

## Disassembling the unit

### Tools and instruments

For the technical operations on **MyLab 70** and **Gold Platform** units (**now all indicated as MyLab-only in case of differences will be indicated the long name**), like the installing steps, opening the system, operations on the boards, we suggest the kind of instruments and tools, which are necessary:

- star screwdriver set
- flat screwdriver set
- allen spanners set;
- ratchet spanners set;
- digital multimeter

NOTE: All the operations described in the following pages must be done with the unit switched off, and with the power cord disconnected. When it will be necessary to connect the line voltage to the unit, it will be specified in the notes.

#### **PROTECTION AGAINST ELECTROSTATIC DISCHARGES**

Opening and servicing MyLab it's necessary to keep attention to the electrostatic sensible devices. In the unit are contained several boards and single components that can be damaged with electrostatic discharges.

In the chapter 10 are listed all the sensible parts and are indicated the procedures to handle them.

## FIRST ELECTRICAL CONNECTIONS- PERIPHERALS ELECTRICAL CONNECTIONS

To start the unit it's necessary to connect the power supply cable and to turn on the main power switch on the unit.

They are positioned in the lower backside of the unit (see next pictures).

Also it's necessary to connect the supply from the Mains Power group to the SPS.

This is possible due to one auxiliary plug on the system, which supplies the SPS.

With one electrical cord the system's auxiliary plug is connected to the plug on the SPS board and sends to this board the line voltage (115 or 220 Vac).

All the plugs are accessible from the backside of the unit.

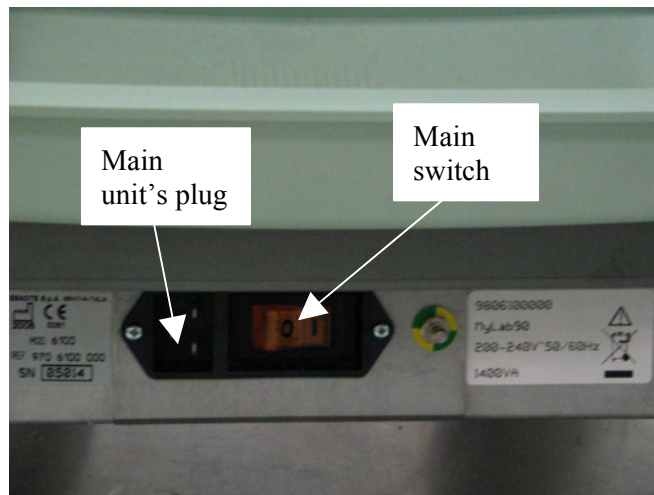


Figure 1.

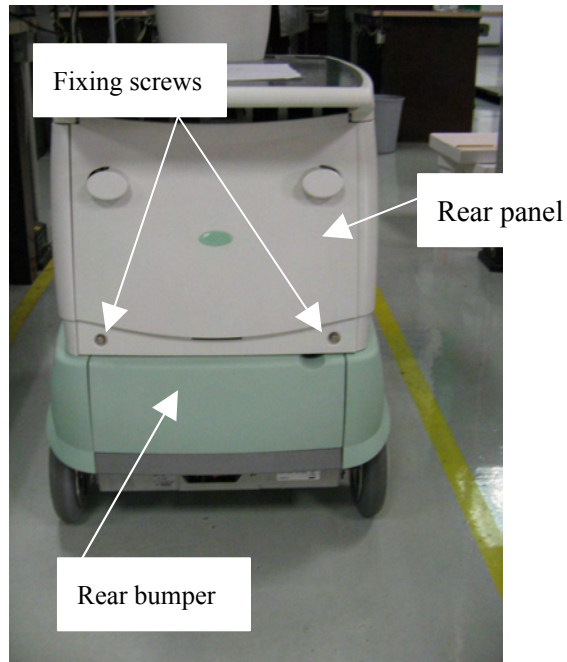


Figure 2.

It's necessary to open the rear panel and the rear bumper.

For the backside panel it's sufficient to turn 90 degrees the two backside fixing screws and to raise it from the bottom; the panel will remain opened.

The same for the backside bumper; it's sufficient to rise up and to open it as shown.

One of the four auxiliary plugs is used to supply the monitor (as shown in the next figure).

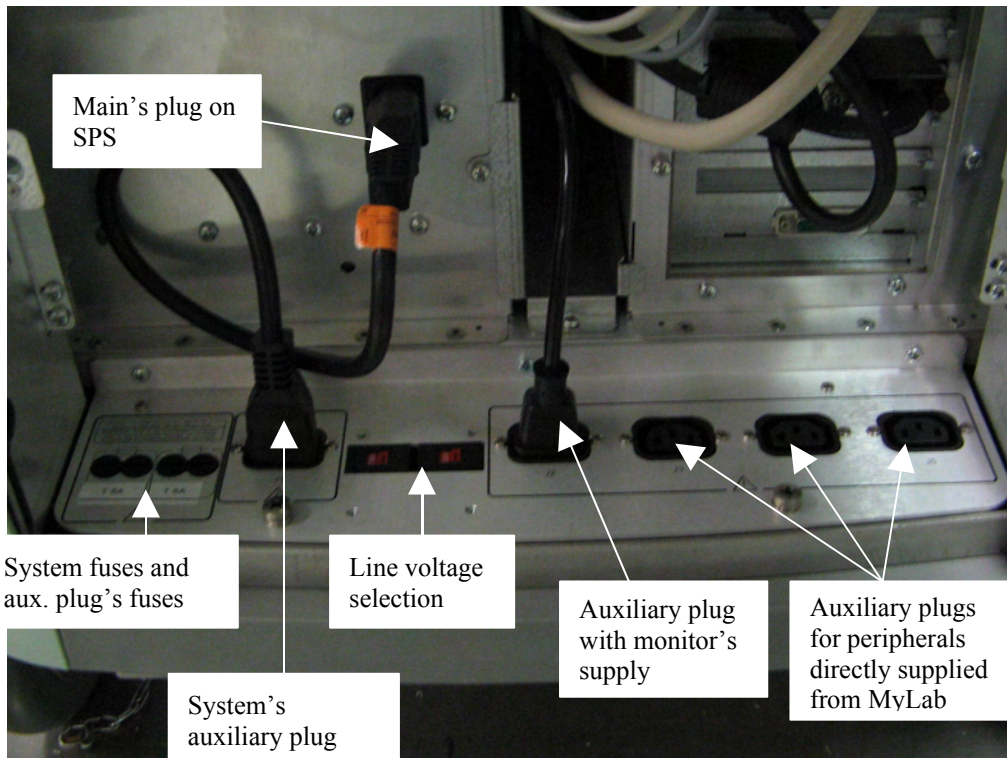


Figure 3.

The line voltage selectors, when the unit is set, are covered with a metallic plate in order to protect them, against not desired modifications (see figure Figure 4). On the panel is indicated the voltage set.

To access to them it's sufficient to unscrew the four screws which fix it.



Figure 4.

## HOW TO REMOVE THE PLASTIC PANELS

### Left and right side panels:

The mentioned plastic panels are not fixed with screws to the unit. To remove them it's sufficient to pull them gently. Proceed in the following way:

-raise the rear panel in order to keep better the two lateral panels

-pull the panels gently they are fixed with four pins which match four holes on the metallic chassis.

On the two sides there is the access to the system's board and to the PC group

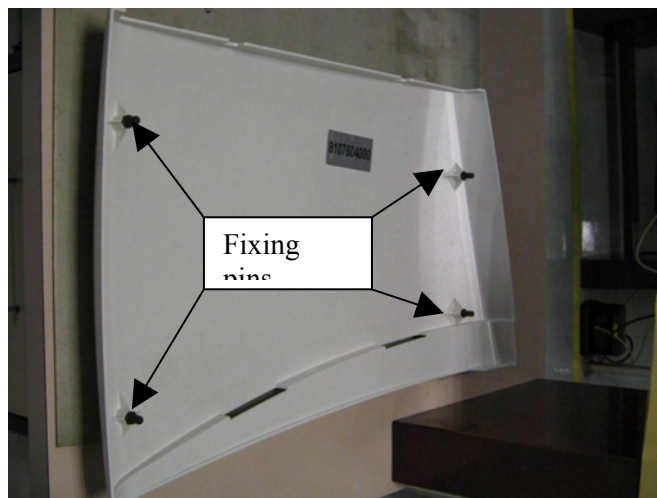


Figure 5. Left panel code 8107604000

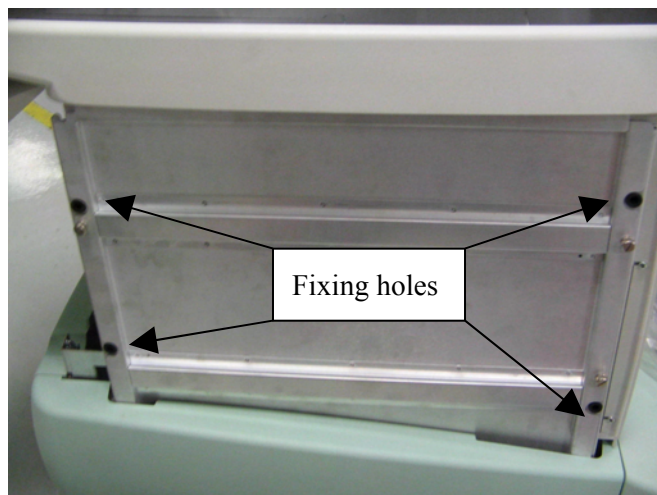


Figure 6.

To insert the panels it's sufficient to match the pins with the holes and to push gently the panel until it's fixed.

**Lateral bumpers:**

The plastic panels they are not fixed with screws to the unit.

The holding system is the same of the left and right panels: four pins on the bumper that matches four holes on the metallic chassis.

