

CABINA S40

AUDIOMETRIC TEST BOOTH

USER MANUAL

S40 AUDIOMETRIC TEST BOOTH*** USER MANUAL *****Rev. 1.05****CONTENTS**

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**PRODUCT ACCORDING TO
93/42/CEE Medical Device Directive
Class I**

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Date June 2011**

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1. INSTRUCTIONS FOR USE AND INSTALLATION

1.1. INTRODUCTION

The SIBELMED S40 AUDIOMETRIC TEST BOOTH has been designed by the R+D Department of SIBEL S.A. using the newest acoustic isolating materials, and it has been certified by an international standard referenced laboratory: L.G.A.I. (Exp. N° 21.006.926).

The SIBELMED S40 is an individual chamber that it attenuates the sound waves from outside. This characteristic of sound attenuation permits to perform audiometric test in conditions of environmental noise such it is specified to do these tests in some standards. (See ANSI S3.1 and ISO 8253-1 standards)

The booth has door with lock, a window that permits the patient to see the operator and viceversa. The booth also has a comfortable internal light and all the connections needed to interconnect an audiometer with all its accessories.

1.2. PREVIOUS OBSERVATIONS

This booth has been manufactured following strict quality control tests. However, accidents may occur during transport and storage, so it is advisable to check the apparatus and complemenatry accessories over before installation.

WARNING

IF ANY DAMAGE IN THE PACKAGING IS FOUND, CONTACT THE TRANSPORT AGENCY AND DISTRIBUTOR IMMEDIATELY BEFORE PROCEEDING TO INSTALL THE APPARATUS. DO NOT DISPOSE OF PACKAGING, BAGS ETC. UNTIL THE CORRECT FUNCTIONING OF THE APPARATUS HAS BEEN THOROUGHLY CHECKED.

WARNING

DO NOT STORE THE AUDIOMETRIC BOOTH UNMOUNTED. DOING SO MAY CAUSE DEFORMATION OF THE PANEL, AND THE PRODUCT WOULD NOT BE COVERED BY THE WARRANTY.

REMOVAL OF WASTE FROM ELECTRICAL AND ELECTRONIC APPLIANCES BY DOMESTIC USERS IN THE EUROPEAN UNION



This symbol on the product indicates that you cannot dispose of **the electric part of this product** with domestic waste.

However, any removal of this type of waste is the responsibility of the user, so the panel and the electric part of the booth must be disassembled and must be taken to a designated collection point for the recycling of electrical and electronic appliances. The separate recycling and collection of this waste at the time of removal will help preserve natural resources and ensure that recycling protects your health and the environment.

Should you require further information on the places where you can leave this waste for recycling, contact the local authorities in your town or city, the domestic waste management service or the distributor who sold you the product.

The audiometric test booth has the following units and accessories:

CODE	QTY.	DESCRIPTION
501-700-000	1	SIBELMED S40 TEST BOOTH
305-350-030	1	MAINS CONNECTION CABLE
501-700-MU1	1	USER'S MANUAL
501-750-001	1	AUDIOMETER-BOOTH INTERCONNECTIONS (6)
119-330-010	4	WHEEL FOR S40 TEST BOOTH (OPTIONAL.)

Furthermore, the test booth is compound of the next units:

CODE	QTY.	DESCRIPTION
501-711-010	1	TRAY
501-711-030	1	SUPPORT COLUMN
501-741-040	1	BASE PANEL
501-720-000	1	FRONT PANEL
501-741-010	1	SIDE PANEL
501-731-010	1	DOOR FRAME
501-731-020	1	DOOR
501-741-020	1	REAR PANEL
501-741-030	1	TOP PANEL

These codes could be used to order accessories and spare parts.

MANUFACTURER'S RELIABILITY

SIBEL S.A. will hold itself responsible for the safety, reliability and correct functioning of this device only when:

Reparations, servicing and modifications both inside and outside the warranty period are carried out by SIBEL S.A.'s technical personnel

Then equipment is used by qualified personnel and according to the recommendations in this User's Manual.

The set of **S40** Audiometric Test Booths has the following models:

S40 A (90x90x215 cm.)

