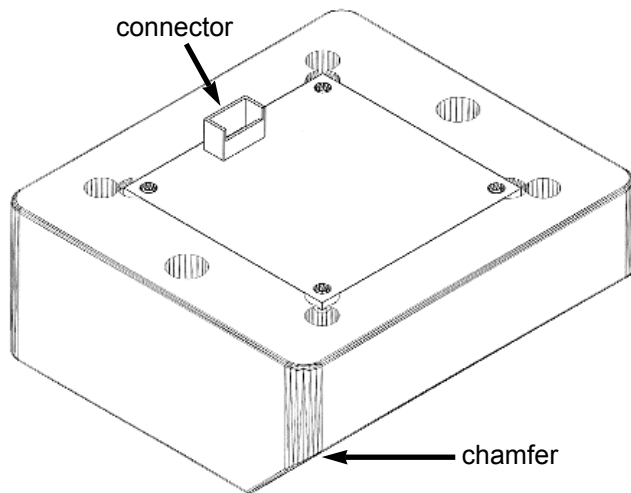
TARGET CAMERA

5. Mount the camera assembly on the metallic suport, the groove facing down. Put the lower screws first, as they do not fix the camera but work as pivots. Put the upper screws but do not tight them until the camera is centered in relation to the laser line (toe line mark). This centering is done through the **Laser test**.

6. Adjust the inclination of the camera until the laser line is centered between the two violet marks, as shown in the right picture below, then tight the upper screws.

Target camera
To replace the target camera proceed as follows:

1. Remove the two nuts which fix the camera assembly to the chassis. Disconnect the cable.

2. Remove the four screws that fix the camera to the bracket and install the new camera, marked with green sticker.

locking screw

sticker
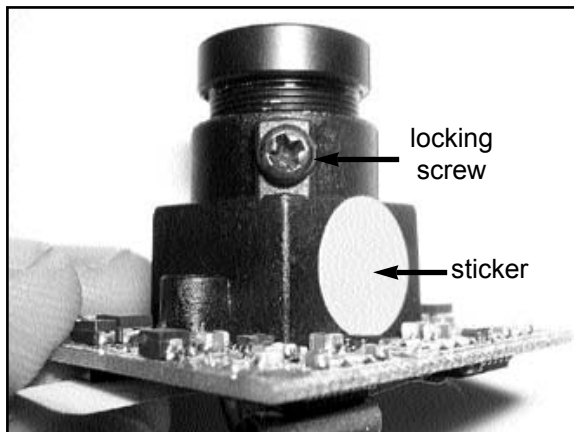
3. Assemble the camera to the bracket, fixing it with the bakelite washers. The connector is in the opposite side of the chamfer, as shown in the drawing.

4. Fix the camera assembly by the nuts. The chamfer should be oriented towards the player.

FOCUS ADJUSTMENT

The focus comes adjusted from the factory and should not be tuned again when replacing a camera. However, if the image quality is affected, further tuning can be done in the following way:
1. Loose the screw that locks the lens (see the picture of page 54)

2. Enter **TEST** mode from the PCB installed on the rear of the coin door, then select **Video**, then **Camera test**.

3. Focus the camera looking at the laser line.

4. Lock the lens when the camera is alredy focused.

The target camera can not be adjusted when it is mounted on the chassis. So, the tuning must be done by trial and error, adjusting the lens when the camera is removed, then checking the result when the camera is installed.

12.5 THROW DISTANCE TEST

It is convenient to check the laser line periodically, as some external variables may change in time (floor condition, site illumination, etc.). This check must be done every time the machine is moved, since just a little displacement from the original site can produce a big change, .
The test is done in the following way:

1. Enter TEST mode from the PCB installed on the rear of the coin door.

2. Select **Test láser** and press **OK**.

3. The line detection threshold is shown in the display, as well as deviation with regrads to the previous adjustment, for example: **Threshold: 7.64   dy:-1**
   In this example, the threshold would be acceptable if the site is illuminated. However, it should be higher if the site is dark. On the other hand, the laser line is a bit displaced in relation to the previous adjustment. The ideal case would be no deviation at all (dy=0) but a deviation of 1 is still acceptable. A deviation higher than 2 will avoid to play tournaments, requiring to adjust the throw distance by using the **Distance** option of **Setup** menu.

12.6 TROUBLESHOOTING GUIDE

1) The machine does not start when switching on
- Check the LED of the lateral switch. It should be on.
- If the LED is off, tilt the switch to the other position and check if the LED turns on.
- If the LED is off in either position of the lateral switch, check the mains switch placed on the rear of the cabinet. That switch should be in position "I".
- If the mains switch is pressed in position "I" but the LED is off in either position of the lateral switch, check the connections of the mains cable at both ends.
- If the connections look good, check the mains voltage at the outlet.
- If the mains voltage is correct, open the console and check the +5VDC voltage at the PSU connector. This check should be carried out by a qualified technician.

2) The machine does not allow to fill the entry form
- Please refer to point 5.

3) The machine does not allow to play tournaments
- Please refer to point 5.

4) Game data are not updated
- Please refer to point 5.

5) There is no connection to Internet
The machine attemps to connect with the server when the Inititializing process is done. If the connection fails, this will be shown in the main menu, as follows:

General information
Games
Machine not connected
Local tournaments

The message **Machine not connected** means that Internet connection has been not possible when switching on the machine.
However, it might happen that machine is properly connected in the beginning but the connection is missed later. In that case, the problem will be detected when a player tries to fill in the entry form or wants to play a tournament.

The following instructions are useful when the machine has been working previously, connected to Internet. If it is not the case, please refer to section 6 in this manual.

- Check the connections of the Ethernet cable, at both ends (machine and router).

- Check the configuration of the router. It should be configured in multiuser mode, with automatic assignment of IP address.

- If the previous checks do not help and the problem remains unsolved, it would be convenient to check the connection directly, by using a personal computer ready to be connected on line.

10. PARTS LIST

10.1 COIN DOOR

	CODE	DESCRIPTION
1	--	SCREW DIN7981 4X25
2	DAR-432	LEG LEVELLER A742116
3	--	SCREW DIN7981 3,5X15
4	DAR-431	BRACKET
5	DAR-520	LOWER PLASTIC RASCAL
6	DAR-410	DOUBLE MINI DOOR
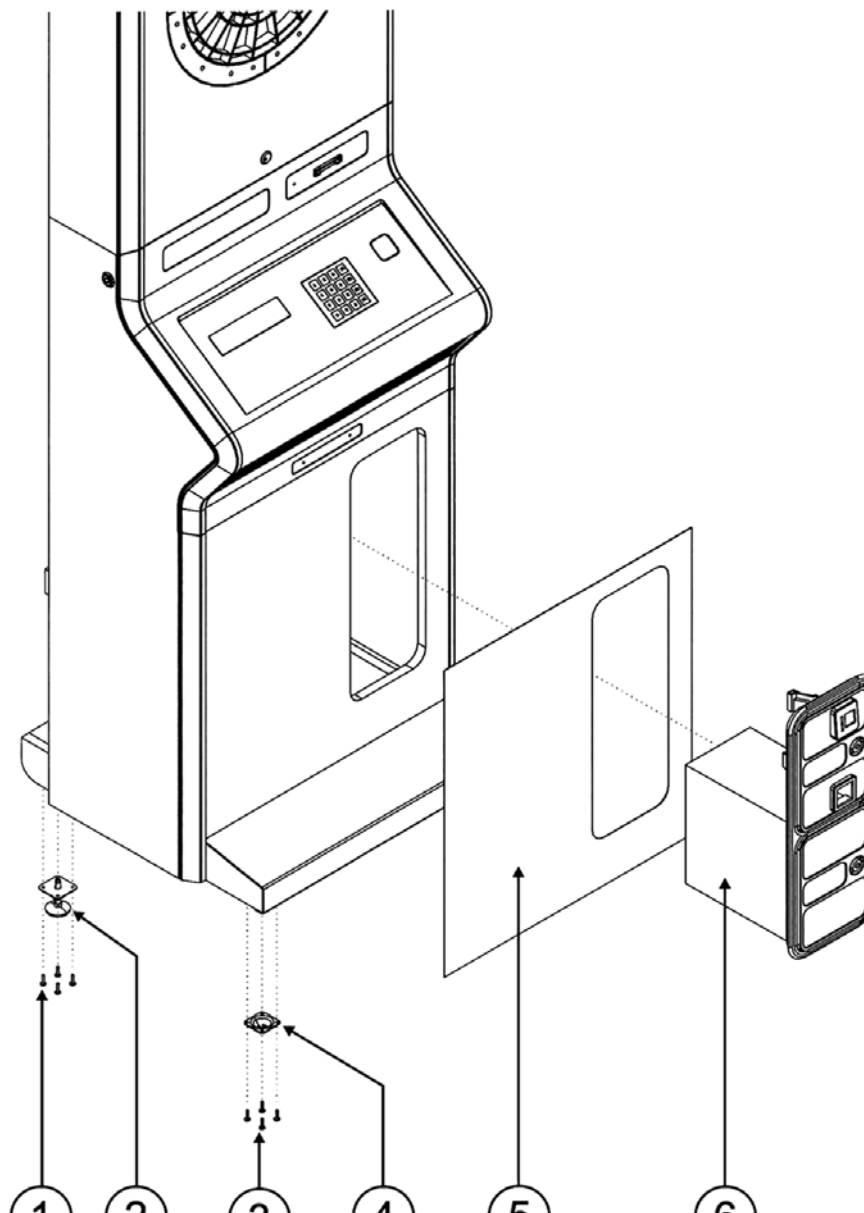
10.2   CARD READER AND KEYBOARD

