TYPE-B ULTRASOUND EQUIPMENT

ECHOSCAN T-300

USER'S MANUAL

Chapter, 1 Summary

1.1 INTRODUCTION

ECHOSCAN T-100 is a portable device that operates by type-B ultrasonic, developed for veterinary practice. It is an ideal equipment for checking animals under special conditions and in places difficult to access. This device can be used in boxes or on movement.

The scanner works by an internal battery directly connected to the power supply, which gives the advantage over other types of connections, to transmit a continuous flow of voltage to avoid, in this way, possible damage to the power supply.

The technology of low power and advanced power management allows to work, once fully charged battery, 5 hours depending on the brightness needed.

The Lithium Ion battery, without memory effect, should be in charge for 5 hours to reach the maximum capacity. Automatically the charger would be disconnected by itself when the process was complete.

ECHOSCAN T-300 operates with 3.5 MHz sector probe that can be adjusted to 3, 3.5 and 4 MHz.

This version of only 990 g. has a 5.7 inch LED monitor that allows viewing a magnified image without compromising with neither the size of the equipment or the lightness of it.

1.2 RANGE OF APPLICATION

Suitable for reproductive diagnosis in swines, sheeps, goats and dogs.

1.3 MAIN FEATURES

- ON / OFF button.
- 7 pictures can be stored.
- 4 predetermined gray levels.
- 5 zoom.
- Gain adjustment in 16 steps.
- 3 available probe frequency selection.
- Freeze function.
- On screen text editing.
- On screen real time calendar.
- USB Connector to transfer stored pictures and data.
- Low battery indication by led.
- Automatic switch off at low battery.
- ON/OFF auto execution.
- Back Fat measurement.
- Up to 200 measurements can be stored.

1.4 MAJOR PARAMETERS

Scanning method: B Mode.
Gray shades: 256.
Acoustic resolution: 1 mm axial and 2 mm lateral at focal point.
Scan converter: 512 x 512 x 7 + 1 (x, y, z + text).
Frame rate: max. 12 images/s. (at 80°).
Memory: 7 full images with data retention.
Active lines: Sectorial: 200 (400 on display after interpolation).

Focusing: Mechanical fix.
Monitor: 5,7 inch high resolution LED at 50 or 60 MHz.
Image resolution: 640 x 480 pixels.
Monitor view angle: left/right: 65° - 65°. Up/down: 60° - 70°.
Contrast: 350
Brightness: 450 cd/m^2.
Power supply: Ion-Lithium battery, 10,8V 2,2 Ah.
Battery working time: 5 hours.
Battery charging time: 5 hours.
Size: 187 x 135 x 45 cm.
Weight: 990 g.

1.5 BASIC PRINCIPLE

Tissues of animal body have different densities and different ultrasound transmission speeds, so they have different acoustic impedances.
The piezoelectric crystal (transducer) is stimulated with electrical pulse to produce an ultrasound wave with certain frequency. This wave is transmitted to the animal body.
The echo wave is produced when the ultrasound wave passes through the surface of various organs. Echoes with different amplitudes are received by the crystal of transducer. The received echoes (acoustic energy) are converted into electrical impulses that are amplified, demodulated and DSC. It generates a standard video signal for viewing an image of a body section that appears on the monitor screen.

1.6 DEVICE CONSTITUENT

Standard accessories:

- Main unit, battery included.
- 3,5 MHz sector probe.
- Charger 110/220V 50-60 Hz.
- Leather carry case.
- Aluminum case for transport.
- User manual in English.

Optional accessories:

- USB cable.
- Software to transfer images and data block.
- Charger 12V for car light.

1.7 EMC STATEMENT

Echoscan T-100 complies with European Directives for EMC and low voltage safety:

- 73/23/CE Low Voltage Directive.
- 89/336/CE Electromagnetic compatibility

Chapter, 2 Installation

2.1 OPERATING ENVIROMENTAL REQUIREMENTS

- Environment temperature range: +10°C - +40°C
- Relative humidity range: 30% - 75%
- Atmosphere pressure range: 70KPa - l 06KPa

When using, avoid strenuous vibration, keep it away from devices with high field, intense magnetic field or high voltage; avoid strong sunlight blazing down on the display; keep the device well-ventilated, moisture proof and dustproof.