S40 B (110x110x215 cm)

S40 C (125x125x215 cm)

S40 D (85x72x187 cm. For mobile units)

S40 E (135 x 135 x 215 cm)

S40 F (special measures)

1.3. CONTROLS, INDICATIONS AND CONNECTIONS

1.3.1. GENERAL VIEW

(Fig. 1.1)

N: 1
Front Panel

N: 2
Connection board for audiometer
and power mains.

N: 3
Tray

N: 4
Window

N: 5
Screws

N: 6
Top Panel

N: 7
Ventilation Slots

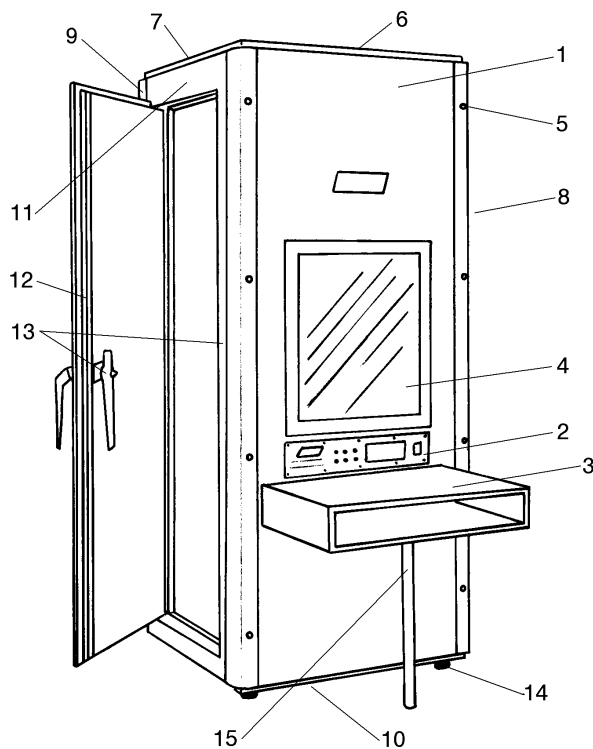
N° 8
Side Panel

N° 9
Rear Panel

N° 10
Base

N° 11
Door Frame

N° 12
Door



Nº 13
Door Lock

Nº 14
Rubber feet

Nº 15
Support Column

1.3.2 CONNECTION BOARDS (Fig. 1.2 and Fig. 1.3.)

Nº 16
Connections for the accessories of audiometer

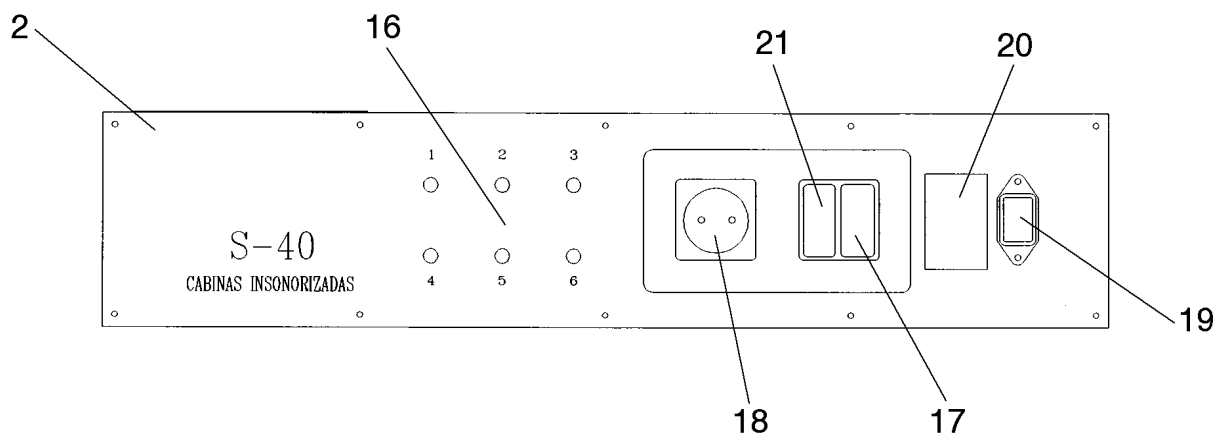
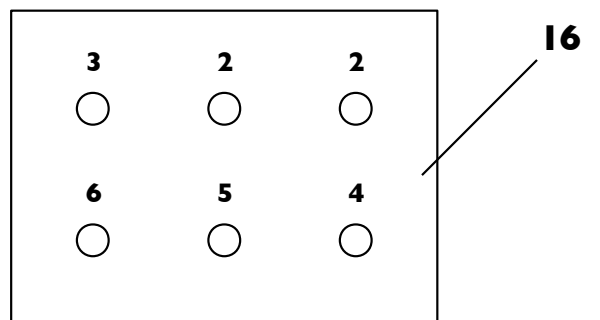
Nº 17
Light pilot of the main switch