To remove the lateral bumper it's necessary to remove first its lateral panel, then pull gently the bumper until the fixing pins are out from the holes

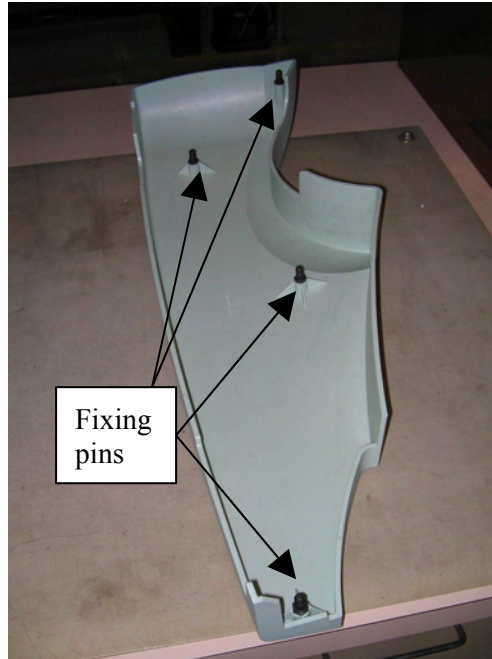


Figure 7. Left bumper code 8107600000

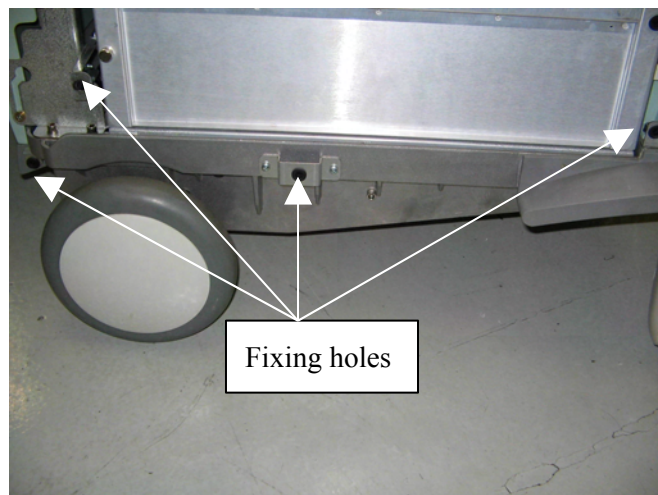


Figure 8.

To insert the bumper it's sufficient to match the pins with the holes and to push gently the bumper until it's fixed.

**Upper group MyLab 70:**

the upper group is composed by one superior metallic panel, which covers the plastic top cover. Under this metallic panel are positioned the cables to hold the peripherals to the system.

The metallic cover it's fixed to the plastic panels with four little magnets.

To remove it it's sufficient to raise it.

On the two sides there are two little metallic insert, also fixed with other two magnets.

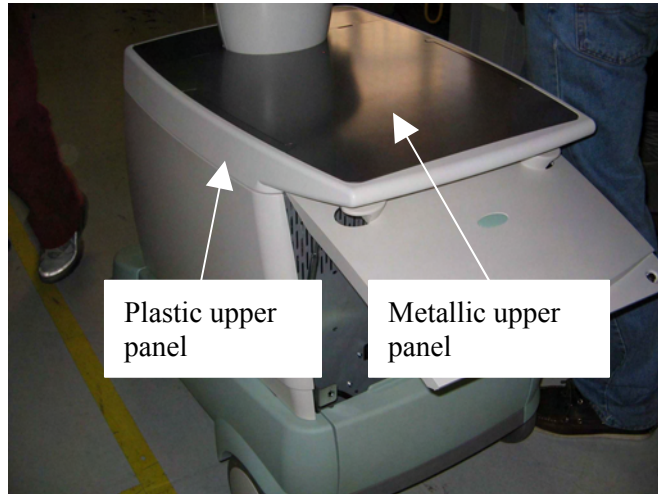


Figure 9.

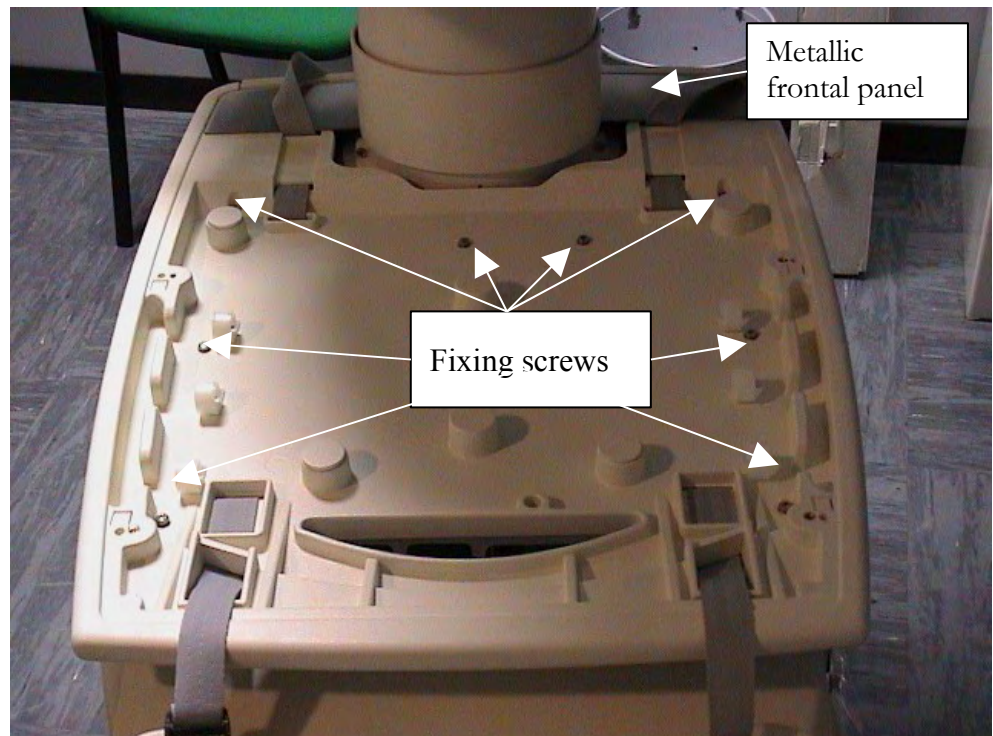


Figure 10.

To remove the plastic panels there are some screws which fix it to the metallic frame

The procedure to remove it is the following:

-Remove the screws which are accessible removing the metallic top cover (see Figure 11)

-remove the 2 screws which fix the little metallic panel placed in the frontal part. The two screws are accessible from the bottom (one in the left and one in the right side) so it's necessary to remove the left and right lateral panels (see next picture)



Figure 11.

After it's possible to remove the plastic upper cover, sliding it from the bottom.



**Upper group MyLab Gold Platform:**

the upper group for the MyLab Gold Platform is composed in the same way of the MyLab 70 but it's fixed in a different way.

The metallic cover it's fixed to the plastic panels with four little magnets.

To remove it it's sufficient to raise it.

On the two sides there are two little metallic insert, also fixed with other two magnets.

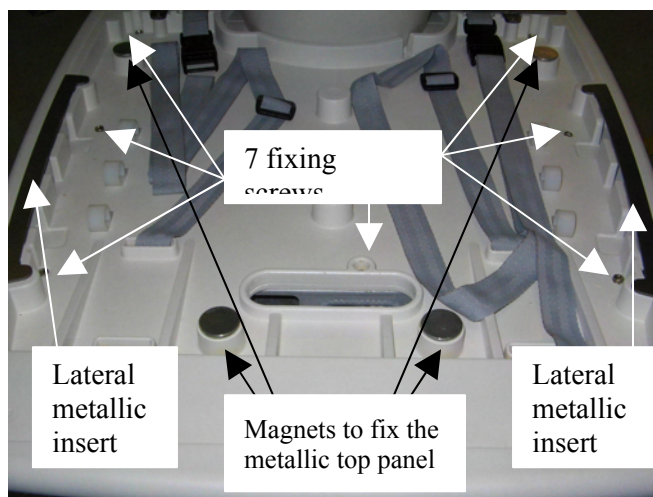


Figure 12.

To remove the plastic panels there are twelve screws which fix it to the metallic frame

The procedure to remove it is the following:

-Remove the seven screws which are accessible removing the metallic top cover (see Figure 12)

-remove the 4 screws which fix the plastic shells for the column (see the next pictures).

The rear shell covers another fixing screw, unscrewing the plastic basement it's free and it's possible to remove it from the backside.

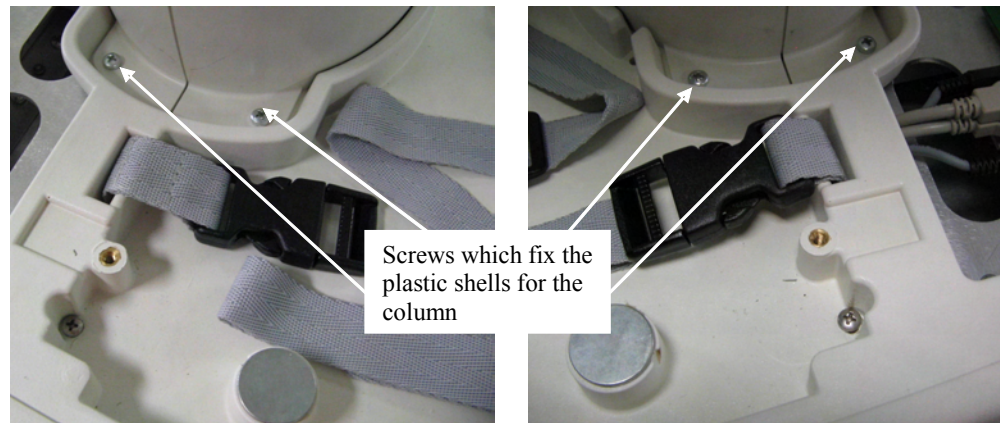


Figure 13.

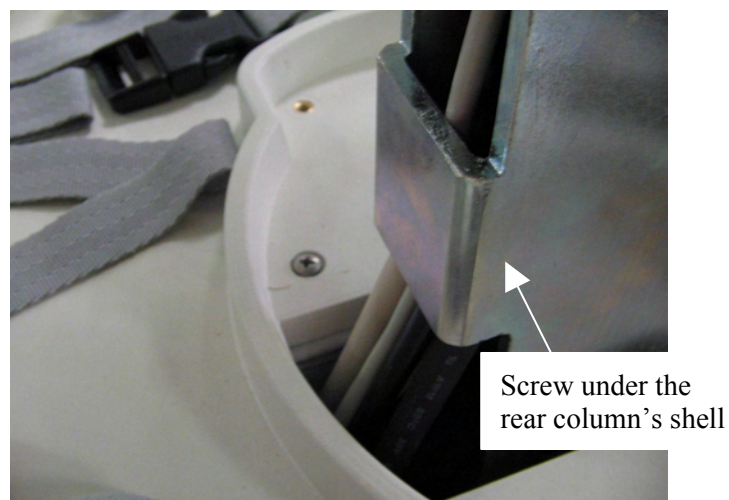


Figure 14.