2.2 PRESENTATION OF EQUIPMENT

2.2.1 Main unit

T-300 has screen saver, easy to clean keyboard and splash proof box, as main features.

Front view

In rear panel connection for charger, probe and USB cable are showed.


Rear panel

2.2.2 Probe

The probe has a smooth surface for easy cleaning, silicone cable to absorb pulling of cable during the exploration, and high quality Lemo connector.

2.2.3 Charger

It allows charging for all voltages, 110 to 220 V and 50 to 60 Hz.

2.2.4 Leather carry case for exploring

Leather bag with high strength double harness to stay always flat while working on farm.

2.3 PROBE CONNECTION

Probe should be connected to the main unit when it is switched off.

To connect the probe we match the red dot of probe…

….. with red notch of connector of main unit ….

….pushing until the end.

Be careful with the proper positioning to avoid contact that might cause damage. For an easy introduction to the connector, let a little roll from right to left.
To unplug the probe, do the reverse by pulling the striate area of the connector.

2.4 POWER SUPPLY

The equipment has two power supplies: charger and internal Lithium-Ion battery.

2.4.1 Charger

1. Check if charger connector is fitted to main unit connector.
2. Check if charger is working well: switch it to the AC power and check that red led of charger is switched on.
3. Connect charger plug to AC power.
4. Insert the charger connector to the main unit in rear panel.
5. Switch on the equipment and it will be ready to work.

2.4.2 Battery

1. Switch on the equipment and check that green led is turned on.
2. Equipment will be ready to work.

Note: when green led of "Power" starts flashing, indicates that battery is giving out. It will remain flashing for one hour approximately, till finally equipment will turn off by itself. Image will always have same quality despite equipment had low battery. In this moment battery should be charged.

2.5 CHARGING BATTERY

There are two modes to charge battery.

2.5.1 Charging through main unit.

1. Connect charger "Input AC 110–220V, 50/60 Hz" to the wall power.
2. Insert connector of charger to the connector of the main unit in rear panel:

3. Although there is no problem if the equipment is On or Off for charging, we recommend turning it off for faster charging. LED will light and begin charging the battery. This LED can have two colors: orange and green. The first suggests an initial charge for 4.5 hours. From here, the LED changes color to green, which remain half-hour. Finally, the LED will turn off, indicating that the battery is completely charged:

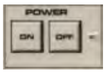
Charging for 4,5 h. Charging for 0,5 h. Battery charged

2.5.2 Charging through car lighter (optional)

1. Plug the charger into the hole of car lighter or 12V.
2. Connect the other end of the charger to the main unit.
3. When charging, the LED will turn orange or green depending on the state of battery charge, as explained in the previous section.

Note: Car should be started to be effective, since the charger needs a voltage of 14 V, which does not happen if the car is stationary.

Chapter, 3 Main Menu

3.1 POWER ON, POWER OFF 

Start the equipment by pressing the POWER ON button located on the front panel of the main unit. The green LED indicates that power is on. When LED is flashing indicates the battery charge is low and you have one hour of working time.

3.2 MENU 

Once the unit having pressed Power On, the first thing that appears on the screen is the menu.

At this moment we can see the different functions available. To access each of them we select up and down the inset with the arrow keys  and then we press ENTER .

If we are in real time scanning mode, and press the Menu button, we will access to the main menu the same way as when we started the team.

The features found are as follows:

3.2.1 SET UP MENU

It offers the possibility to adjust the functions of AUTO EXECUTION, CALENDAR SET and CLEAR DATA BLOCK.

We see the following screen of SET UP MENU:

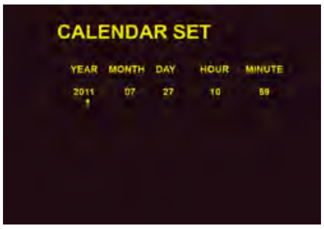
3.2.1.1 AUTOEXECUTION

If AUTO EXECUTION is disabled (OFF), starting the main unit will display the menu. If enabled (ON), we will access directly to real time mode to start to work. The configuration settings will be the one last used.