Nº 18
Main power outlet for the audiometer

Nº 19
Main power inlet

Nº 20
Characteristics Board

Nº 21
Main switch



1.4. INSTALLATION AND STARTTING UP

1.4.1. INSTALLATION

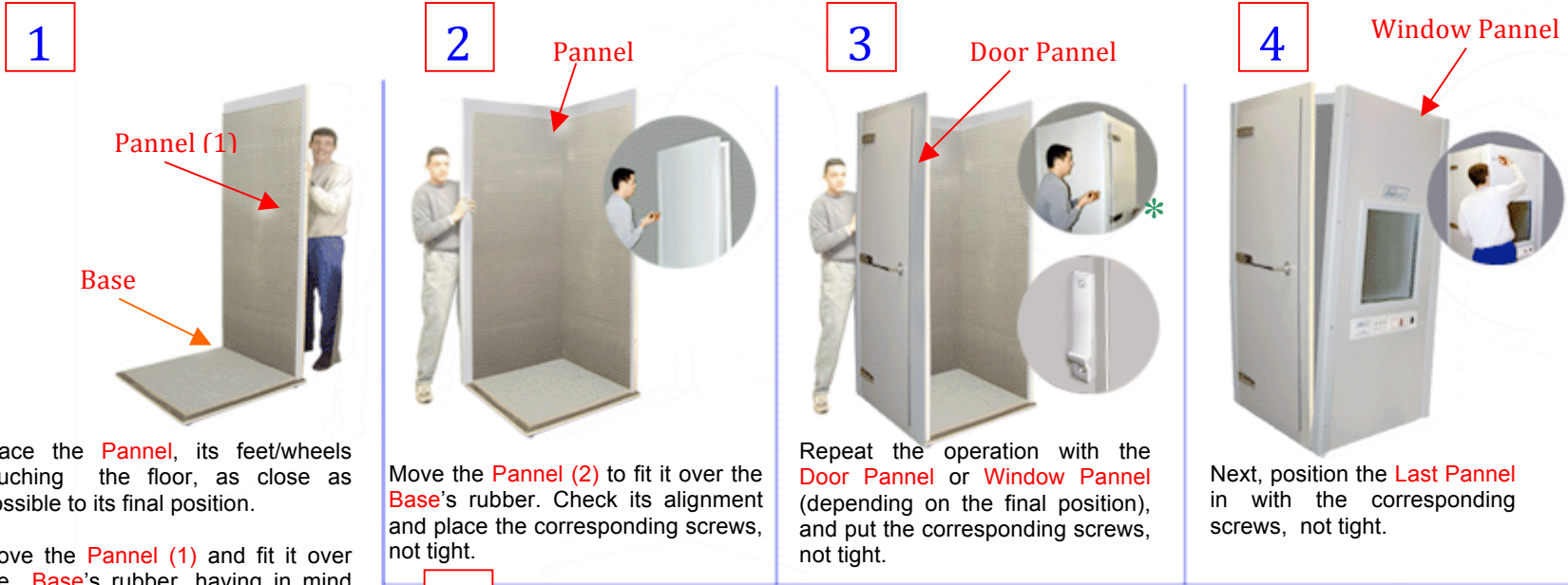
To perform the installation of the test booth it is a must to follow the next steps:

Choose the site where you are going to put the booth and its position. It means to choose where the front panel with its window and tray will be; and where the door will be and how it will turn (clockwise or anti-clockwise).

Note: Once the front panel is chosen, the rear panel must be put in the opposite side, and once the door is chosen, the side panel must be put in the opposite side.

