

# Provetscan SL-2S

High resolution and frequency  
ultrasound wifi probe



User Manual

# Introduction

SL-2S is the last generation instruments for ultrasonography for Veterinaria with the outstanding feature of wireless.

Different from traditional veterinary ultrasound scanners with a cable connecting from probe to main unit, no cable appears at the end of the probe of SL-2S Scanners.

The SL-2S Probe Scanner is highly integrated with ultrasound image processing, power management and a wireless signal provider to be connected by the main unit.

The main units different with traditional devices are now changed to be any mobile device. The probe acts as a Wi-Fi Access Point and can be connected by mobile device. With the probe be connected through Wi-Fi and the WirelessUSG App running, enjoy your days of working without the trouble making cables.

This manual is intended to provide a through overview of the SL-2S Scanner and should be carefully read before starting operating the device.

# 1. Features

Display: iOS or Android mobile device

Scanning: Lineal

Probe: Transducer de 7,5 / 10 MHz

Depth: 20-55 mm

Display mode: B mode

Gray levels: 256 levels

Battery life: 3 hours

Size: 155mm x 67mm x 20mm

Weight: 300g

## 2. Inicio

For your protection please read these safety instructions completely before applying power to, or operating the system.

### 2.1 Desempaquetando

The SL-2S Scanner is carefully packed to prevent damage during shipment. Before unpacking, please note any visible damage to the outside of the shipping containers.

Items should be checked in order to ensure that all ordered items have been received. The following table lists the items which should be received with each particular system.

Artículos	Incluidos
SL-2S wifi Ultrasound probe	✓
USB Cable for charging	✓
Transport suitcase	✓
Wrist strap	✓

Each item should be examined for any noticeable defects or damage that may have occurred during shipment although it is packed carefully. If any defect or damage exists, please contact to your local representative immediately to report the problem.

### 2.2 Instalng APP

If the WirelessUSG App is not installed in your mobile device, open App Store or Google Play and search "WirelessUSG", when the App comes, it is free to install the App.

## 2.3 Connecting the probe

The Wireless Connection Indicator and the Battery Capacity Indicator on the probe may be invisible before the probe is turned on.

Press the button ON/OFF to turn on the probe. The battery capacity Indicator will be light to indicate the capacity of the battery. The four grids of the indicator imply the battery capacity.

Seconds after the probe turned on, the Wireless Connection Indicator will be light and blinking to notice that the probe is ready for a wireless connection from the mobile device.

The probe can be turned o by hold down the button for 3 seconds. When the probe is off, the indicators will be turned off.

## 2.4 Conexión Wi-Fi

When the probe is waiting for a wireless connection as described in previously, launch the Settings of mobile device, turn on the Wi-Fi (if not on), Find the SSID of the probe. The SSID is like: "SL-2S GMBFLA001", the prefix "SL-2S" is a code generated from Serial Number. Connect to the SSID with the password same as the Serial Number. Password could be like "wapbfla001"

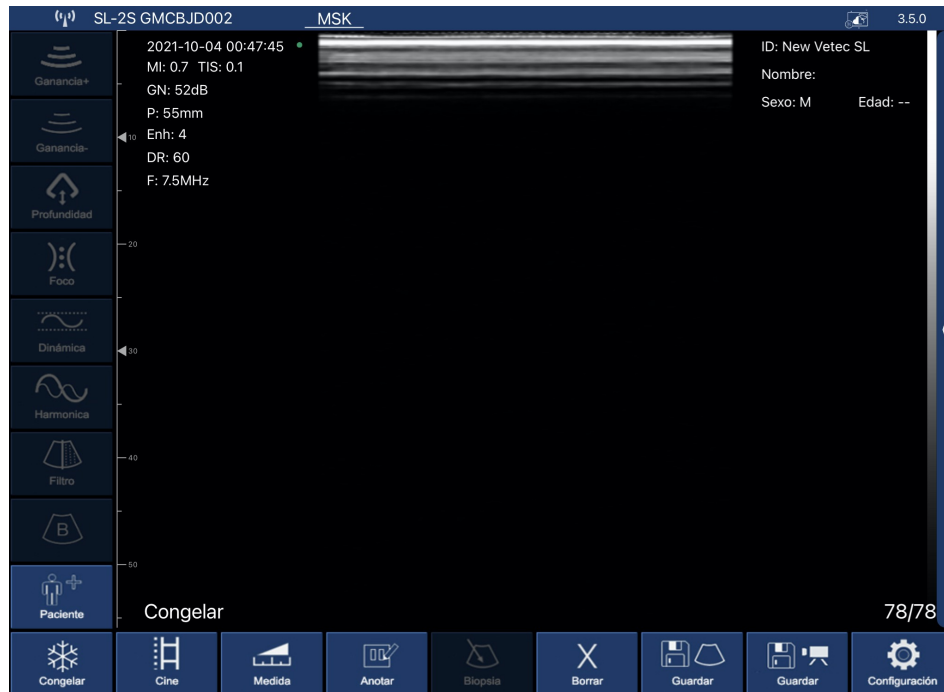
**The letters of the password must be entered in lower case.**

Once connected to the WiFi network, start the SmartVus app. When you start working with the probe, the WiFi signal indicator will no longer ash in the same way.

## 3. APP Operations

Once the probe is connected, start up the app and the main screen will appear. No image is shown when you open the app for the first time.

### 3.1 Ultrasound scan



The connected probe's network is shown on the upper left.

Description of the buttons in the app:

When you press the “Animal” button, a window pops up to enter the type of animal and the following fields:

The screenshot shows a 'Paciente' form overlaid on the main app interface. The form has a title bar with 'Cancelar' on the left and 'OK' on the right. It contains the following fields: 'ID:' with the value 'New Vetec SL', 'Nombre:', 'Sexo:' with radio buttons for 'M' (selected) and 'F', 'Nacimiento:' with the date '4 oct 2021', 'Ordered By:', 'Work Order:', 'Modality:' with the value 'US', and 'Area of interest:'. At the bottom of the form are two buttons: 'Borrar' and 'Reporte'. The background app interface is partially visible, showing the same toolbar and patient information as the previous screenshot.

GAIN is the ability to modify the ultrasound's amplitude (magnitude of the ultrasound), changing the brightness of the image. General gain changes affect the entire image equally.

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Gain +: Raises scan gain up to 105 dB.

Gain - : Lowers scan gain down to 30 dB.

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### **Depth**

You can work with greater or lesser depth. Press the following button.

Selects the 4 zooms available: 20, 30, 40 and 55 mm.

You can also adjust this by swiping your finger in the middle of the screen, up or down.

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### **Focus**

This is the maximum concentration of lines inside the ultrasound beam. This means you must place the focus in the area of interest.

Adjusts the focus to obtain the best image, raising or lowering it on the screen.

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### **Dinamic range**

This process raises or reduces the difference between ultrasounds of greater or lesser amplitude. With the Dynamic Range, you vary the amplitude of the signal shown in grey scale. At a low setting, the image has greater contrast. When increased, the image is softened.

The value range goes from 40 to 110. Lower settings increase the image's contrast.

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### **Harmonic / Frequency**

You must select the suitable frequency for the examination. With greater frequency, there is lesser penetration, and vice-versa. With the Harmonic Image, the return signal not only includes the base frequency, but also the frequency matching its double. The ultrasound processes both signals separately, eliminating the basic frequency with its noise.

Changes the scan frequency from 7,5 to 10 MHz

**Denoise**

It's an algorithm to eliminate spotting, to soften the image of the organs and to make the edge of tissue softer. Lower settings increase image noise, and high settings reduce it.

Reducing image grain. Range of value from 0 to 3.

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**B Mode**

Two-dimensional representation of the ultrasounds, shown as light-up dots with variable clarity, depending on frequency and depth.

Press this button to show the ultrasound options with modes BM

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**Freeze**

Put the probe on stand-by by freezing the image to examine aspects more thoroughly. The probe's consumption is less than half of LIVE mode consumption.