	CODE	DESCRIPTION
1	DAR-300	CONSOLE
2	DAR-310	KEYBOARD
3	DAR-580	RASCAL - INSTRUCTIONS
4	DAR-590	COVER, card reader
5	--	SCREW DIN965 M5X20
6	DAR-321	CARD READER
7	DAR-223	BRACKET, card reader
8	--	SPRING WASHER DIN127 M3
9	--	SCREW DIN7985 M3X6
10	--	DENT WASHER DIN6798A 5,2
11	DAR-325	MICROPHONE PCB
12	--	LOCKNUT DIN985 M5
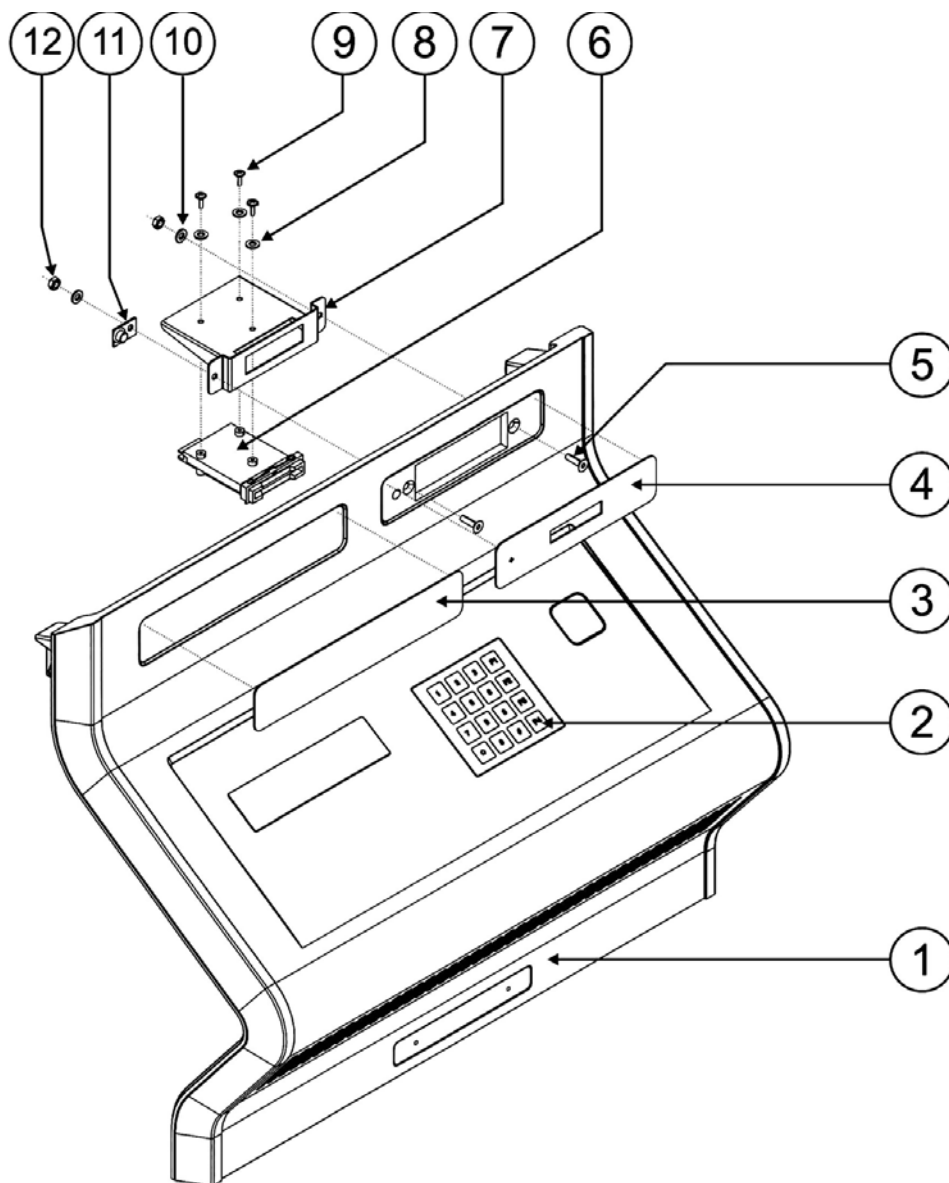
10.3   CONSOLE PARTS

	CODE	DESCRIPTION
1	DAR-570	LÁSER WINDOW, metacrilate
2	--	FLAT WASHER DIN125 M3
3	--	SPRING WASHER DIN127 M3
4	--	NUT DIN934 M3
5	DAR-310	ANTIVANDAL KEYBOARD
6	--	SCREW UM1001 M4X10
7	DAR-226	BRACKET, keyboard
8	DAR-430	HINGE, console
9	--	SCREW DIN7505A 4X16
10	--	SCREW DIN7505A 3,5X20
11	--	SCREW DIN7505B 4X13
12	DAR-320	DISPLAY PCB
13	DAR-560	DISPLAY FILTER
14	DAR-440	BRACE, console
15	--	SCREW DIN7985 M4X35
16	--	SCREW DIN7505B 4X13
17	DAR-227	WASHER LOCK
18	--	LOCKNUT DIN985 M4
19	DAR-315	START BUTTON
20	--	SCREW DIN7505B 4X13
21	DAR-360	LOUDSPEAKER 4" / 4 OHM / 60W / 2 VIAS
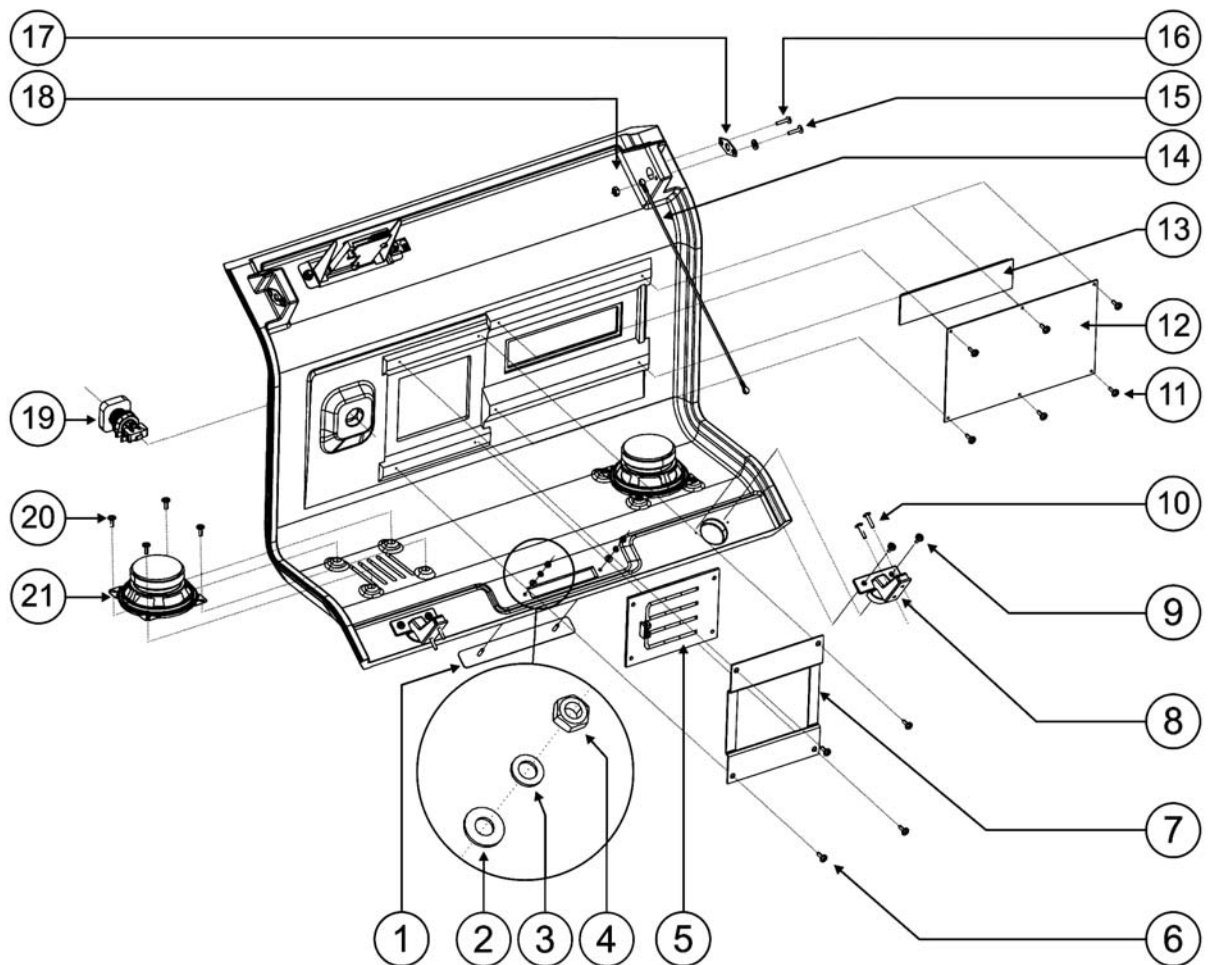
10.4 CPU & PSU