The pictures of the next pages show the advisable sequence for the installation:

S 40 Booth Assembly Guide



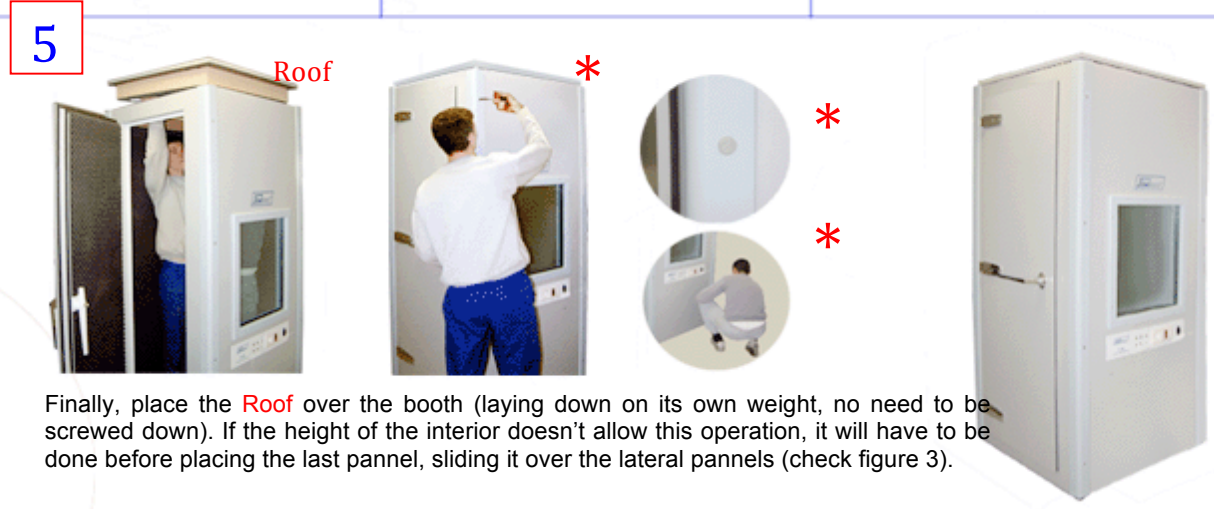
- 1) Place the **Panel**, its feet/wheels touching the floor, as close as possible to its final position.
- 2) Move the **Panel (1)** and fit it over the **Base's** rubber, having in mind the desired final position for the **Door Panel** and the **Window Panel**.

Move the **Panel (2)** to fit it over the **Base's** rubber. Check its alignment and place the corresponding screws, not tight.

Repeat the operation with the **Door Panel** or **Window Panel** (depending on the final position), and put the corresponding screws, not tight.

Next, position the **Last Panel** in with the corresponding screws, not tight.

Assembly Tools



Finally, place the **Roof** over the booth (laying down on its own weight, no need to be screwed down). If the height of the interior doesn't allow this operation, it will have to be done before placing the last panel, sliding it over the lateral panels (check figure 3).

To end up, tighten the screws definitely and insert the screw covers . *

NOTE:
If the door panel is not already mounted for transportation reasons or you wish to change the opening direction (fig.3), do as follows:

- (A) To change the opening direction turn the panel 180^a
- (B) To mount the door, face the door hinges with the **Panel** hinges and insert the bolts . End up fitting them with the help of a hammer.
- (C) Revise the position of the closing wedge (*), and invert it if needed.
- (D) Check that the door fits and can be properly closed.

S 40 Booth Assembly Guide

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- (A) Mount the closing (*) handle in the door, with the chromium-plated piece in the exterior part and screw together the hold-ups.
- (B) Introduce the middle screw in its hole, and next put the washer and the nut (do not tighten them too much so it can rotate freely).

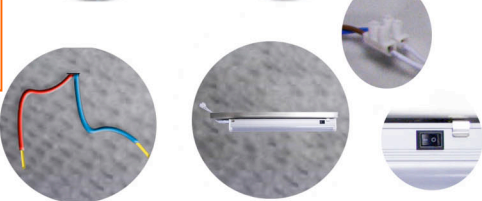
Screw down the hold-up pillar in the inferior part of the table and then install the table following the pictures sequence

7a



(a)* for conventional lamp

7b



(b)* For LED's lamp (optional)

(a) Connect the power cords, that are shown up inside the booth, above the window, to each of the terminal endings of the lamp socket's base. Put and fasten the cover of the lamp socket's base with the attached screws. Place the lamp on its base.

(b) Connect the wires to the terminal and hold the lamp to the wall of the booth. Switch on the on/off button of the lamp and leave it on to allow acting to the general switch of the booth.