**Frontal panel:**

the frontal panel is fixed to the unit with six screws: two for every side and two in the upper part of the panel

To remove it it's necessary proceed in the following way:

remove the left and right plastic panels to access to the lateral screws

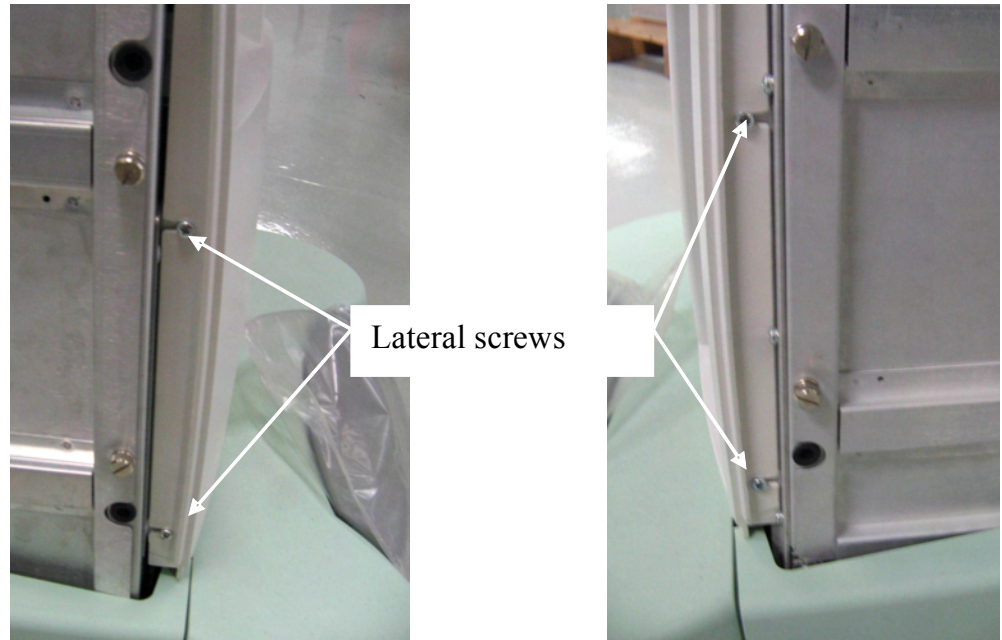


Figure 15.

To access to the upper screws it's necessary to remove the little metallic cover positioned in the frontal part of the unit.

The first step is to remove the metallic cover (as described before). Without the big metallic cover it's possible to access to the two screws which fix the little metallic cover (see next image).

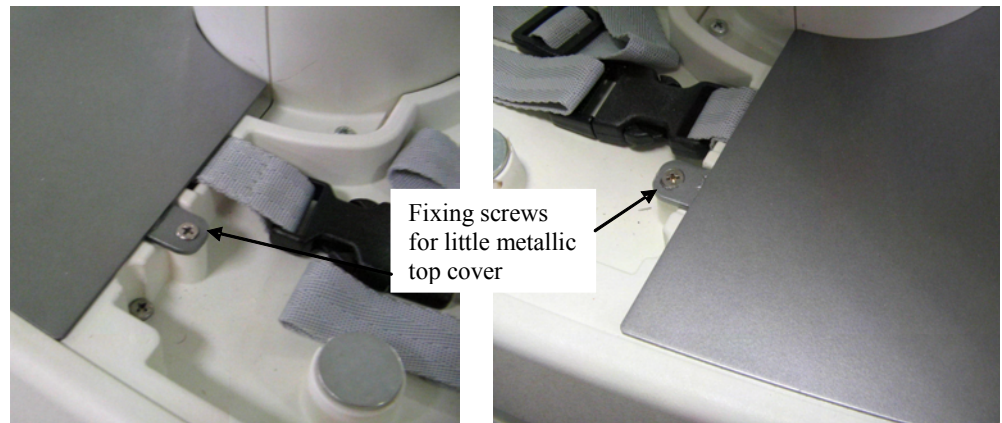


Figure 16.

Removing the little metallic cover, it's possible to access to the two upper screws which fix the frontal plastic panel (in the picture is indicated the MyLab Gold Platform unit, for the MyLab 70 the fixing screws are positioned in a different way)

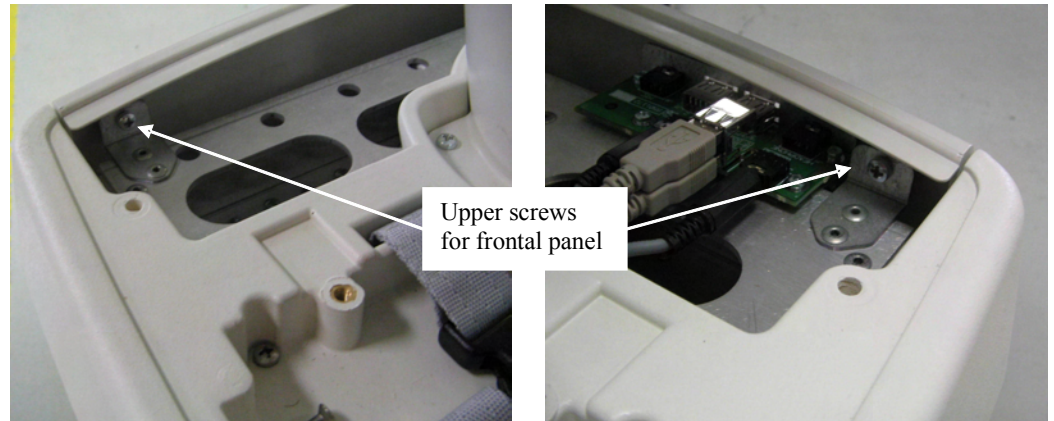


Figure 17.

**Keyboard's plastic:**

To remove it it's necessary to remove the complete keyboard group.

See in the next paragraphs how to do it.

**Rear panel:**

The rear panel is fixed with pins in the upper part and it's possible to raise it due to one little metallic fork fixed to the panel with two screws.

To remove the panel the procedure is the following:

-Unscrew the two screws that fix the fork to the panel

-push the top part of the panel, in order to remove the plastic pin of the panel from the metallic guide (form both the left and right sides)

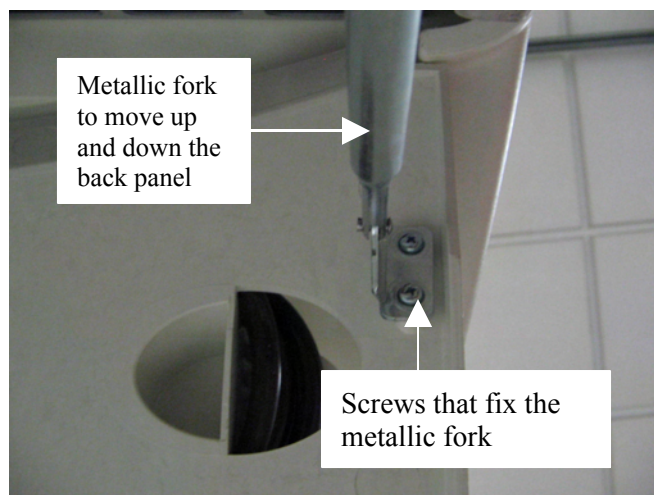


Figure 18.

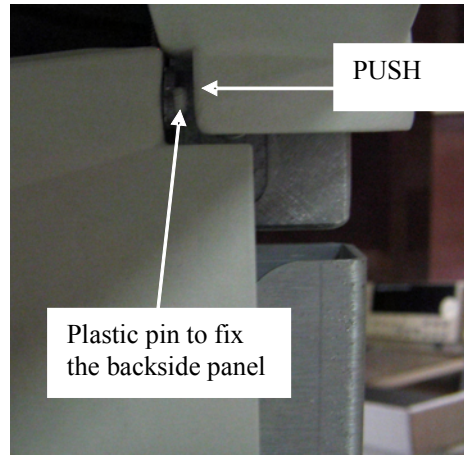


Figure 19.

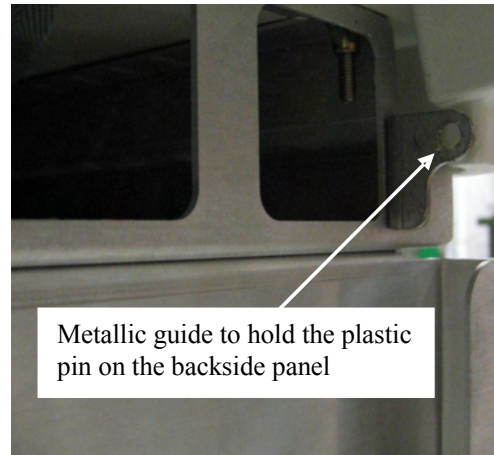


Figure 20.

**Speakers' panel:**

To remove it it's necessary to remove the complete display group.

See in the next paragraphs how to do it.

## HOW TO OPEN THE UNIT

To open the unit, in order to approach the internal boards, it's necessary to remove the lateral plastics (left and right) and the lateral bumpers (left and right as well).

From one side there will be the access to the PC group, on the opposite side to the system's boards.

The access to the internal part of the unit is protected from two metallic panels, fixed to the chassis with four screws.

Removing the metallic panels it's possible to access to the system's boards and to the PC group.

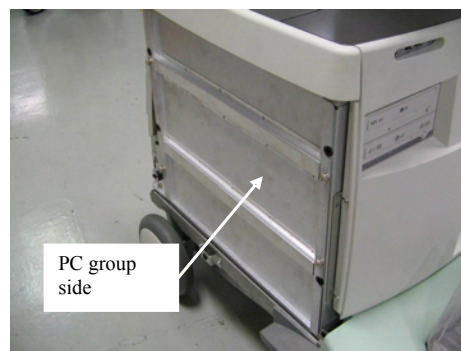


Figure 21.