	CODE	DESCRIPTION
1	DAR-355	PSU ATX-300W
2	--	SCREW UM1001 M6X16
3	DAR-470	CONNECTOR RJ45
4	DAR-224	PSU BRACKET
5	DAR-486	EPDM STRIP
6	DAR-461	SWITCH PROTECTOR
7	DAR-435	LOCK, console
8	DAR-222	SWITCH BRACKET
9	DAR-460	SWITCH
10	--	SCREW DIN7505B 4X13
11	--	SCREW DIN7505A 3,5X20
12	DAR-357	CPU RADIKAL DARTS
13	--	SCREW DIN7505B 4X13
14	--	SCREW ISO7380 M5X10
15	DAR-250	LÁSER
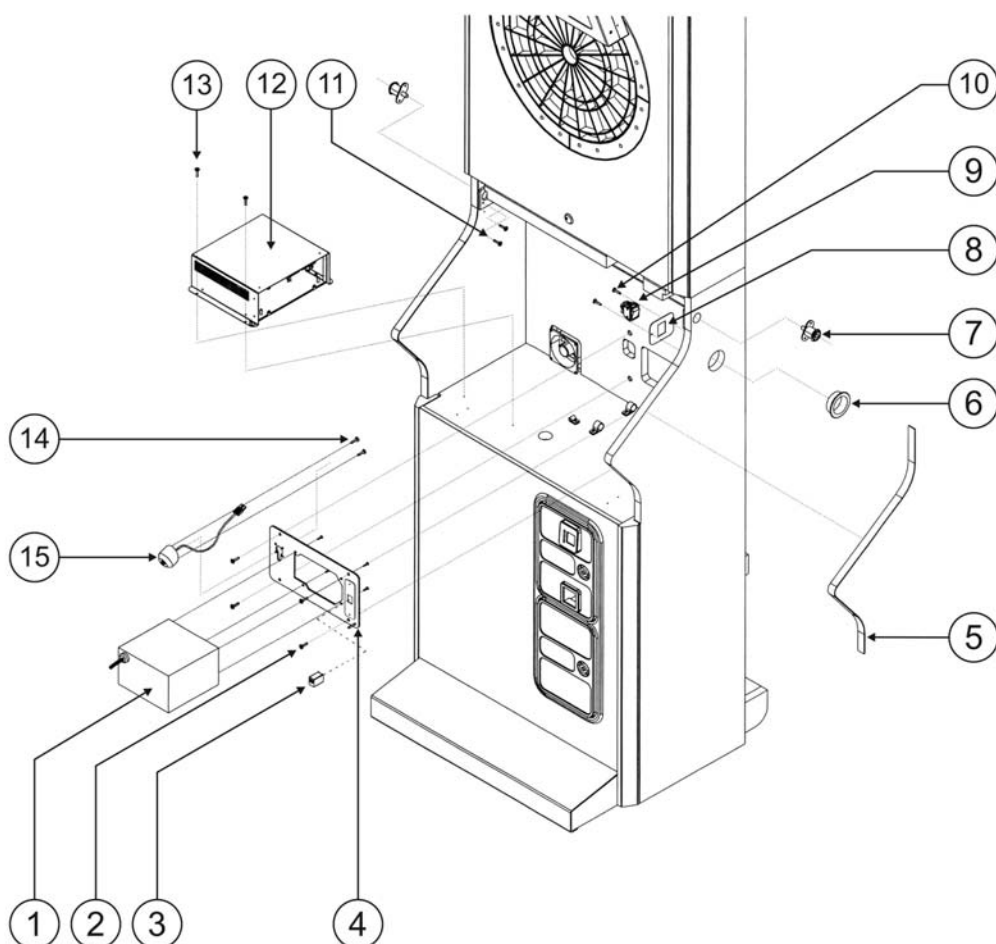
10.5   CABINET UNION

	CODE	DESCRIPTION
1	DAR-438	HINGE
2	--	FLAT WASHER DIN9021 M10
3	--	SPRING WASHER DIN127 M10
4	--	NUT DIN934 M10
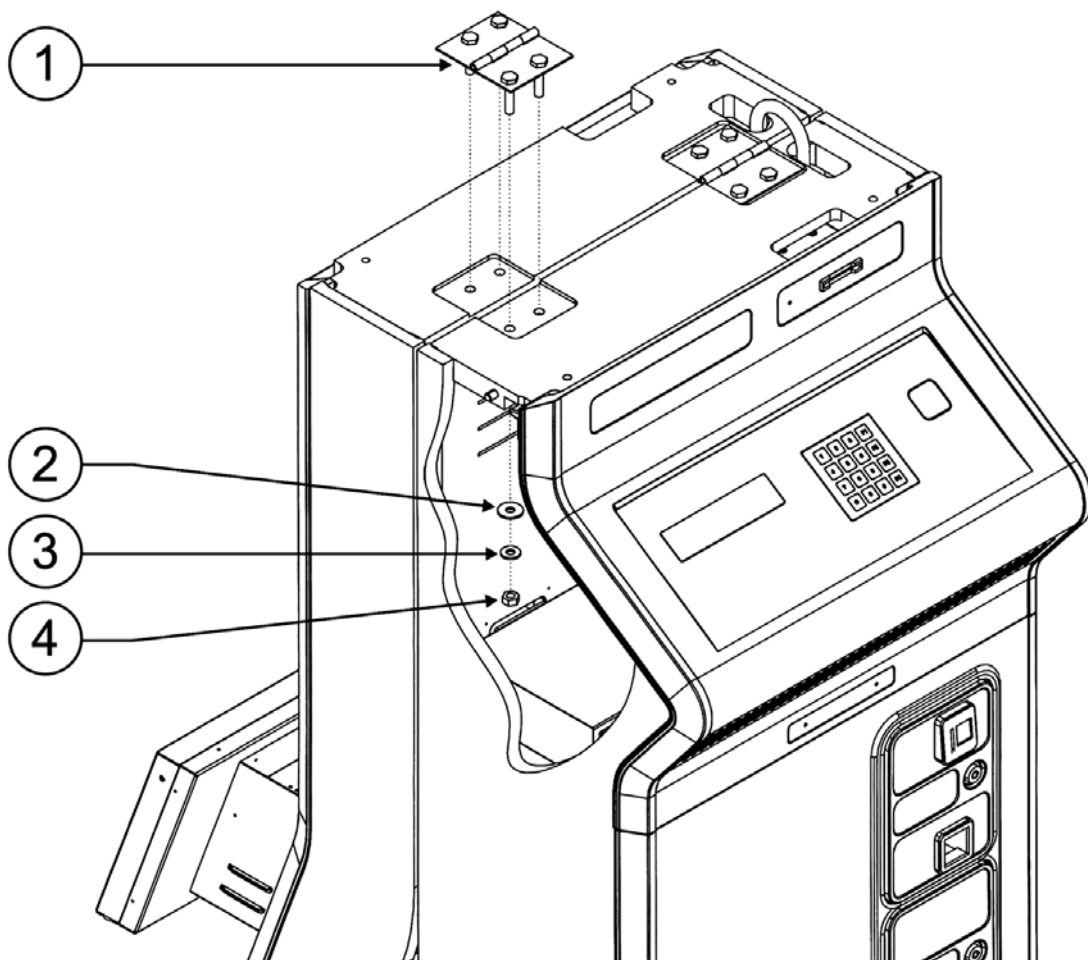
10.6   MISCELANEOUS

	CODE	DESCRIPTION
1	--	SCREW DIN7505A 4X30
2	DAR-455	TRANSPORT STOPPER
3	--	SCREW DIN7982 4,8X10
4	--	SCREW DIN7505B 4X13
5	DAR-240	VENTILATION GRILL
6	DAR-370	DC FAN 80X80
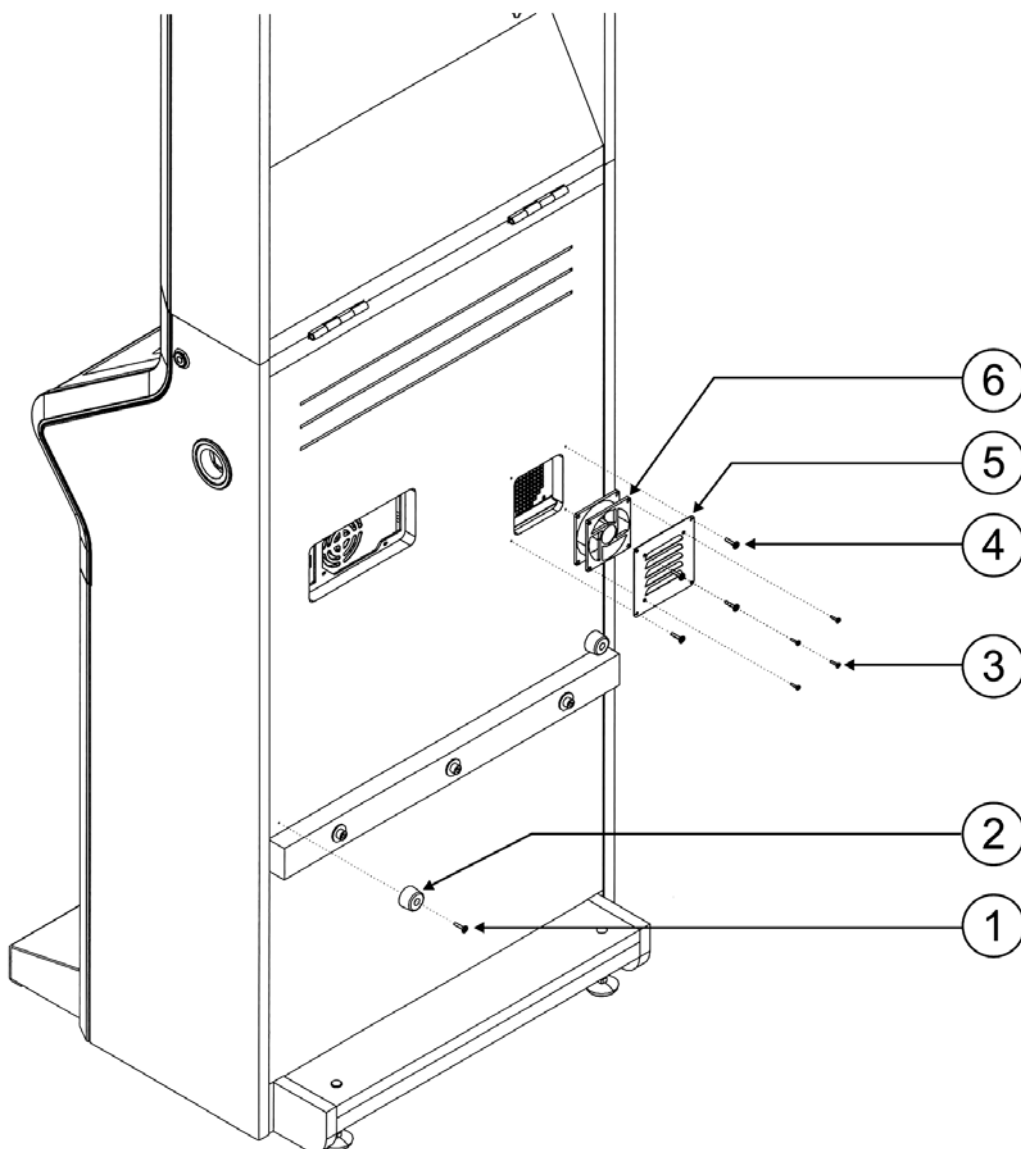
10.7   TARGET DOOR