To change from ON to OFF mode, press ENTER once you have selected with the AUTOEXECUTION inset.

3.2.1.2 CALENDAR SET

Once selected CALENDAR SET with inset, press ENTER to adjust date and time.



Current date and time will appear in a row and at the bottom an arrow pointing digits which can be changed. With the cursor left and right we will move arrow to indicate which can be changed. With the cursor up and down we will change the value we want.
Once adjusted date and time, press ENTER to leave and confirm new data.

3.2.1.3 CLEAR DATA BLOCK

This function erases data stored when we have made back fat measurements.

Once we have selected the option Clear Data Block with inset, press ENTER to delete data. Then a horizontal bar will be appearing to show the progress of removal. When process completes, we can read on the screen "DATA BLOCK EMPTY" confirming the total elimination of data, and "PUSH ANY KEY TO CONTINUE", then press any button to return to the previous menu.

To return to Main Menu, press button .

3.2.2 MEMORY

Contents of memory can be showed without staying in the real time scanning mode.

On the right of MEMORY a number is showed. It can vary between 01 and 07, which indicates the last used memory during real time scanning.

Once selected MEMORY option with inset, press ENTER to access to the last stored image. Pressing button  we will look at sequentially the 7 stored images.

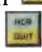
Pressing button  we go out from this option and return to the main menu.

3.2.3 EDIT

This function is used to write on the screen what you want. What we write will be seen on the right of "ID:" at the bottom of the screen, when we perform the scanning in real time mode.

Once you have selected EDIT with inset, press ENTER, and will be displayed an array of 4x12 characters consisting in numbers, letters and symbols:

To write, we will move the inset with cursors up, down, left and right. After selecting the desired character, press ENTER to introduce it.
We can write a total of 21 characters in a row.

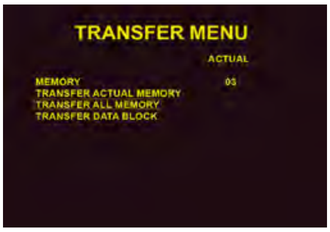
To write a space, press button 
To erase a character, press button .
To leave from EDIT, press button . What is written will keep memorized till we want to change.

3.2.4 TRANSFER

This feature allows, through USB cable, transferring images and data stored.

First, we have installed the software "Echoscan_en.msi" from CD into the PC. See Chapter 6.

From main menu select the option TRANSFER with inset, press ENTER to reach submenu "TRANSFER MENU".



It consists of 4 sections:

1. **MEMORY**: Indicates the latest memory that has been used. For example, "ACTUAL 07".

2. **TRANSFER ACTUAL MEMORY**: To transfer actual memory. This is indicated in the previous section. We follow the next steps:

- **Connect USB cable** to the PC and to the main unit.

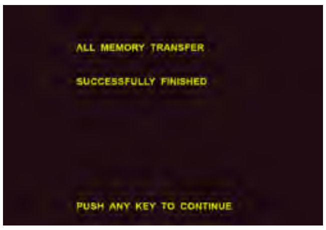
Main unit USB — USB cable — USB PC

- **Select this function** (Power ON > TRANSFER > Enter > TRANSFER ACTUAL MEMORY).

- **Open "Echoscan.exe" software.**

- **Press ENTER** in the desired function and automatically we will see as images are transferring to the PC.

A message appears on the main unit screen as the image has been transferred:



Pressing any button we return to TRANSFER MENU.

3. **TRANSFER ALL MEMORY**: To transfer all memories, a total of 7 images. We follow the steps as in the previous section, except when selecting the function: Power ON > TRANSFER > Enter > TRANSFER ALL MEMORY.

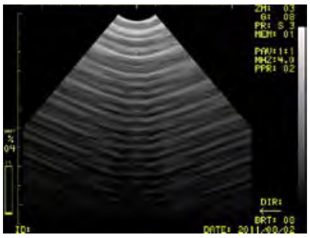
Same message will also appear on the main unit confirming successfully transferred images.