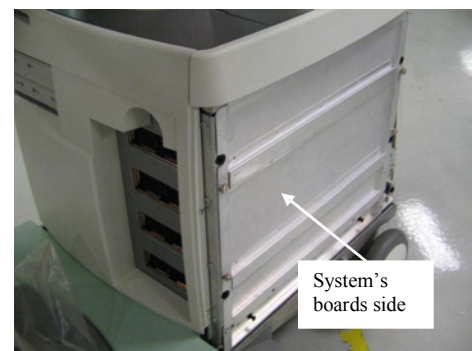


Figure 22.

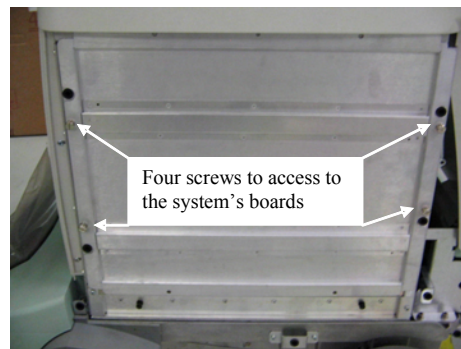


Figure 23.

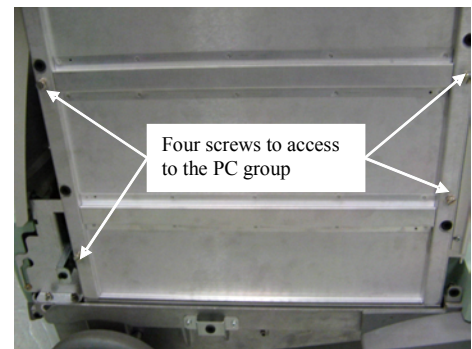


Figure 24.

### HOW TO REMOVE THE BOARDS

The procedure to remove the boards it's almost the same for all.

There are some differences for the ICS, the SPS and for the PC group (with all the boards which compose it).

For all the other boards it's necessary to remove the plastic and the metallic lateral panels.

The boards are blocked inside the chassis with two metallic stops (one in the upper side and one in the lower).

It's sufficient to open them and to raise the two plastic levers and the board will be removed form its connector.

In the next picture are shown all the blocking systems.

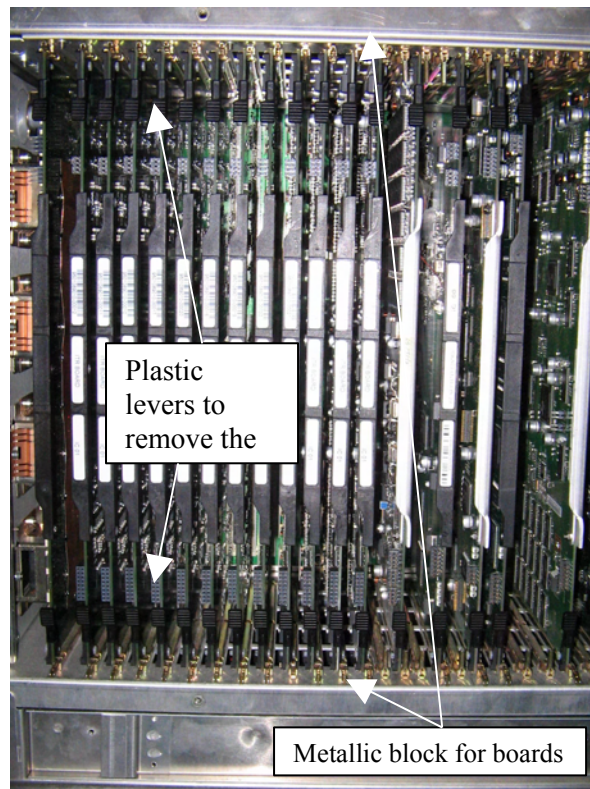


Figure 25.

In the next figure is indicated the position of every board of the unit on the main bus.

To insert the boards in the system, is necessary to fit them into the right slit; paying attention that the two lateral tracks placed in the inner part of the slit must match the board and that the two lateral blocks of the board are risen.

The board must slide slowly inside the unit until it is almost completely inserted. Fix it pushing the two lateral blocks of the board.

ICS
ITR 1
ITR 2
ITR 3
ITR 4
ITR 5
ITR 6
ITR 7
ITR 8
ITR 9
ITR 10
ITR 11
ITR 12
ICC
IMC
DIP
DCP
DEP
FREE SLOT FOR FUTURE UPGRADE
BSC
FREE SLOT FOR FUTURE UPGRADE
BLC
SPR
SPS

Figure 26.: MyLab70 and MyLabGold Platform (DEP is optional for MyLab70 units)



### HOW TO REMOVE THE ICS

To remove the ICS the steps are the following:

- remove the frontal plastic panel and the lateral panels (plastic and metallic)
- remove the lateral support; this part is fixed with four screws (see next picture)
- remove the eight frontal screws which fix the ICS to the frontal frame

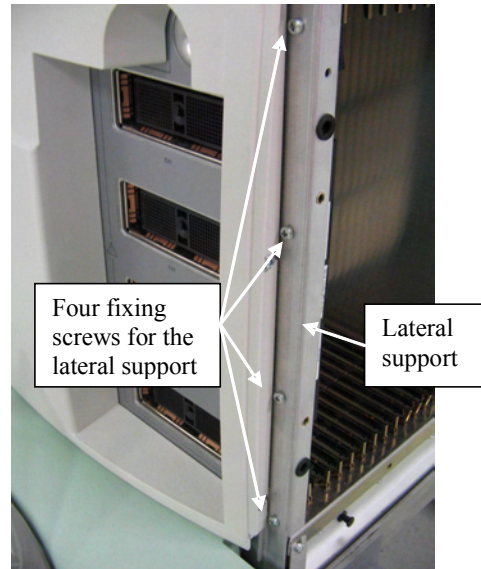


Figure 27.

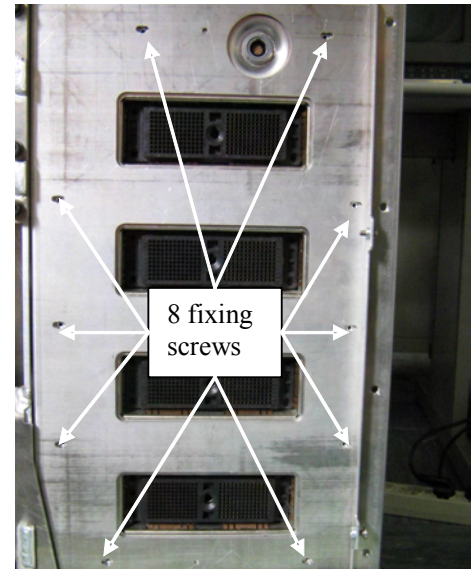


Figure 28.

-Now the ICS is blocked inside the chassis only with the two metallic stops (one in the upper side and one in the lower).

It's sufficient to open them and to raise the two plastic levers and the board will be removed from its connector.

### HOW TO REMOVE THE SPS

The line voltage supplies the mentioned board, so it's not possible to operate on it with the system on.

All the operations have to be performed with unit off.

It's also necessary to wait few minutes, in order to permit to the internal capacitor to lose the charge and to avoid electrical shocks.

The part is protected with a metallic frame, in order to avoid shocks.

The procedure to remove it is the following:

-remove the metallic protection frame pulling it

-remove the rear cord, which supply the line voltage to the SPS board.

-remove the two screws on the rear part of the unit which fix the SPS to the metallic chassis

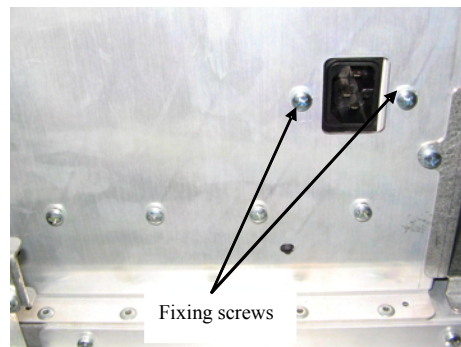


Figure 29.

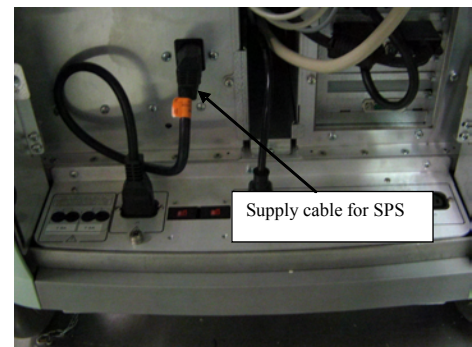


Figure 30.

Now the SPS is blocked inside the chassis only with the two metallic stops (one in the upper side and one in the lower).

It's sufficient to open them and to raise the two plastic levers and the board will be removed from its connector.

## HOW TO REMOVE THE PC GROUP

The following board composes the PC group:

PC motherboard, AKCP, VCP, video board (external board not integrated on the PC motherboard), PVA, Frame grabber, PLC and PSE (with ECG inside).