	CODE	DESCRIPTION
1	DAR-436	LOCK, target door
2	DAR-130	DOOR
3	DAR-510	DOOR COVER
4	DAR-238	PLATE
5	--	SCREW DIN7505B 4X13
6	DAR-530	TFT COVER
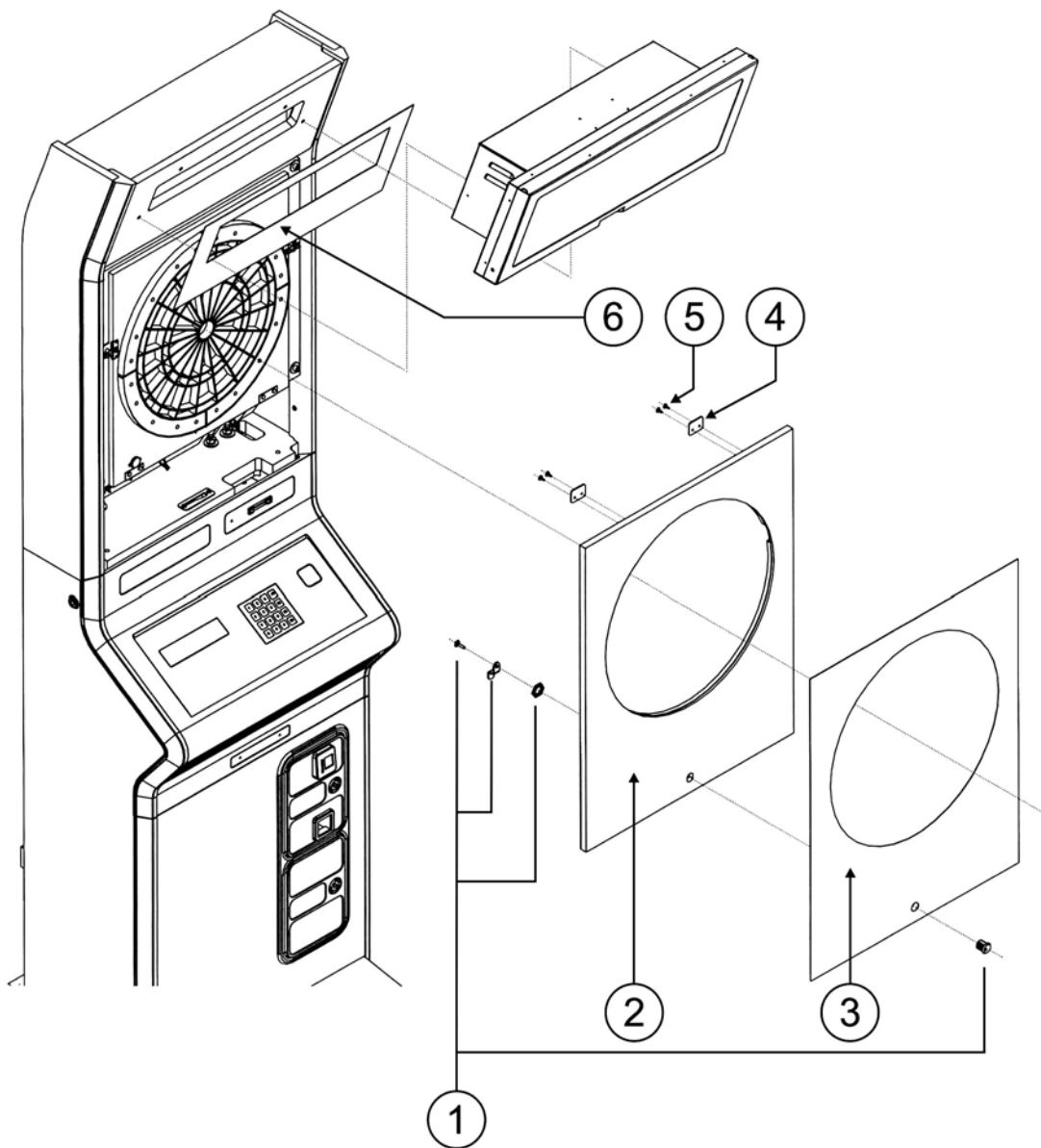
10.8   TARGET DOOR FIXINGS

	CODE	DESCRIPTION
1	--	FLAT WASHER DIN9021 M8
2	--	SCREW DIN912 M8X70
3	--	SPRING WASHER DIN127 M8
4	DAR-600	TARGET HEAD ASSEMBLY
5	DAR-237	LOCK PLATE
6	--	SCREW DIN7505B 4X13
7	BHL-06-01	FIXING, control PCB
8	DAR-353	CONTROL PCB
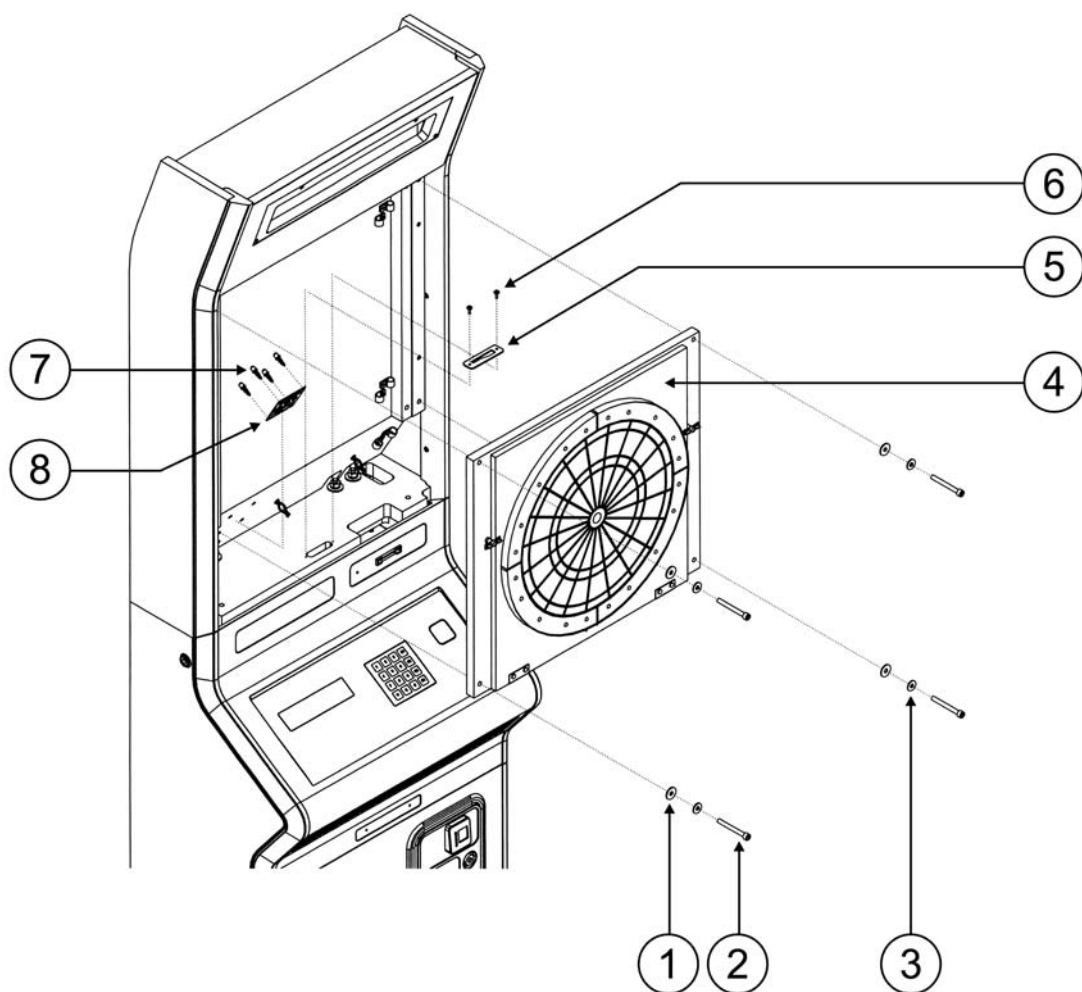
10.9   TARGET PARTS