4. **TRANSFER DATA BLOCK**: To transfer the results, a total of 200 measurements, of back fat. As in the previous case, we select the function: Power ON > TRANSFER > Enter > TRANSFER DATA BLOCK.

Same message will also appear on the main unit as we have transferred the data correctly.

3.2.5 REAL TIME SCANNING (B SCAN)

By default, each time we switch on the ultrasound scanner, B SCAN is selected with an inset. Pressing ENTER will enter to the real time mode. Ultrasound scanning appears to make the diagnosis.



Pressing button MENU we return to main menu.

Chapter, 4 Operation Sequence

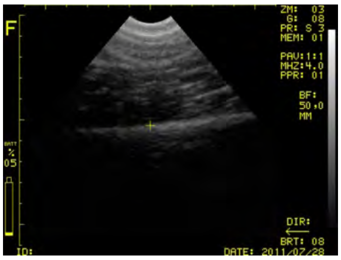
4.1 POWER ON

After connecting the probe, press ON to see the main menu. B SCAN is selected automatically and pressing the ENTER button start work:

4.2 DIAGNOSIS

Place an enough amount of conductive gel to the probe. In contact with skin or tissues is observed on the screen a cut of tissues and thereafter perform the exploration with gentle movements. Meanwhile, we adjust the gain values and other settings to achieve the desired image.

4.3 INFORMATION AT SCREEN



<u>On right side of screen we can see next information:</u>

ZM: Current Zoom, depth which we are working. It provides 5 zoom. Value of 1 to 5.

G: Indicates current ultrasound Gain. It can be adjusted from 1 to 16 range.

PR: Informative parameter of probe type (sector) and frequency (3.5 MHz) used. Fixed value S3.

MEM: Actual Memory number which is working to. Up to 7 images can be stored. Value from 01 to 07

PAV: Picture Averaging, reduces acoustic interferences level. It can be adjusted from OFF, 1:1 and 3:1.

MHZ: Megahertz emitted by probe. It can be adjusted at 3.0, 3.5 or 4.0.

PPR: Posterior Processing of image, it can be adjusted in four positions (00, 01, 02 and 03).

BF, DIST, AREA, CIRC: Indicates what kind of measurement can be performed. Back Fat (back fat measurement), Distance (distance measurement), Area (area measurement) and Circ (perimeter measurement). On the next row we can see the number resulting from the measurement.

MM, CM2: Measurement units. MM (millimeters for BF, DIST, CIRC) and CM2 (square centimeters for AREA).

DIR: Indicates scanning direction (arrow is shown from right to left and vice versa).

BRT: Indicates current value of brightness. It can be adjusted in a range from 0 to 16.

DATE: Actual date.

<u>On left side of screen we can see next information:</u>

F: When it appears in the display indicates whether the image is frozen. When working in real time scanning mode, F does not appear.

BATT %: Indicates the remaining percentage of battery. This value is not accurate and only gives an indication of how much time remains working with battery.

<u>At the bottom line of screen we can see next information</u>

ID: Characters introduced in EDIT from main menu.

4.4 IMAGE PROCESS

4.4.1 GAIN ADJUSTMENT

The gain is the setting that allows emitting, by the probe, more or less ultrasound amount. If we increase the ultrasound amount, echo from tissues will be greater and the image will be more echogenic. Each organ has a specific echogenicity and a poor fit can lead to misdiagnosis. For example, the urinary bladder, as it has liquid inside, has no echogenic image, therefore, it must be black on the screen. A poor fit can make it partially gray, and then we should decrease the gain.

To change the gain value we must push, in real time mode, the gain arrows up or down:

It can be adjusted in 16 steps. It is showed as "G: 08" (from 01 to 16).

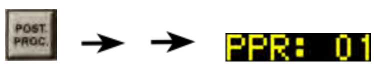
4.4.2 BRIGHTNESS ADJUSTMENT

This function is to adjust brightness of image. In real time mode or frozen image, press brightness arrows up or down:

It can be adjusted in 16 steps. It is showed as "BRT: 08" (from 01 to 16).