Freeze and unfreeze (live) the image.

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**Play**

This equipment permanently records a video sequence (Cine Loop) of the last 100, 200, 500 or 1000 frames. As new photograms are recorded, the previous ones are deleted. To change the Cine Loop's size, go to the settings button.

Once the image is frozen, this plays the saved Cine Loop.

**Measurements**

You have 5 measurement modes: length, angle, area/circumference, trace and depth. Once the method is selected, take the measurement with your finger on the screen, placing the cursors where you wish to measure for length mode, or by drawing the desired area for area, circumference, and trace modes.

Press this button to drop-down the menu that shows length, area/ circumference and trace measurements.

**Annotations**

You can make notes anywhere on the screen. You may input alphanumeric characters. If, after leaving a comment on the screen, you save the image, then the note will be included.

This creates a window at the location on the screen where you pressed with your finger, and the keyboard pops up to write.



**Clear** Press this button to clear all measurements and annotations on the screen.

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### Save Image

Once the image is frozen, you have saved the 100, 200, 500 or 1000 images in the Cine Loop that may be saved in the film roll. Swipe your fingers in the middle of the screen to the left or the right to select the image you wish to save.

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### Save Video

When you freeze the image, like in the previous case, the Cine Loop stops recording, and the entire photogram sequence can be saved. Videos will last 10, 20, 50 or 100 seconds.

This saves in the Cine Loop you were storing until you pressed Freeze in the film roll.

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### Settings

Shows the settings you can adjust on the equipment.

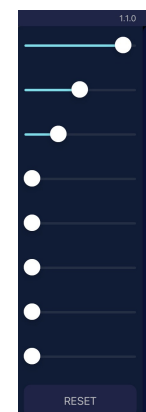
Press this button for a pop-up window to modify the following parameters:

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- Show information: shows or hides information on screen parameters.
- Cine Loop: temporary recording made as you conduct the ultrasound. The last 100, 200, 500 or 1000 photograms will be saved.
- Adjusting WiFi, 2.4 GHz channels. In the event of conflict with other WiFi network channels nearby, the channel can be changed to prevent interference. If you change the channel, you will lose the probe password and you will need to enter it again. See point 2.4 of this manual.

Finally, if you press the vertical bar on the right-hand side, you can drop down the 8 sections of the **TGC** to adjust gain as desired for each zone.

If you slide each one of the buttons to the right, you increase gain at that screen height. Sliding it to the left decreases gain. If you press **RESET**, you return the factory TGC settings.



## 4. Maintenance

### 4.1 Charging the probe

When the battery runs out, you must recharge it. You can do this with a wireless charger. Not included as part of the series is the loading platform. Connect its USB cable to it, and the mobile device charger.

When the charger is connected to the USB cable, the platform's LED light turns green.

We recommend using a 2A charger and the original cable for the wireless charging base.

When the battery is being charged, the indicator levels will blink until charging is complete. At this point, the four levels will be visible, without blinking. Charging the battery can take up to 4 hours.



The battery duration is 3 hours under constant operation.

The iPad lasts around 9 hours, depending on ambient light. If there is much light, the iPad's brightness will turn up to offset it, leading to higher consumption.

## 4.2 Tablet resistance

To prevent the tablet from becoming dirty from dust or getting moist or wet, a water- proof cover is included. It is splash- and dust-resistant.

As a particular recommendation, we suggest purchasing an IP68 cover for iPad mini, which is also fall-resistant up to 1.2 m.

## 4.3 Cleaning

The probe must periodically be cleaned. The part of the probe that is inserted into the rectum has IP68 water- and dust-protection, meaning it resists dust and water, but the (beige) **electronic part cannot be submerged**. You may use a damp cloth or paper to clean it.

## 4.4 Storage

While storing the probe, we highly recommend that the temperature be no lower than 15°C. If the probe or the mobile device's temperature is lower, you must warm them before use.

Another recommendation: regarding battery charge, if the probe and the tablet will not be used for a long period, we recommend storing them with a full charge.



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