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Place the hold-ups for the accessories that the patients are going to use where desired (always inside the booth), having in mind this position must not bother the patient and must allow to perform the audiometry. They should be lined up and equidistant to each other.

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- (A) Revise the overall condition of the S 40 Booth.
- (B) If everything is right and if needed, move the booth to its final position with the help of some people.
- (C) Connect the audiometer. Remember that the booth's pannels are just simply walls, so then the connector number "1" is linked with the connector number "1" in the inside panel, number "2" with number "2", etc..

NOTE:

The booth must never be in contact to any wall to avoid the transmission of vibrations

Make sure that the S40 Booth is not connected to the mains power supply yet.

1.4.2. STARTING UP

Follow the next steps to start up the test booth:

NOTE: It is supposed taht the users has an audiometer to connect in the booth.

- Connect the main power wire to the inlet of the connection board and plug it to the mains.
- Check that the light pilot (N 17) and the indoor light turn on/off when switching the main switch (N 21). (In the case that the light will not turn on check the step before and the main power). Turn off the main switch.
- Put the audiometer over the tray and connect its power wire to the outlet of the connection board (N 19). **WARNING: Maximum load 500W.**
- Plug all the accessories of the audiometer in the indoor connection board of the booth (N°16) and hang them at the hangers.
- Remember the number of the jack of each accessory and then plug the outlets and inlets of the audiometer in the outdoor jacks of the booth (N 15) that have the same number, so the numbers will be the same at the two sides and the accessories will be connected properly.
- Switch on the main switch (N 21) and turn on the audiometer also. Check the properly functioning of the audiometer following its user's manual.

NOTE

IF YOU HAVE ANY DOUBT IN THE INSTALLATION PROCEDURES OR ANYTHING ELSE CALL THE AFTERSALES SERVICE OF SIBEL S.A. OR HIS DISTRIBUTOR.

2. TECHNICAL SPECIFICATIONS

Description: individual soundproof booth for audiometric test execution.

Reference	Model	Dimension
01634	S40-A	90 x 90 x 215 cm
01636	S40-B	110 x 110 x 215 cm
01637	S40-C	125 x 125 x 215 cm
01639	S40-D	85 x 72 x 187cm Meets R43-ONU glazing in vehicles..
01640	S40-E	135 x 135 x 215 cm
07107	S40-F	Special Measures

Window Dimensions: 59 x 46 cm.

Door Dimensions: 53 x 184.5 cm.

Tray Dimensions: 70 x 40 cm.

Power: 220 V 50/60 Hz (other voltages optional).

Passage of electric circuit network switch and light signaling.

Internal lighting for incandescent lamp / lamp Led's

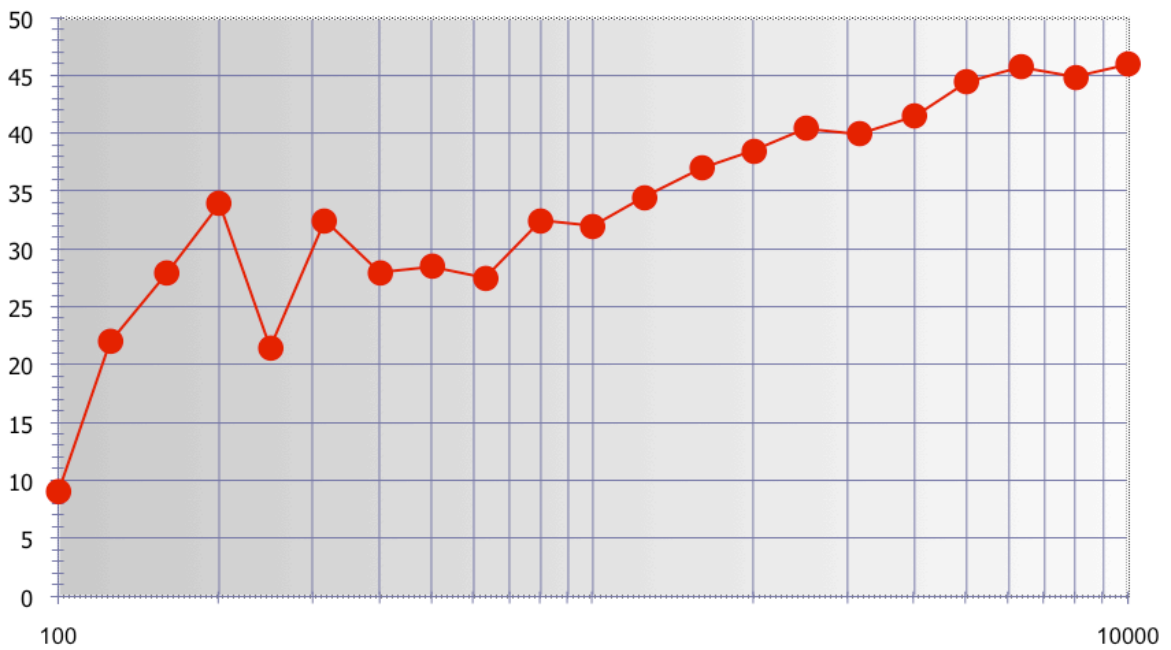
Internal Power Consumption: less than 40 W.