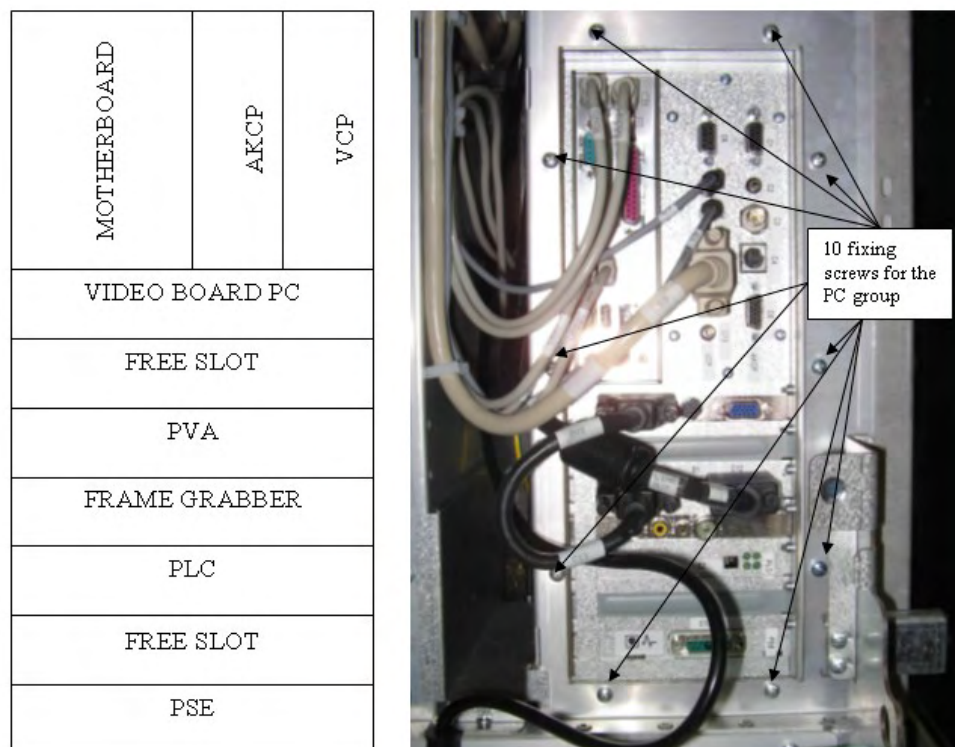


Figure 31.: Backside view of the PC group

To remove the PC group the procedure is the following:

- remove the lateral plastic panel and bumper and the metallic panel which covers the PC group

- raise the rear panel to access to the cables connected to the group

- disconnect all the rear cables of the PC group: mouse, alphanumeric keyboard, 3 USB connectors and the audio IN from microphone on the PC motherboard, the supply for the keyboard and display group and the audio out for headphones (connector C7) on the AKCP board and the video cable for the monitor (connector C12 on the PVA) and other cables eventually connected (peripherals, ECG...)

- unscrew the ten screws on the backside panel which connect the PC group to the metallic chassis (see Figure 31)

- disconnect the internal flat cables that connect the PC group to the main bus of the unit (two on PSE, one to the PLC and another on the PVA) and the audio cable, as shown in the next pictures

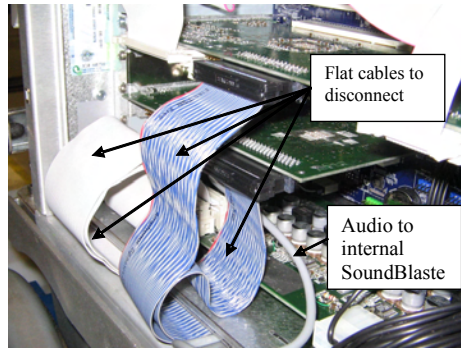


Figure 32.

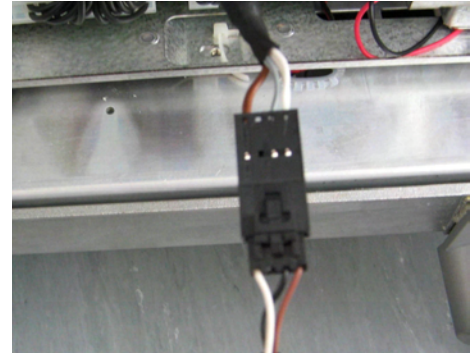


Figure 33 (audio connection).

-disconnect the two cables which supply the upper fan (connected to the AKCP) and the lower group of fan (connected to the PSE).

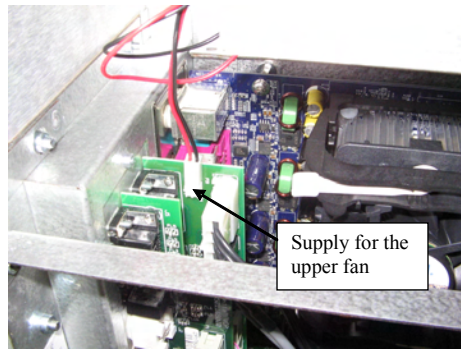


Figure 34.

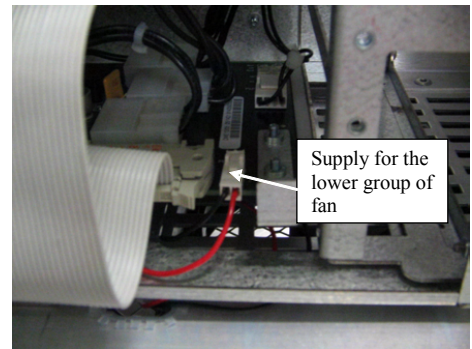


Figure 35.

-remove the IDE and the supply cables from the 5" ¼ peripherals

-unscrew the two internal screws which fix the metallic chassis of the PC group to the unit (see next pictures)

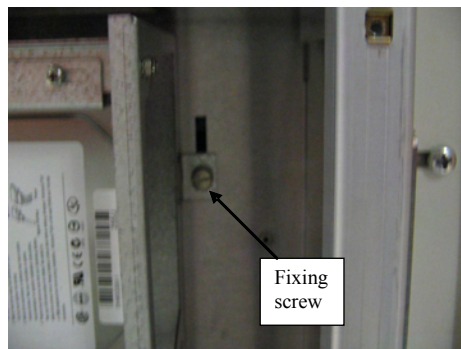


Figure 36.

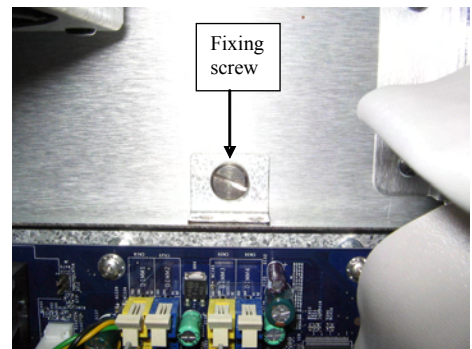


Figure 37.

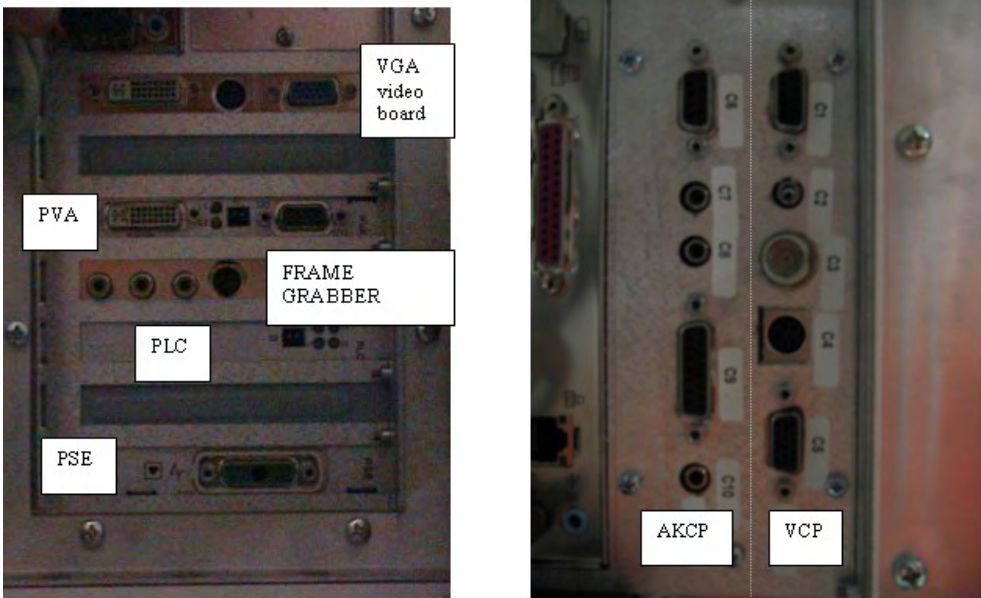


Figure 38.: backside view of the PC group without cables

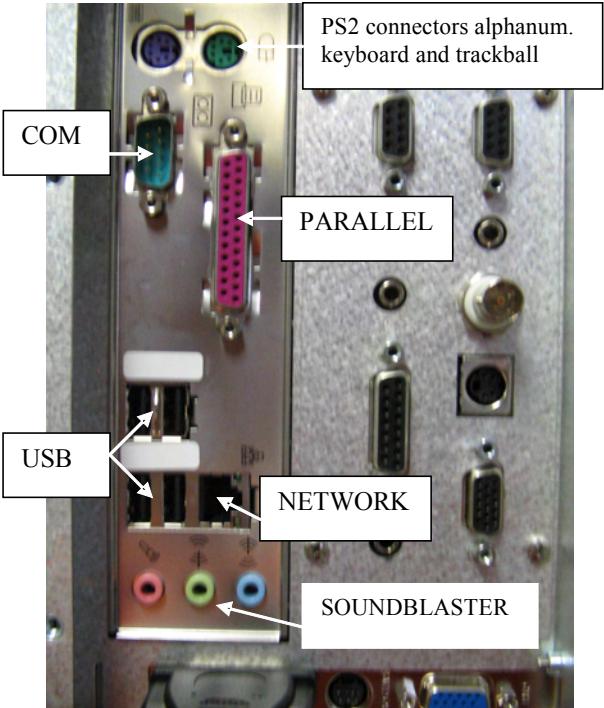


Figure 39.: backside view of the PC group without cables

### HOW TO REMOVE THE ECG BOARD

The ECG is integrated on the PSE board (inside the PC group), so it's necessary to remove the PSE.