	CODE	DESCRIPTION
1	--	DENT WASHER DIN6798A M5
2	--	SCREW DIN7985 M5X10
3	DAR-690	SENSOR PCB
4	DAR-680	MATRIX CUSHION, neoprene
5	DAR-610	SPIDER
6	--	SCREW DIN7981 4,8X19
7	--	SCREW DIN7505A 2,1X10
8	DAR-695	SENSOR PKS1-4A1
9	--	INSERT M5
10	DAR-132	WOOD FRAME, target
11	DAR-620	CATCH RING SEGMENTS, black
12	--	INSERT M4
13	--	SCREW ISO7380 M4X18
14	DAR-131	BACK WOOD, target
15	DAR-484	SPACER, silicone
16	DAR-483	SPACER
17	DAR-453	SLIDE LATCH
18	--	SCREW DIN966 M5X30
19	DAR-437	HINGE, target
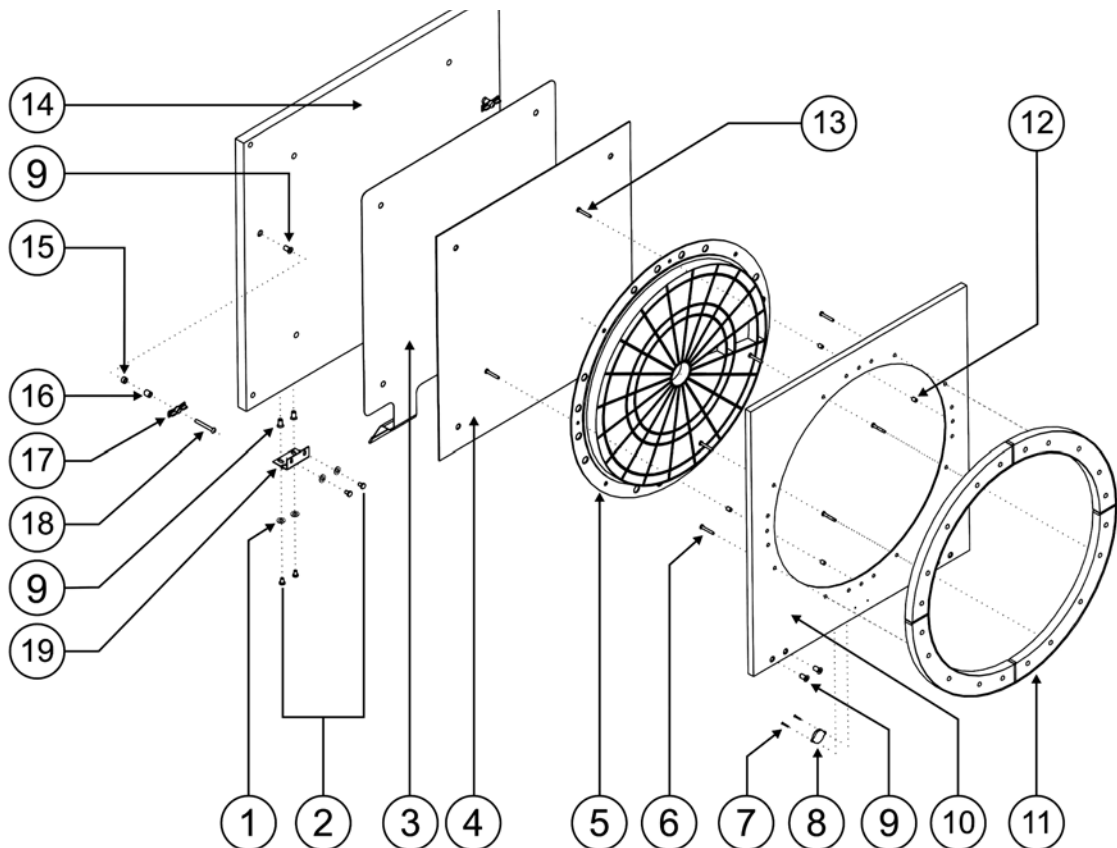
10.10 DART HEAD (SPIDER & SEGMENTS)

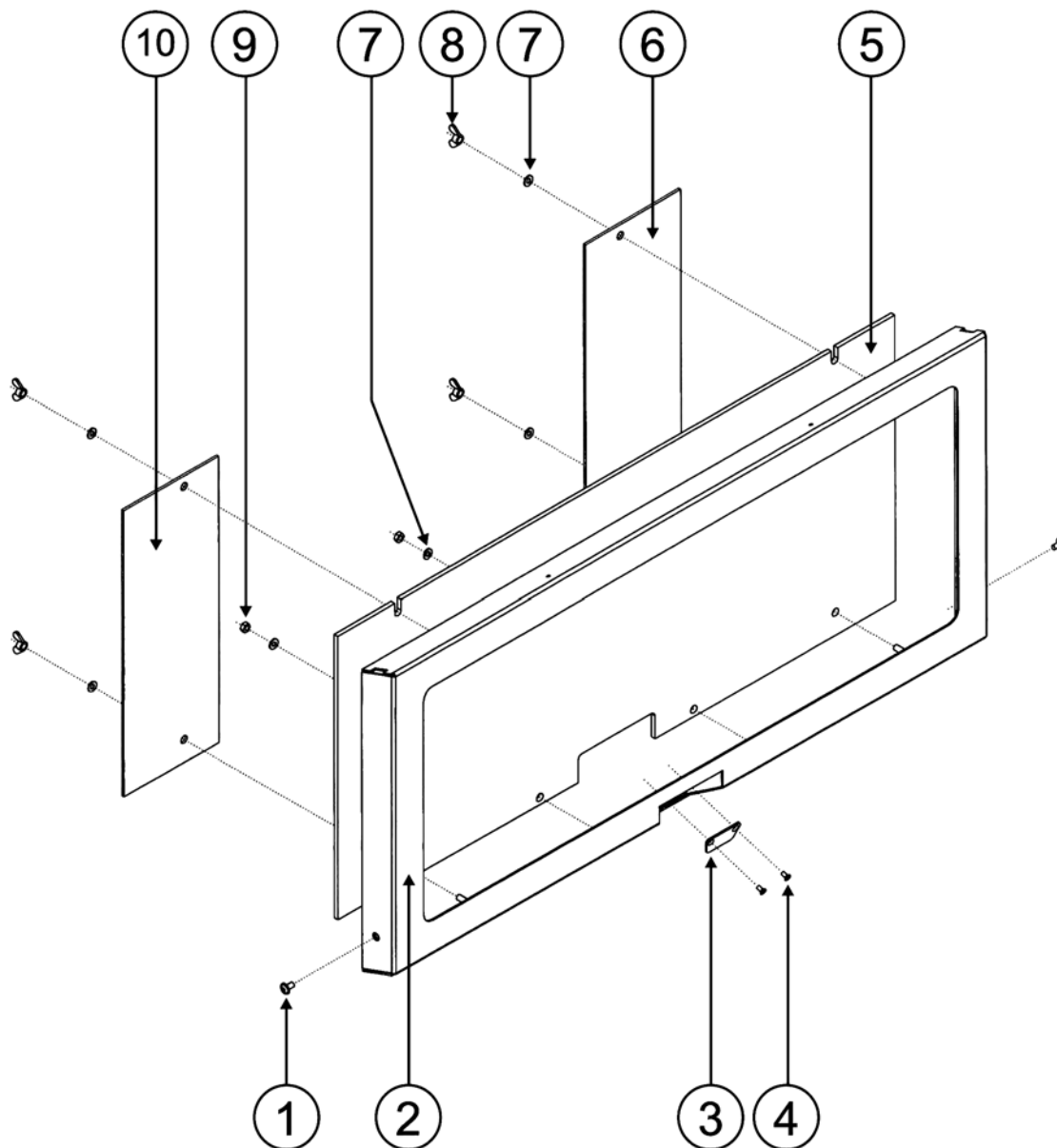|	CODE	DESCRIPTION
1	DAR-665	SPRING, INNER BULL
2	DAR-636	SEGMENT, INNER BULL RED
3	DAR-635	SEGMENT, OUTER BULL BLUE
4	DAR-634	SEGMENT, INNER SINGLE (RED=DAR-634R / BLUE=DAR-634B)
5	DAR-633	SEGMENT, TRIPLE (RED=DAR-633R / BLUE=DAR-633B)
6	DAR-632	SEGMENT, OUTER SINGLE (RED=DAR-632R / BLUE=DAR-632B)
7	DAR-631	SEGMENT, DOUBLE (RED=DAR-631R / BLUE=DAR-631B)
8	DAR-610	SPIDER, WHITE
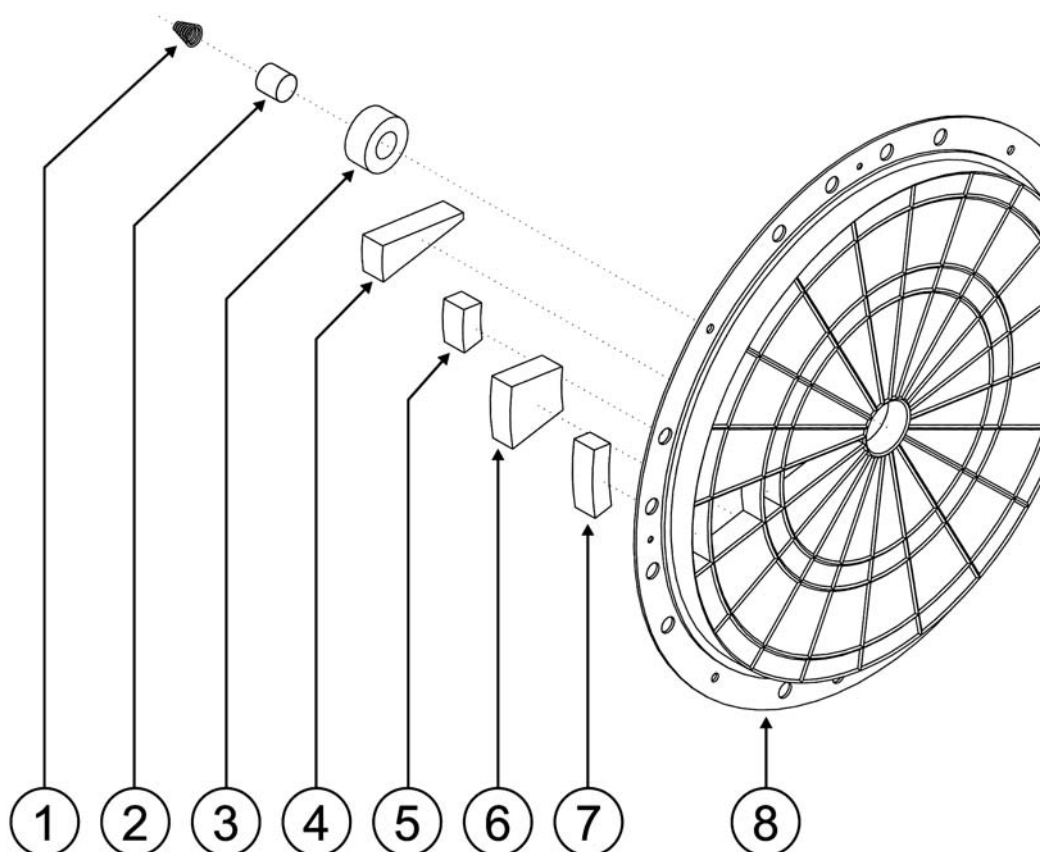
10.11 TFT ASSEMBLY