4.4.3 POST. PROC. ADJUSTMENT

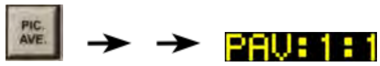
Change the ratio of gray scale video output signals. Depending on the current setting, you can emphasize or eliminate gray scales. In real time mode or frozen image, press button POST. PROC. successively:



The adjustment can be made and shown on the screen into four scales, 00, 01, 02 and 03. At lower the value, image looks darker. At higher value, we see image clearer, but more pixelated.

4.4.4 PICTURE AVERANGING (PIC. AVE.) ADJUSTMENT

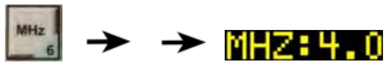
This is the result of a significant reduction of noise interference, but reduces the scanning speed. In real time mode, press the button PIC. AVE. to change the value:



The adjustment can be made and shown on the screen into three scales: OFF, 1:1 or 3:1.

4.4.5 FREQUENCY (MHZ) ADJUSTMENT

MHZ function allows working at different frequencies with the same probe. At higher frequency, higher image quality, but less penetrating depth. So, if we want to work at great depths, reduce the frequency and if we want more image quality, increase the frequency.
We must strike a balance between depth and image quality.
In real time mode, press button MHZ to change the value:



The adjustment can be made and shown on the screen into three scales: 3.0, 3.5 ó 4.0.

4.4.6 ZOOM ADJUSTMENT

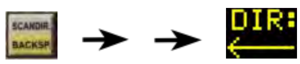
This function is used to adjust the depth of the image.
We set the correct depth to see images we want to explore in the center of the screen.
If you use too much depth, the area to explore is displayed at the top of the screen, which we will be wasting the bottom. If we use shallow to explore the area may not fit on the screen, therefore, we can only see the proximal part of the area.
In real time mode, press ZOOM arrows up or down:

With the Zoom down arrow decreases the field of scanning and increases the size of images, while with the up arrow increases the field and reduces the size of the images. The equipment has 5 zoom and the current number is displayed on the screen as "ZM: 03". Depth values are:

Zoom 01: 5 cm.
Zoom 02: 7 cm.
Zoom 03: 11 cm.
Zoom 04: 14 cm.
Zoom 05: 21 cm.

4.4.7 SCANNING DIRECTION ADJUSTMENT

Scan direction can reverse the direction of scanning, right to left and vice versa. You need a good fit if we want to know how and where tissues are showing on the screen. In real time mode, press on the button “SCANDIR” to change the direction of scanning:



4.5 OTHER FUNCTIONS OF KEYBOARD

4.5.1 FREEZE

This button has the function to freeze / unfreeze the image. Once frozen, **F** appears in the top left of the screen. In this position different kind of measurements may be done, as well as access to frozen menu (FMENU).

The scanner has two buttons with the same function to make access easier for lefties and righties.

4.5.2 STORE

In B SCAN screen, actual value of memory is shown as:

MEM: 06

While scanning, press the FREEZE button, the image will be frozen, scanning will stop and letter **F** is displayed in the top left of the screen.
Each of the 7 stored images can be displayed at this time, just press repeatedly the STORE button.
Pressing again FREEZE button, scanning is restored. The image we are currently viewing will be deleted.

That is, we have six images permanently stored plus we need one to scan. When we freeze the image, we can compare up to 7 images.

4.5.3 OTHER BUTTONS

- **Up, down, left and right buttons**

These buttons have the task of selecting the features, letters and numbers in the different menus and also leading cursors during measurements.

- **QUIT**

QUIT function ensures leaving from the functions of the different menus.

- BACKSP.

During the EDIT function, serves to delete characters in the line "ID:"

- SPACE

During the EDIT function, serves to insert a blank space in the line "ID"

- HCR

In frozen image from B-mode, it’s used to display the first cursor when you want to make measurements of distance, area or perimeter.

- **MENU**

In real time mode serves to return to main menu (MENU) and in frozen image to enter at frozen menu (FMENU). FMENU be explained in section "5.1 Measurements".

- **Numeric buttons**

They are used to introduce numeric characters in the EDIT function and to introduce the animal number when measuring back fat.