The steps are the following:

- remove the lateral plastic panel and bumper and the metallic panel which covers the PC group
- raise the rear panel to access to the cables connected to the group
- remove the ECG cable from the connector
- remove the metallic block for the boards from the metallic chassis (see next picture)
- disconnect all the cables connected to the PSE board (2 flat cables, one cable which supplies the lower group of fan, one flat between the PSE and PVA, all the supply cables for the part of the PC group), the flat connected to the PVA and PLC and the audio cable to the PC motherboard (se previous point)

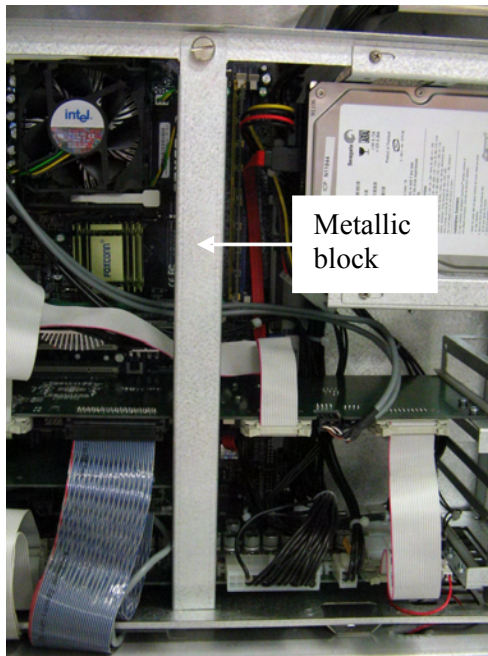


Figure 40.

- unscrew the two screws which fix the board to the PC chassis and remove it.

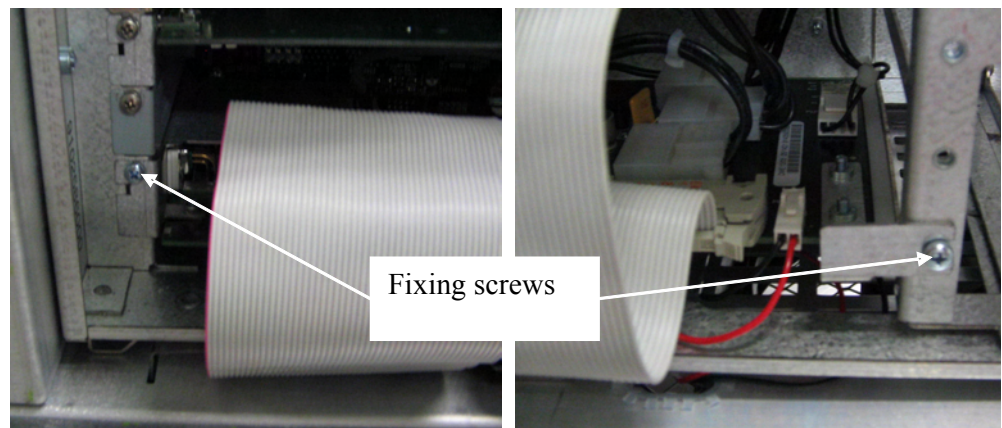


Figure 41. fixing screws for PSE board

### HARD DISK

The Hard Disk drive is positioned inside the PC group.  
The necessary steps to remove it are the following:

- remove the lateral left panels (plastic and metallic)
- disconnect the cables connected to the device (supply and serial-ata cables)
- unscrew the four screws which fix the support of the HDD to the PC group and remove it
- unscrew the HDD from its metallic support

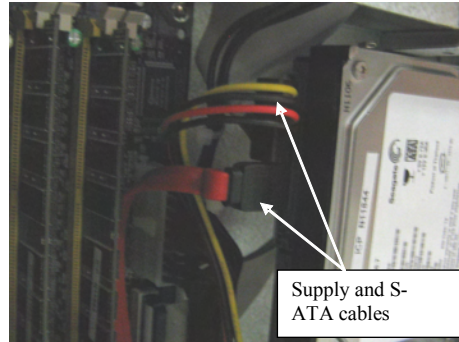


Figure 42.

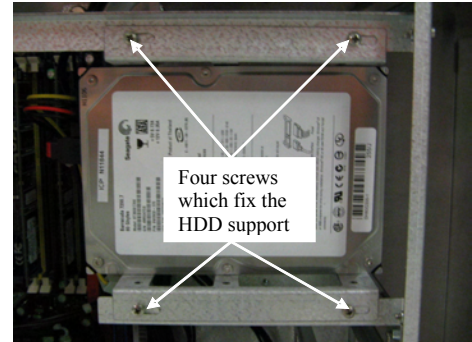


Figure 43.

**REMOVE 5" 1/4 PERIPHERALS**

The 5" 1/4 peripherals are accessible from the PC group.  
The necessary steps to remove them are the following:

- remove the lateral left panels (plastic and metallic)
- disconnect the cables connected to the device (supply and IDE cables)
- unscrew the four screws which fix the support of the HDD to the PC group and remove it

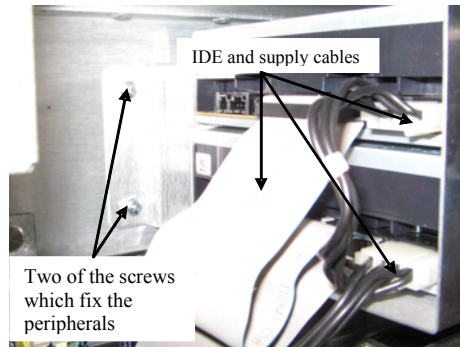


Figure 44.

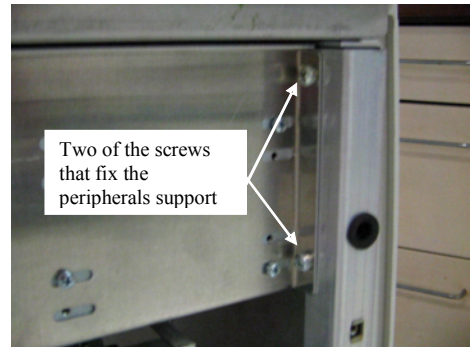


Figure 45.

- unscrew the peripherals from its metallic support



## KEYBOARD GROUP

To replace the keyboard group it's necessary to remove nr. 9 screws positioned below the keyboard.

Figure 46, Figure 47, Figure 48 and Figure 49 show the mentioned screws.

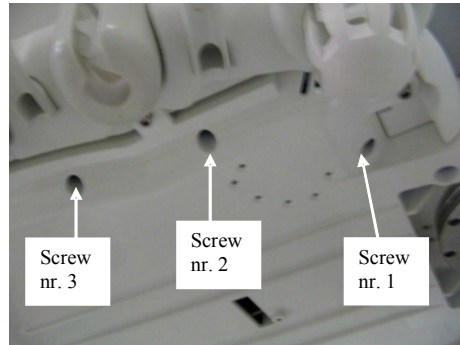


Figure 46. lower right side

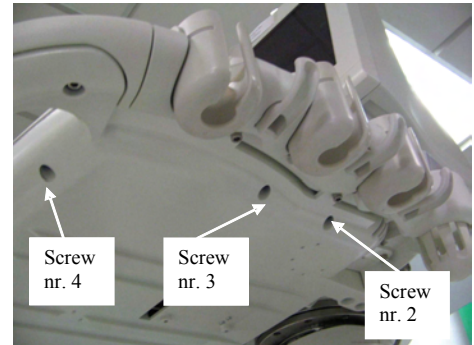


Figure 47. lower right side

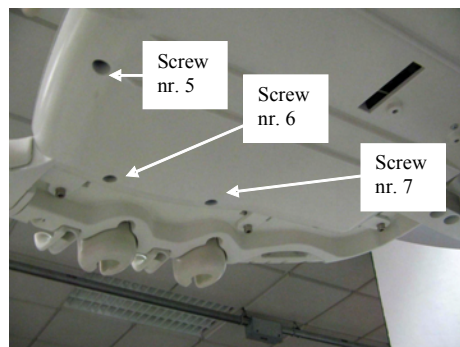


Figure 48. lower left side

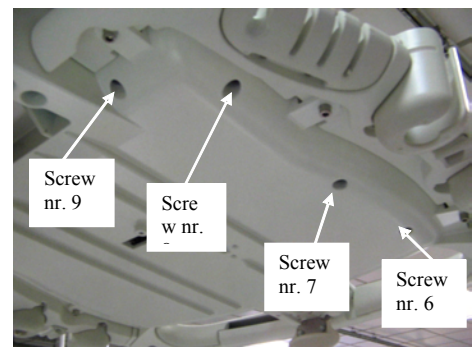


Figure 49. lower left side

Rising the part it's necessary to proceed carefully, because two flat cables connect the keyboard group to the display group.

Figure 50 and Figure 51 show the flat cables and the connectors on the keyboard group.

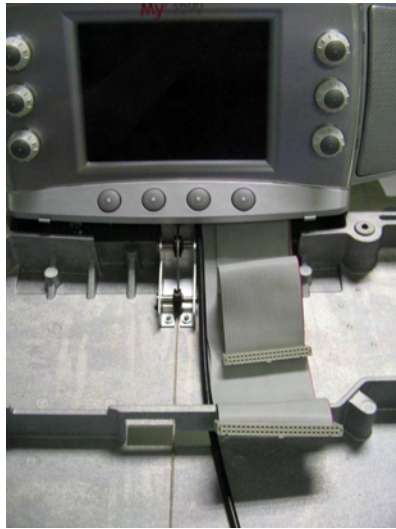


Figure 50. the flat cables

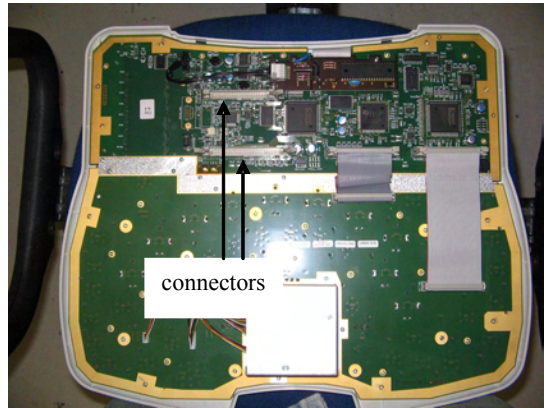


Figure 51. the two connectors

### TRACKBALL

To access the trackball zone it's necessary to remove first the keyboard group (see previous point).

After unscrew the four screws indicated in the next pictures and disconnect the two cables connected to the side of the trackball.