	CODE	DESCRIPTION
1	DAR-229	TFT HOUSING, metal
2	DAR-266	EPDM RING, front camera
3	--	SCREW DIN912 M4X16
4	DAR-445	BRACE, TFT
5	--	FLAT WASHER DIN125 M4
6	DAR-350	TFT
7	DAR-230	TFT COVER, metal
8		BUTTERFLY NUT DIN315 M5
9	--	LOCKNUT DIN985 M4
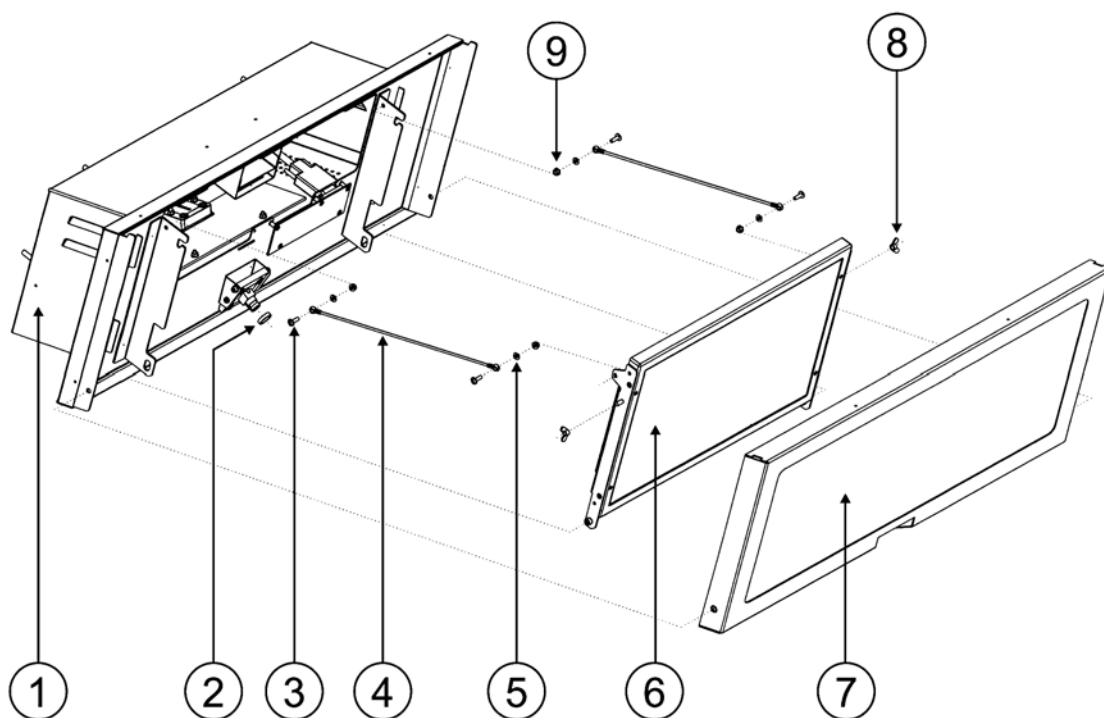
10.12 TFT COVER

	CODE	DESCRIPTION
1	--	SCREW ISO7380 M5X10 BLACK
2	DAR-230	TFT FRAME, metal
3	DAR-265	RED FILTER, front camera
4	--	SCREW DIN965 M3X6 NEGRO
5	DAR-540	METACRILATE COVER, TFT
6	DAR-545D	PLAKENE COVER - RIGHT
7	--	FLAT WASHER DIN9021 M5
8	--	BUTTERFLY NUT DIN315 M5
9	--	LOCKNUT DIN985 M5
10	DAR-545I	PLAKENE COVER - LEFT

10.13 TFT PARTS

	CODE	DESCRIPTION
1	DAR-231	LEFT BRACKET, TFT
2	DAR-350	TFT
3	DAR-232	RIGHT BRACKET, TFT
4	--	SCREW DIN912 M5X10
5	--	SCREW DIN7985 M3X8
6	--	DENT WASHER DIN6798A M3
7	DAR-351	INVERTER PCB (TFT)
8	--	SCREW DIN7985 M3X5
9	DAR-234	INVERTER COVER, metat
10	--	SCREW DIN7985 M3X5
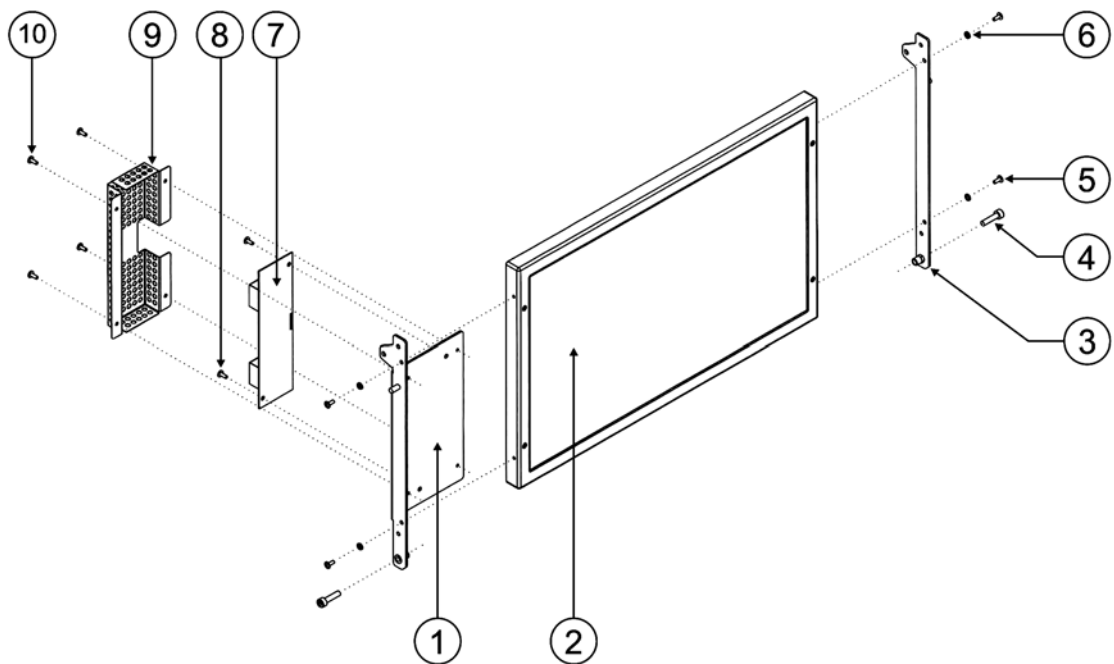
10.14 HALOGEN LAMP & FRONT CAMERA