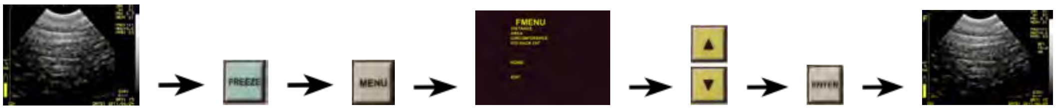
- **Buttons F1**, **F2**, **FR**

Currently have no function. They are reserved for other functions in new updates.

Chapter, 5 Measurements and storage

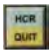
5.1 MEASUREMENTS

To make the measurements, we first freeze the image with the FREEZE button. Then we have to press MENU button to access to FMENU where we can choose the kind of measurement we want to make. We select it moving inset with up or down arrows and press ENTER to accept:



5.1.1 DISTANCE MEASUREMENT

Once distance measurement is selected, next image appears at screen:

Press  to show first cursor and is moved with direction arrows  where we desire:

To fix first cursor, press .

Automatically, second cursor will be displayed at screen. It can be moved by direction arrows  as we see in next picture:

In the moment we left to move the second cursor on the screen, measurement in mm can be showed: 

If we want to make another measurement of same image press  to eliminate last measurement and pressing another time  it is restarted as it was explained previously.

Once measurement is made, press to return to real time mode.

5.1.2 AREA MEASUREMENT

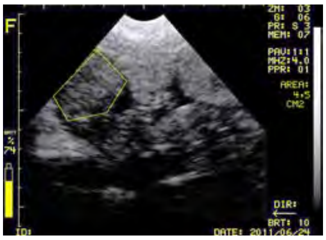
Once area measurement is selected, next image is showed:

Press to show first cursor. It is moved with direction arrows where we desire:

To fix first cursor, press .

Automatically, second cursor will be displayed at screen. It can be moved by direction arrows till next measurement point.

When is pressed again a line will appear connecting the two cursors. To complete the measurement, we match the last cursor to the first, and finally pressing , the screen shows the result as we see in the next picture:



On the right side of the screen we can see the performed measurement in cm2: 

If we want to make another measurement of the same image, press to eliminate the performed measurement and pressing again starts the measurement process, as explained previously.

After measurement, press to return to the real time mode.

5.1.3 CIRCUMFERENCE MEASUREMENT

Once selected Circumference measurement appears on the screen the below image:

Press to show first cursor and is moved with direction arrows where we desire:

To fix first cursor, press .

Automatically, second cursor will be showed at screen. It can be moved by direction arrows till next measurement point.

When is pressed again a line will appear connecting the two cursors. To complete the measurement, we match the last cursor to the first, and finally pressing , the screen shows the result as we see in the next picture:

On the right side of the screen we can see the performed measurement in mm: 

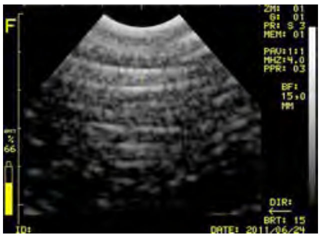
If we want to make another measurement of the same image, press to eliminate the performed measurement and pressing again starts the measurement process, as explained previously.

After measurement, press to return to real time mode.

5.1.4 PIG BACK FAT MEASUREMENT

First we have to select ZOOM in the nearest position which is the "ZM: 01" at 5 cm deep.

Then, once Pig Back Fat measurement is selected, next image appears on the screen:



One cursor automatically appears at a starting distance of 15 mm.

Place the cursor, with the up or down arrow where fat ends and loin begins:

When we left to move the cursor, measurement in millimeters appears automatically on the screen:

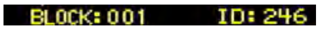
5.2 DATA BLOCK STORAGE IN BACK FAT MEASUREMENT

When back fat measurement is performed, we are able to save results to the memory of the scanner.

For this, with the image of the measurements made, press and next image appears requesting to enter the number of animal:

At the left bottom you can see "BLOCK: 001" indicates the number of measurements made. It will be incrementing each time we make a measurement.