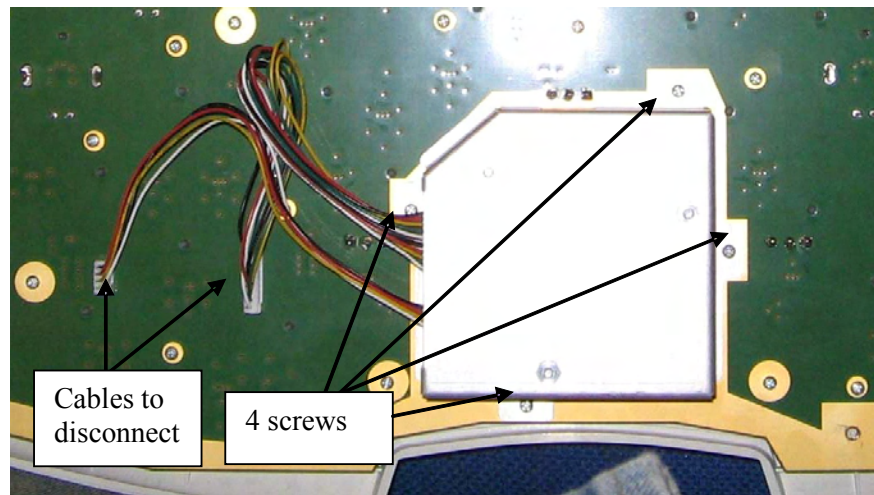


Figure 52.

## DISPLAY GROUP

To remove the display group it's necessary to proceed in the following way:

- remove the monitor in order to access to the plastic panel that covers the speaker and the backside of the display group
- remove the plastic panel unscrewing the five screws which fix it to the unit (see next pictures)

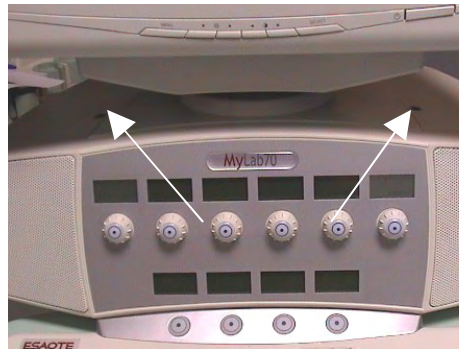


Figure 53.



Figure 54.

- remove all the cables connected to the display group: nr.2 PS2 cables for keyboard and mouse, the supply cable for the keyboard group, the USB cable for all the commands, the two flat cables which connect the keyboard group to the display group and the speaker's cables in the two upper sides

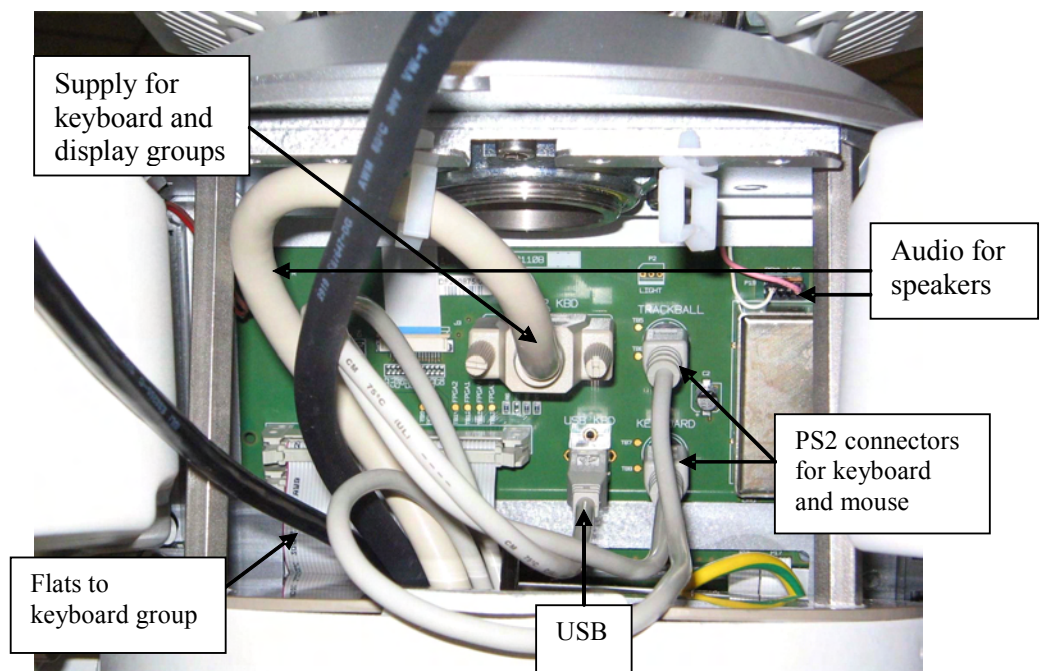


Figure 55.

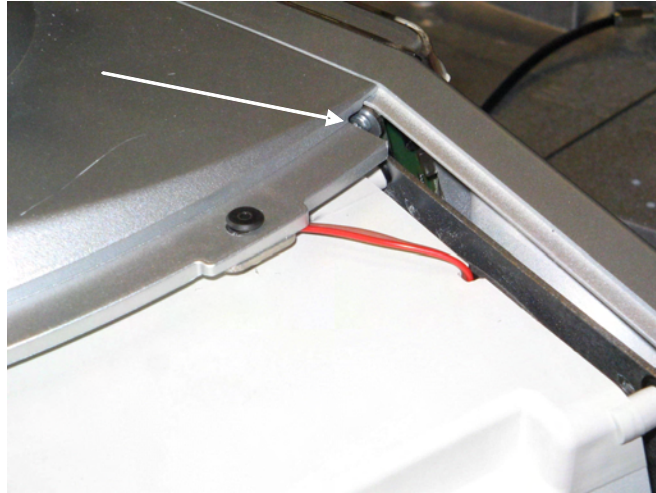


Figure 56.

-remove the six screws which fix the display group to the metallic chassis. Removing the mentioned screws the display is free, so it's necessary to keep attention do not fall down the part.

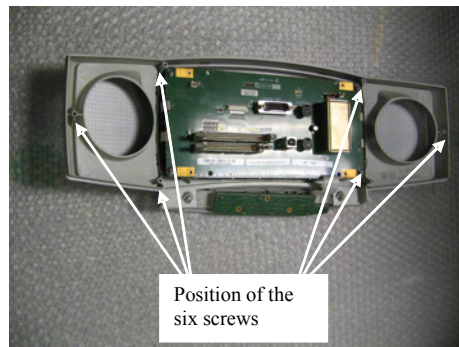


Figure 57.

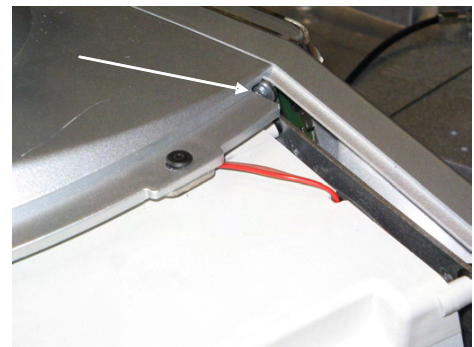


Figure 58.

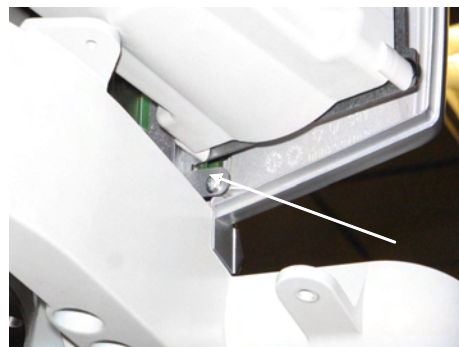


Figure 59.

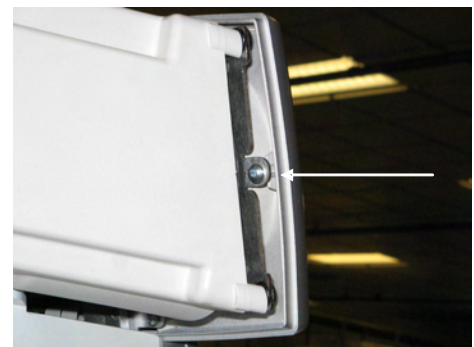


Figure 60.

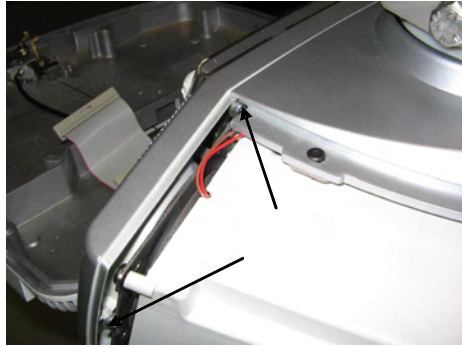


Figure 61.

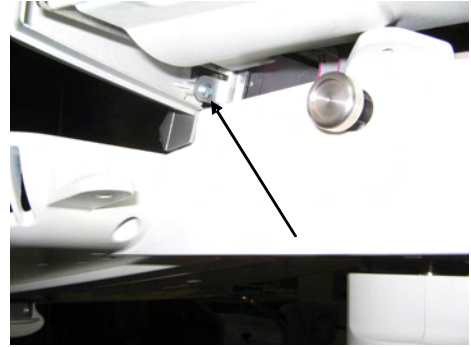


Figure 62.

## SPEAKERS

To remove the speakers it's necessary to remove first the display group.  
In this way it's possible to access to the two speakers.  
Every speaker is fixed to the metallic chassis by four screws.  
The audio cable is connected to the display group (as shown before).  
Unscrewing its four screws it's possible to remove every speaker.

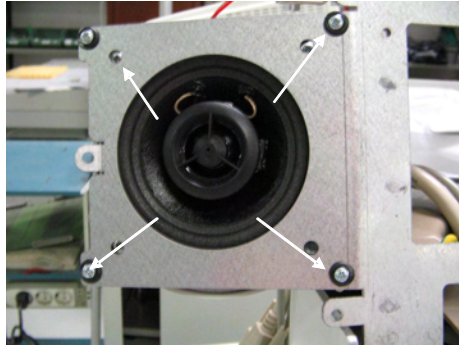


Figure 63.