|	CODE	DESCRIPTION
1	DAR-229	TFT HOUSING
2	--	SCREW DIN912 M4X10
3	DAR-262	BRACKET, front camera
4	DAR-261	FRONT CAMERA
5	--	SCREW UM1001 M4X8
6	DAR-263	BAKELITE WASHER
7	--	FLAT WASHER DIN125 M4
8	DAR-352	INTERCONNECTION PCB
9	--	SCREW DIN7985 M3X5
10	DAR-290	CALORIC FILTER, halogen lamp
11	DAR-450	HALOGEN LAMP 12V 50W 60º
12	DAR-233	BRACKET, halogen lamp
13	--	SCREW DIN7985 M4X6
14	--	SCREW UM1001 M6X20
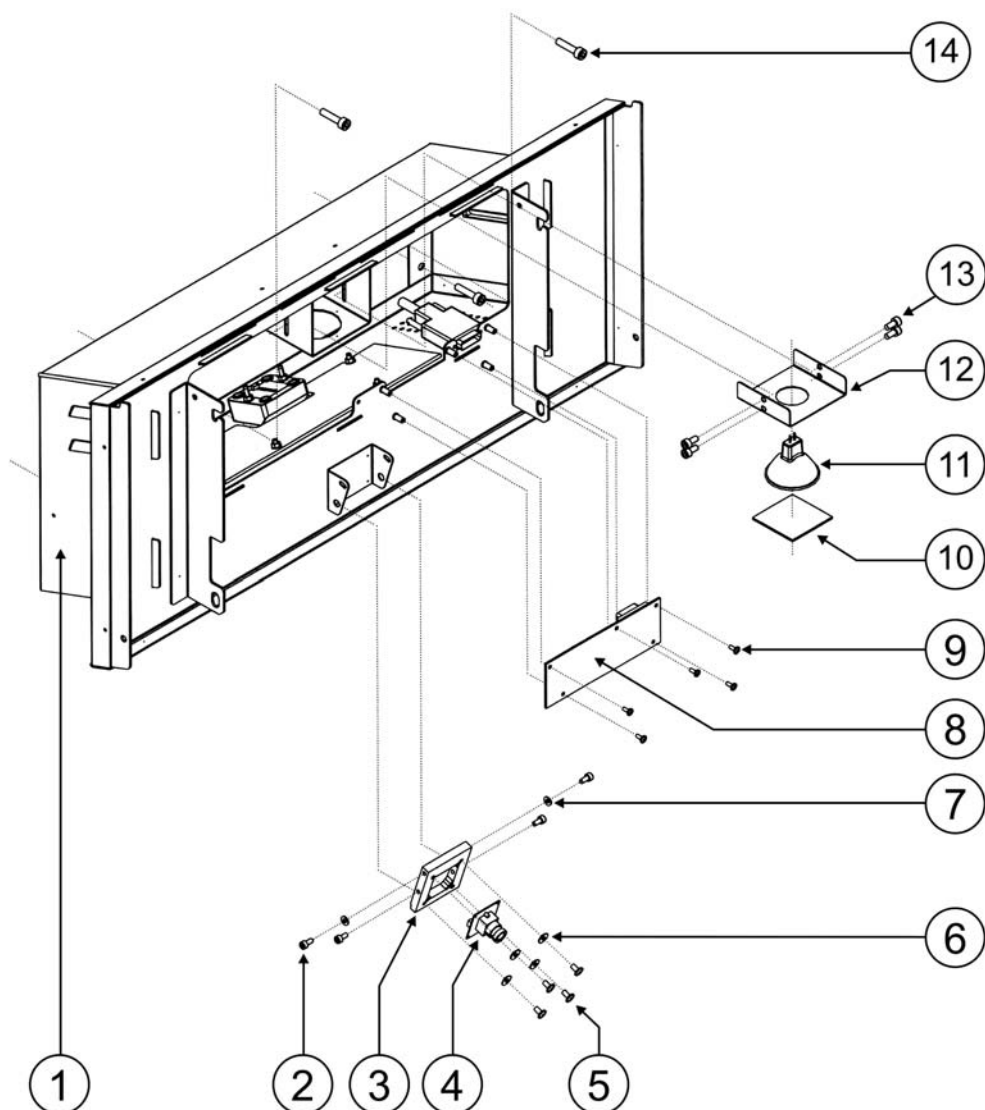
10.15 TARGET CAMERA PARTS

	CODE	DESCRIPTION
1	DAR-229	TFT HOUSING
2	DAR-550	METACRILATE COVER, halogen lamp
3	--	FLAT WASHER DIN125 M4
4	--	SPRING WASHER DIN127 M4
5	--	NUT DIN934 M4
6	DAR-272	BRACKET, target camera
7	--	FLAT WASHER DIN125 M4
8	--	SPRING WASHER DIN127 M4
9	--	NUT DIN934 M4
10	DAR-271	TARGET CAMERA
11	DAR-263	BAKELITE WASHER
12	--	SCREW UM1001 M4X8
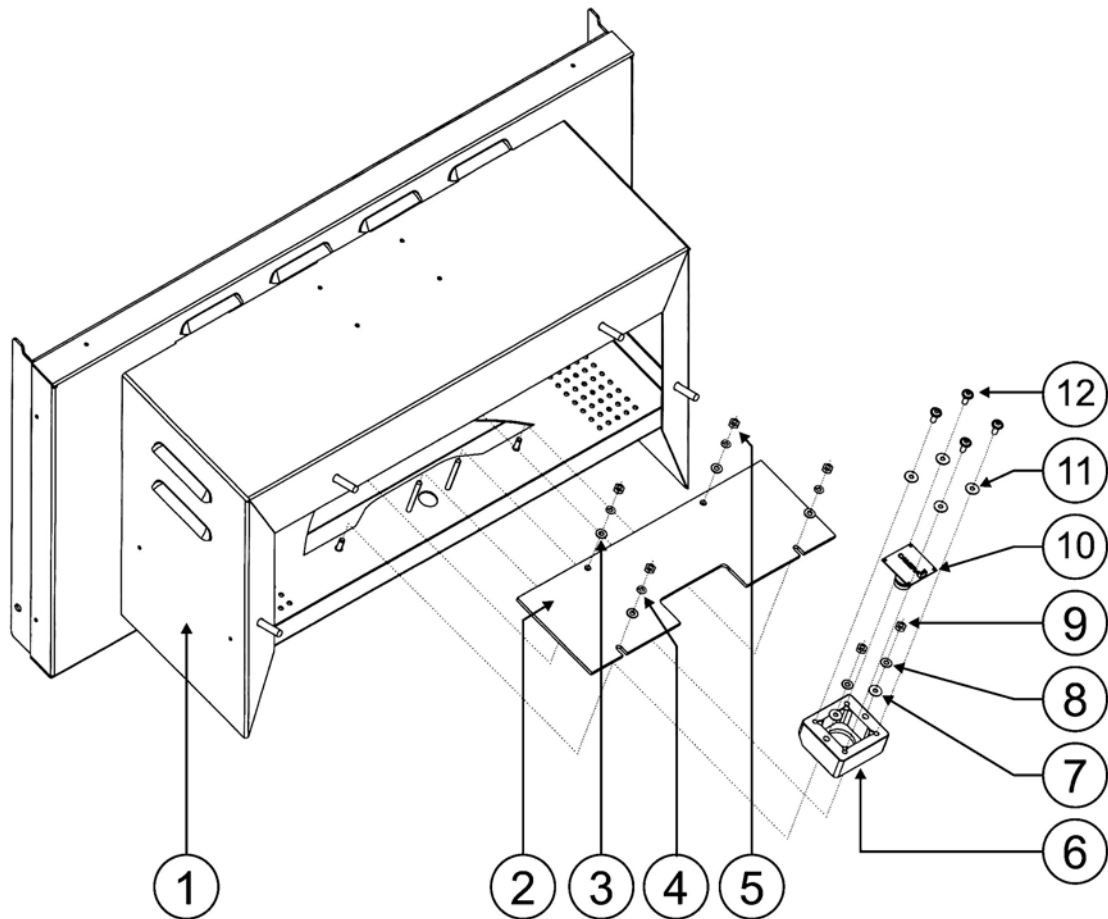
14. WIRING DIAGRAM

Technical service and maintenance must be carried out by qualified staff.

No modifications shall be made to the machine unless these have been approved by the manufacturer in writing. Failure to observe this requirement may cause damage and will automatically render the guarantee null and void.
Do not attempt to repair the CPU. It contains sensitive chips that could easily damaged. Always return the CPU to your distributor for any repairs.

If any task needs to be performed which is not described in this manual, please contact the distributor for instructions. The manufacturer declines any liability for damage and injury arising from failure to comply with this requirement

14.1 PCB LAYOUTS

Considering that the wiring diagram of the RADIKAL DARTS machine is quite complex, the layout of the related PCBs would be helpful when tracking the wires which connect one PCB to other. Please refer to the following layouts when consulting the general diagram placed at the end of this section.
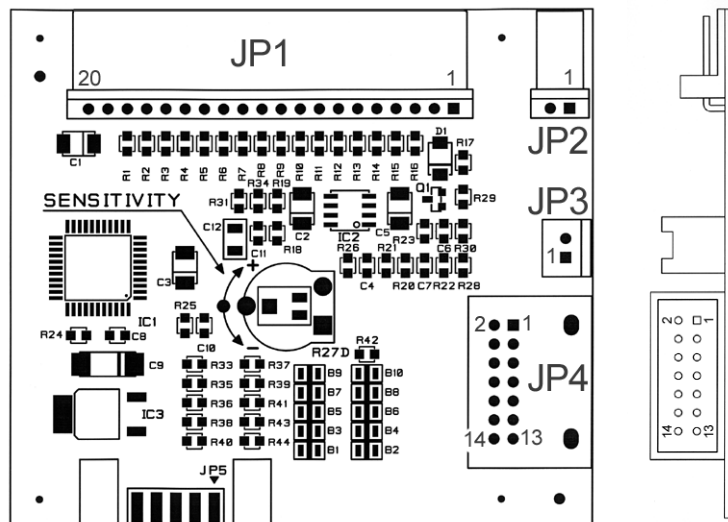
INTERCONNECTION PCB   (DAR-352)
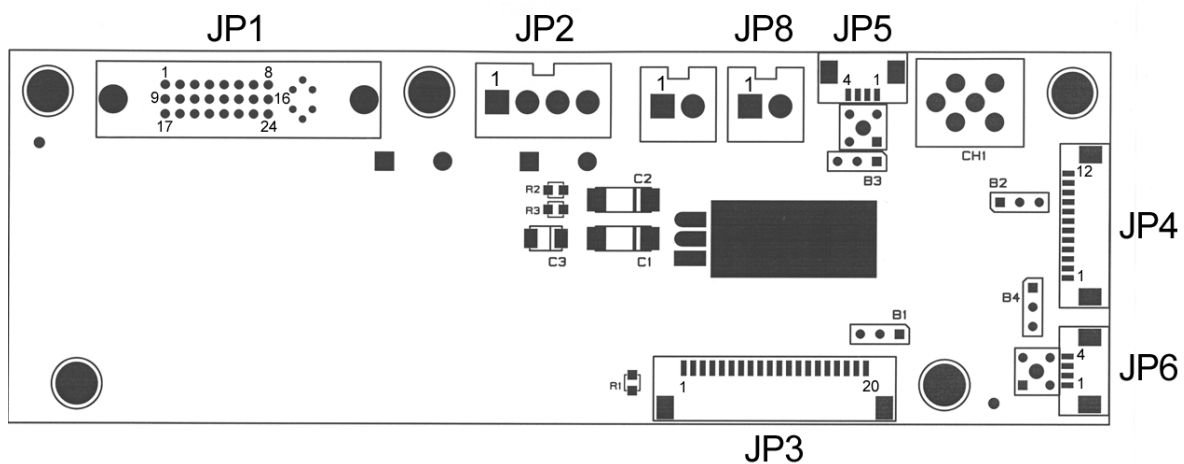
CONNECTOR	CONNECTION
JP1	CPU
JP2	POWER SUPPLY
JP3	TFT SIGNALS
JP4	TFT POWER SUPPLY
JP5	TARGET CAMERA
JP6	FRONT CAMERA
JP8	HALOGEN LAMP

TEST PCB   (DAR-354V)
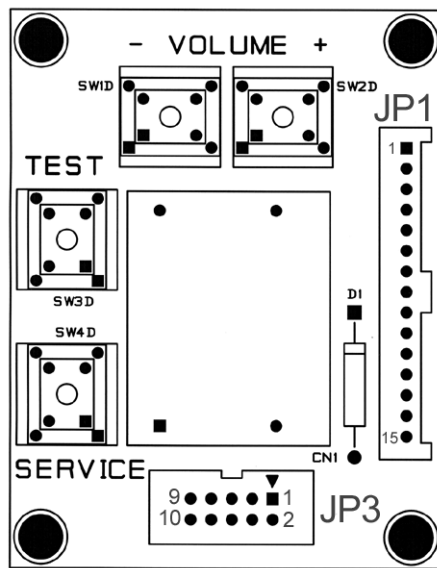
CONNECTOR	CONNECTION
JP1	TARGET CONTROL
JP3	COIN ACCEPTOR

TARGET CONTROL PCB   (DAR-353)

CONNECTOR	CONNECTION
JP1	SWITCH MATRIX
JP2	DART SENSOR (FILM)
JP3	DART SENSOR (CERAMIC)
JP4	CPU & TEST

FRONT PCB OF THE CPU   (FRONTDAR)
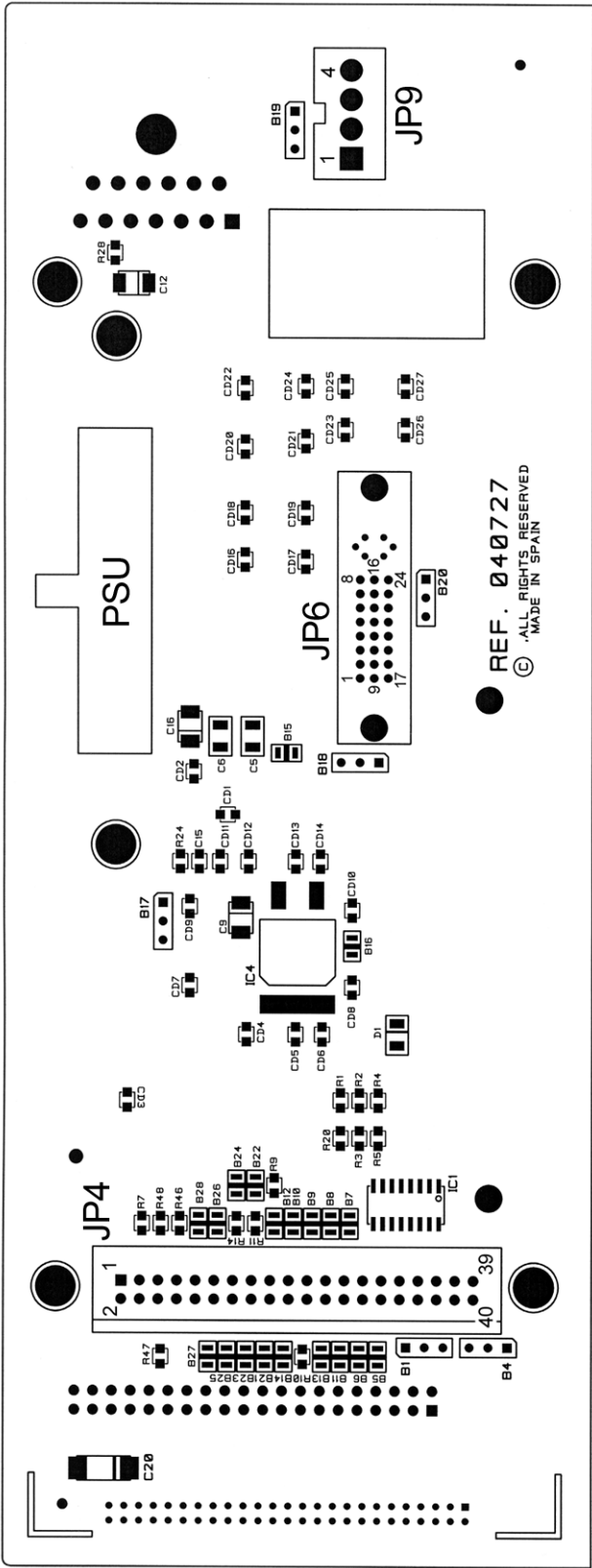
CONNECTOR	CONNECTION
JP4	SIGNALS
JP6	INTERCONNECTION PCB
JP9	LOUDSPEAKERS
PSU	CONNECTOR FROM THE PSU

DISPLAY PCB   (DAR-320)
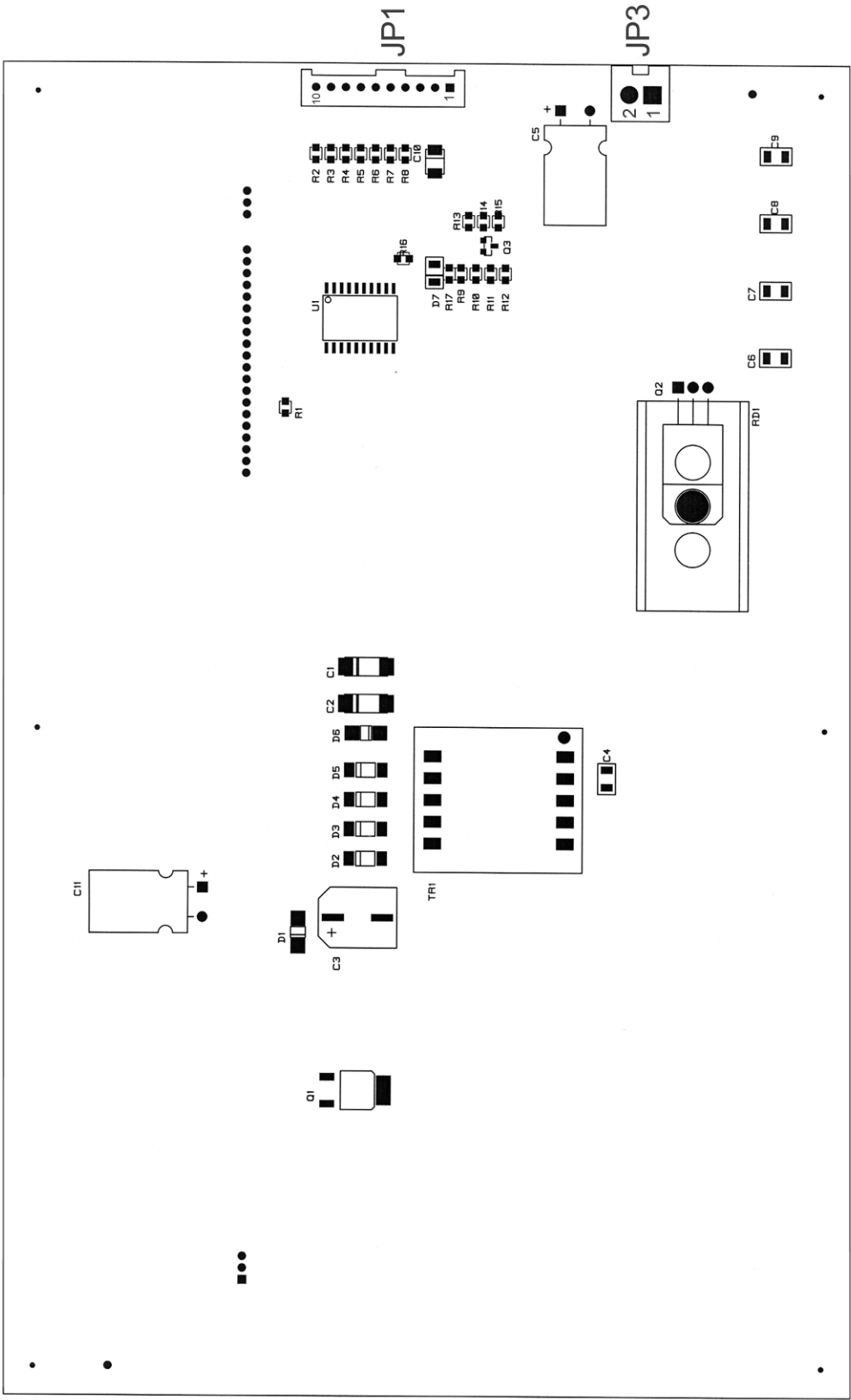
CONNECTOR	CONNECTION
JP1	CPU SIGNALS
JP3	POWER SUPPLY