Maximum load: 500 W.

Accessory bypass connections: Five 6.3mm Stereo female jacks and one 3.5mm Stereo female jack. Minimum global attenuation (using white noise with a bandwidth from 250 to 8000 Hz): 33.5 dB.

Dp attenuation index by frequency: (Certified by L.G.A.I. Exp. 21.006.926).

f (Hz)	100	125	160	200	250	315	400
Dp (dB)	9	22	28	34	21.5	32.5	28
f (Hz)	500	630	800	1000	1250	1600	2000
Dp (dB)	28.5	27.5	32.5	32	34.5	37	38.5
f (Hz)	2500	3150	4000	5000	6300	8000	10000
Dp (dB)	40.5	40	41.5	44.5	45.8	44.9	46



Standards :

Audiometry: ANSI S3.1, ISO 8253-1

Quality: Sibel's Quality System (EN-ISO 9001)

Safety: European Medical Devices Directive 93/42/CEE, IEC 601.1 (88)

Main power electric scheme: Draw code 501-725-010.

Interconnection electric scheme: Draw code 501-725-020.

3. FUNCTIONING PRINCIPLES

Following the ANSI S3.1 and ISO 8253-1 audiometric Standards, the audiometric tests must be performed at conditions that the environment noise do not mask the test results.

To achieve this, the booth is a sound isolated space, therefore the sound noise insides is much less than outsides. So, it permits to perform the audiometric tests correctly.

The booth is made of panels that they have different sound-isolating material layers. The basic physics principle is known as the mass law. Other considerations which should be notice to have a good sound attenuation are based in the proper material combination as their sizes. All this is done to avoid unwanted effects as the coincidence effect. (For more information it can be conducted Acoustics and Sound Isolation Manuals).

4. GENERAL MAINTENANCE, PREVENTIVE MAINTENANCE AND CORRECTIVE MAINTENANCE

The S40 audiometric test booth requires a general and preventive maintenance, as do any equipment and particularly those with medical applications. It has the object of assure the safety of the patient, operator and environment and guarantee the reliability and accuracy of the functions for which it was made. This entails a series of routines that must be performed.

4.1 GENERAL MAINTENANCE

The general maintenance is necessary to keep the device functioning correctly. The person who carries out this operation needs no special technical knowledge except familiarity with the functions and handling of the device. The user of the device should normally do the job himself. The tasks to be carried out are as follows:

The external surface of the booth can be washed with soap and water, then wipe the booth dry. Inside the booth, the foam walls and the floor can be cleaned using a conventional vacuum cleaner; the plastic parts and the window can be cleaned with soap and water.

Do not use abrasive substances or solvents.

4.2 PREVENTIVE MAINTENANCE

The preventive maintenance consists of all the actions designed to keep the machine in good working order.

4.2.1. CHECKING

The user can check periodically the aspect of the booth, the indoor light, the door lock and the interconnections work correctly and there are not noises that can disturb the audiometric test.

4.2.2 CHECKING THE INTERCONNECTIONS

Every six months the user can check that the interconnections work correctly and they do not produce noises that can disturb the audiometric tests.

4.3 CORRECTIVE MAINTENANCE

Corrective maintenance refers to leaving the equipment in good working condition when, after malfunction or improper use, the device no longer works and needs to be repaired.

When a malfunction which impedes normal use is detected, contact SIBEL S.A.'s After Sales Service, specifying the type of problem produced in the greatest detail possible.

5. MODIFICATIONS