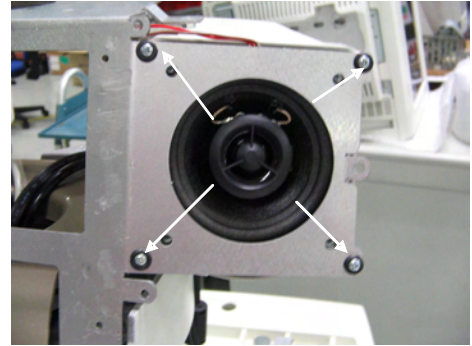


Figure 64.

## MONITOR

To insert the monitor proceed in the following way:

-place the monitor to the metallic basement shown in the next figure. Keep attention that the holes in the monitor's basement match the pins on the metallic basement

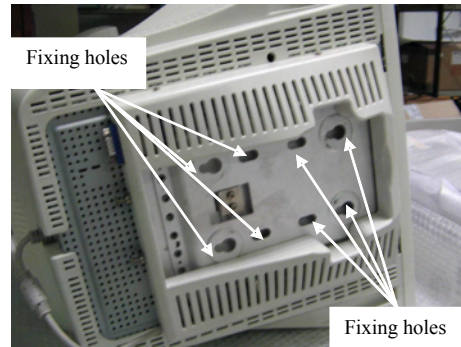


Figure 65.

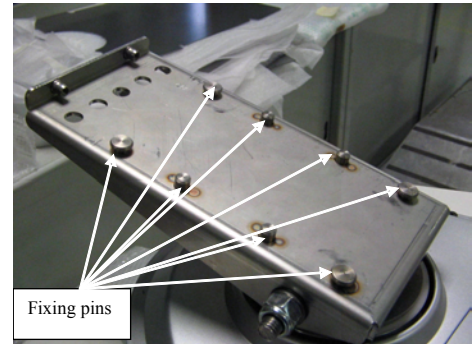


Figure 66.

-Slide the monitor from the backside to the frontal side keeping attention that it's correctly positioned and the matching pins entered in the holes

-Fix the monitor to the metallic basement of the unit with the two backside screws turning them 90 degrees

-Connect the power supply and the video cables

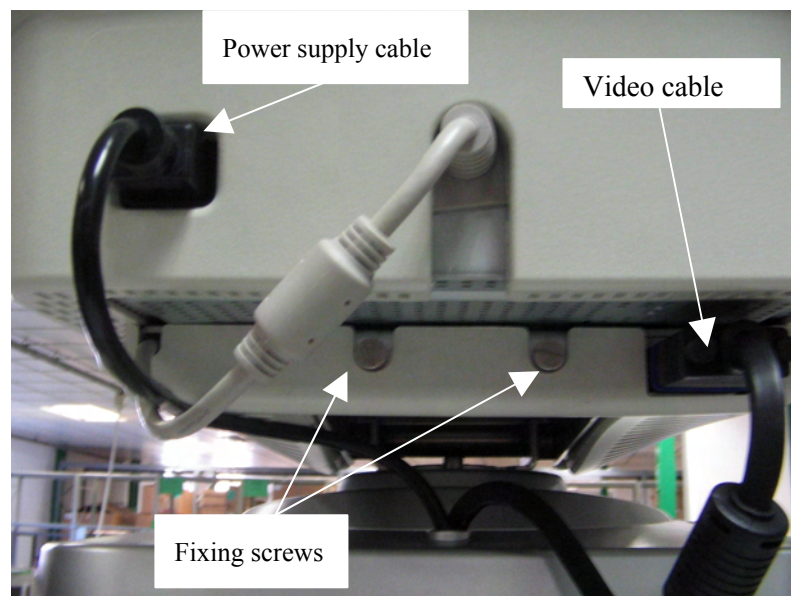


Figure 67.

To remove the monitor proceed vice versa:

- Disconnect the power supply and the video cables
- Unscrew the fixing screws (shown in Figure 67) and slide the monitor to the backside.
- Raise the monitor and remove it keeping attention



## WHEELS

To remove the wheels it's necessary to rise the system and to leave it in a safe position.

The wheel has to be free.

The procedure is different from the frontal or the rear wheels:

### Frontal wheels

Unscrew the four allen screws which fix the wheel to the metallic chassis (see figure)

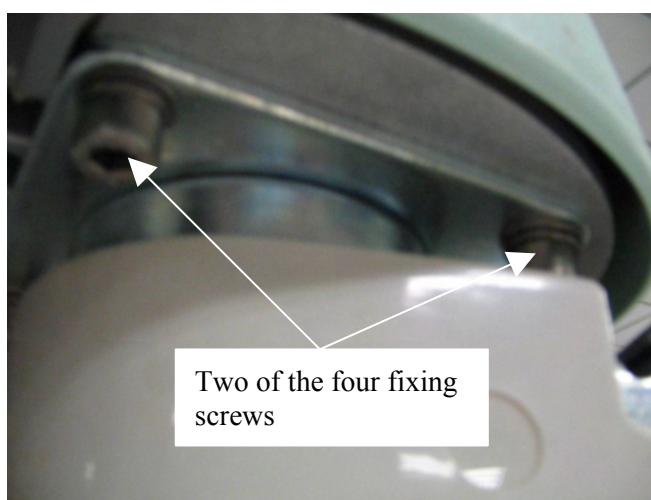


Figure 68.

### Rear weels

-Remove the plastic cover that it's pushed (on the plastic cover there are 3 pins that match some holes on the wheel

-remove the fixing washer which fix the wheel and remove it

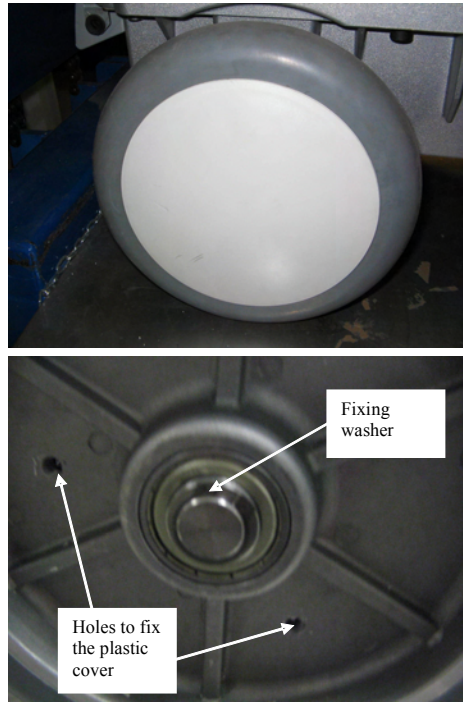


Figure 69.

Figure 70.

## SYSTEM'S FAN

In the system are present the following fan:

One upper fan for the PC group and one group of fan, positioned in the lower part of the unit, under the board for all the system's boards.

### Upper fan

-open the unit to access to the PC group, then to disconnect the cable which supply the upper fan (connected to the AKCP)

After unscrew the four screws which fix the metallic holder to the chassis of the unit

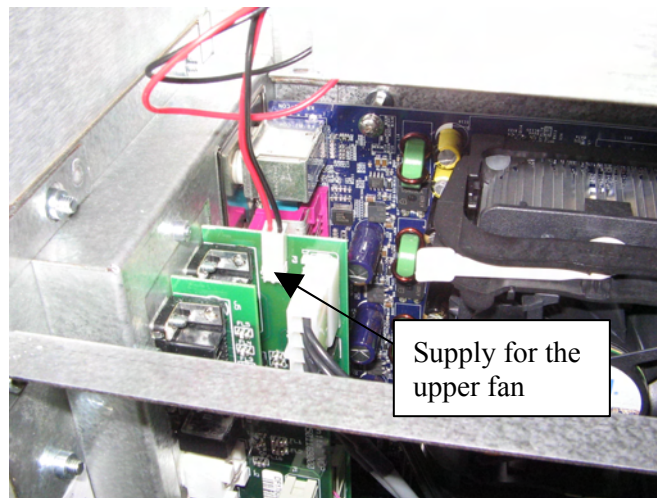


Figure 71.

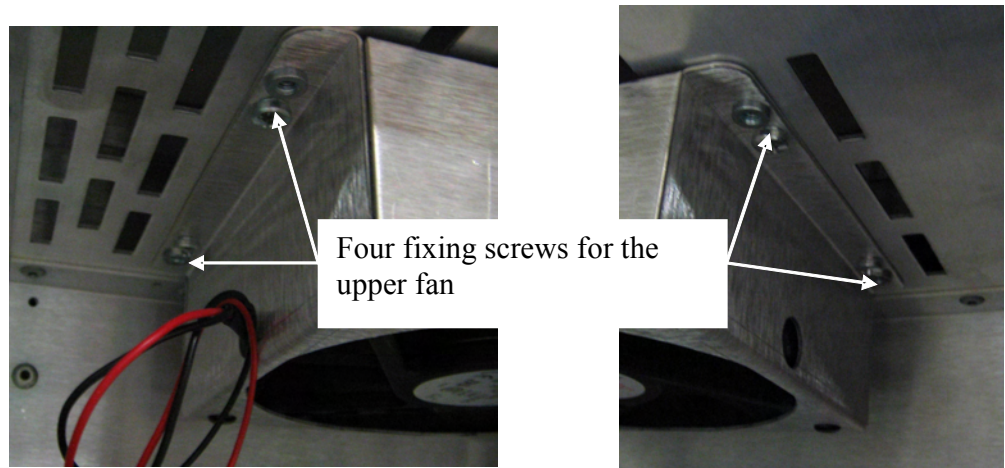


Figure 72.: fixing screws

#### **Lower fan group**

-remove the right plastic panel and the lateral bumper to access to the system's board, then unscrew the two screws which fix the metallic panee that holds the lower group of fan  
slide the panel (there is a guide inside the system) to remove the group, keeping attention to the supply cable.  
Disconnect it and remove the group.

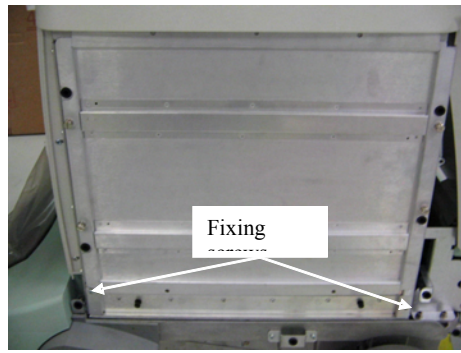


Figure 73.



Figure 74.