We will introduce the animal number on the right ("ID"). Till 7 digit numbers can be introduced with the numeric buttons 0 to 9:



Press again to confirm measurement and return to real time mode to continue the exploration.

If we want to delete the previous data, after pressing to enter the number of the animal, we have to press and automatically delete a number in "BLOCK: 00?"

If is pressed repeatedly, we can delete multiple stored data.

Chapter, 6 Software

Optionally, the T-300 Echoscan includes special software for transferring images and data to the PC.

Above all, we have installed the software "Echoscan_en.msi" from the CD on our PC.

Into the CD we can find the file "Echoscan_en.msi", execute it and follow the instructions. Automatically, a folder (C: \ Program Files \ Echoscan \ data) is created where the transferred images (Jpeg file), and data resulting from back fat measurements (txt file) are stored. Txt file can be opened with Excel to manage data.

Since this software is available in two languages, English and Hungarian, it can success that by default it is installed in Hungarian. So, if we want to change the language to English press we Eszközök> Beállítások and a new window will be displayed where we select the language. We click on the triangle on the right of Magyar and then select Angol and finally Ok.

Chapter, 7 Maintenance

6.1 MAINTENANCE OF MAIN UNIT

If the unit needs cleaning, you must first shut down and then clean it with a special wipes for surface cleaning.
Not recommended switch on and off frequently the unit. Better to wait two or three minutes.
Avoid shocks and vibrations submit, for example in the car.

6.2 MAINTENANCE OF PROBE

Probe is an expensive part and frangible. Never hit it or drop it on floor. When diagnosis is paused, press FREEZE to keep the frozen image.
It is necessary to apply a suitable gel for ultrasound transmission for veterinary use.
The probe is not designed to submerge in water. Avoid getting any liquid that may cause corrosion of probe. Periodically review whether there is any crack in the structure of the probe that allows the entry of liquids.
Check frequently if the mechanical sector probe is filled with Vaseline oil. Otherwise, you will see an air bubble which may affect image quality. When air bubbles appear, contact with reparation service.

Correct usage of probe

In order to prolong probe's service life and obtain optimum performance, follow these instructions:

1. Periodic inspection on probe cable, socket and acoustic window.
2. Shutdown the device first and then connect or disconnect the probe.
3. Do not drop probe or flint body, and ever hit the probe acoustic window, otherwise probe should be damaged.
4. Never heat the probe.
5. Never bend or pull probe cable, otherwise the internal connection should be broken.
6. Use coupling only on probe header and then clean probe.
7. Inspect probe acoustical window, enclosure and cable seriously after probe cleaning. Never use the probe again if any crack or breakage is found.

6.3 MAINTENANCE OF BATTERY

1. Equipment is fitted with rechargeable li-ion battery.
2. For optimum efficiency, the new battery must be charged and discharged (regular service, not enforced discharging) two or three rounds completely.
3. The battery can be charged and discharged for hundred times, but it will be worn-out. When the work time shortens apparently, please replace it with a new one.
4. Be sure to use electricity charger appointed to charge the battery. Do not connect the battery to the electricity charger (AC adapter) when charging is not needed, nor connect the battery to the charger longer than 10 hours; otherwise the battery life may shorten. The fully charged battery will discharge by itself if it is long-time out of use.
5. The battery should be charged and discharged once in every 3 months to prevent it useful.
6. Extreme environment temperature (overcooling or overheating) will influence battery charging effect. Must not charge the battery near the ignition source or under extreme hot condition! Do not use or store battery near source of heat (such as fire or heater)! If find the battery is leaking or smelling, move the battery away from the naked flame immediately.
7. Don’t go on using non-serviceable battery and electricity charger (AC adapter).

Chapter, 8 CE Marking

Company: IMPORT-VET,S.A.

Equipment:

Description: ECHOSCAN Ref. T-300

Echoscan T-300 complies with European Directives for EMC and low voltage safety:

73/23/CE: Low Voltage Directive.

89/336/CE: Electromagnetic compatibility

Name: Juan Morell

Position: Director

Date / Company establishment: November – 2002

Sign: