

# MODEL AWQ-104L™

## Digital Electronic Acupunctoscope (Digital Display & 4 channels)



## INSTRUCTION MANUAL

## TABLE OF CONTENTS

Contents .....	3
Introduction .....	3
Safety Precautions .....	4-5
Features .....	5-6
Battery Information .....	7
Indications and Controls .....	8
Operation of Controls .....	9-12
WaveForm Pictures .....	13-14
Instructions For Use .....	15-19
Accessories & Packing .....	19
Technical Specifications .....	20
Explanation of Symbols .....	21
Care and Maintenance .....	21
Trouble Shooting .....	22-23
Storage and Transportation .....	23
Warranty .....	24

## **Contents of the AWQ-104L Digital Electronic Acupunctoscope Package**

Model AWQ-104L Digital Electronic Acupunctoscope .....	1 pc.
Hard carrying case .....	1 pc
Pointer probe with hand grip electrode .....	1 pc
3.5mm plug connecting wire(alligator type) .....	4 pc
9V battery (PP3, 6F22 or its equivalent) .....	1 pc
Instruction manual .....	1 pc

### **Introduction .....**

The model AWQ-104L Digital Electronic Acupunctoscope with 4 outputs is a newly designed device. It features a digital display to show the frequency of stimulation during operation, and numerical display to show the sensitivity of detection during the location of acupuncture points. This device is fully equipped with distinguished features in appearance, circuitry and accessories. It is one of the most powerful Acupuncture devices available on the market.

The AWQ-104L Digital Electronic Acupunctoscope is designed for Acupuncture treatment used by an Acupuncturist. Before using the system, carefully read this manual so that your patient will obtain maximum benefit, as well as full usage of the system.

## **SAFETY PRECAUTIONS - Warnings**

**Heart Patient**-Adequate precautionary measures should be considered prior to stimulating patients suspected of having heart disease. Current clinical data cannot sufficiently rule out the possibility of adverse results for such patients.

**Carotid sinus**-Do not stimulate over the carotid sinus nerves, especially in patients with known sinus reflex sensitivity.

**Neck Stimulation**-Severe spasm of the laryngeal and pharyngeal muscles may occur when the electrodes are placed across the neck or the mouth. This may be strong enough to close off the airway.

**Cardiac Pacemakers**- Stimulation will inhibit the output of some demand cardiac pacemakers and therefore, it is not recommended for patients with this type of pacemaker.

**Pregnancy**-The safety of electrical nerve stimulation for use during pregnancy or delivery has not been established.

**Other**-Electrical nerve stimulation, as presently understood, is a symptomatic treatment and as such may suppress the progress of pain which would otherwise serve as a protective influence on the outcome of a disease process. The potential for physical and/or psychological dependence upon nerve stimulation as a means of relieving pain has not yet been determined.

It has been noted that some patients find the sensation of electrical stimulation extremely unpleasant and should probably be excluded from further use of the stimulator.

Do not apply electrical nerve stimulation when pain syndromes are undiagnosed until etiology is established.

Do not apply electrical nerve stimulation current transcerebrally.

Electrical nerve stimulation devices should be used only under the continued supervision of a physician. Electronic monitoring equipment (such as EKG monitors and EKG alarms) may not operate properly when electrical nerve stimulation is in use.

Avoid use in post-operative recovery rooms when a heart monitor is on.

Keep out of reach of children.

## **Features .....**

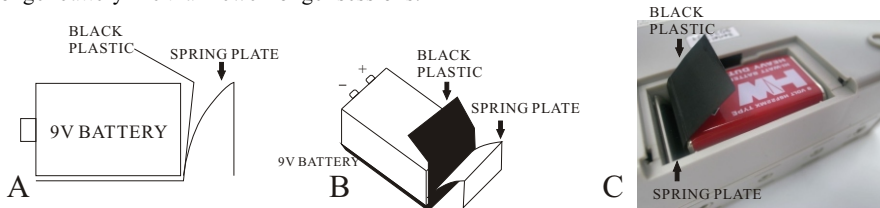
The model AWQ-104L Digital Electronic Acupunctoscope is an instrument used both as a detector of acupuncture points and Acupuncture treatment. It has the following features :

- 1) Digital display to show the working frequency during acupuncture treatment when Therapeutic switch is set at the "Needle" or "Stim" position. The "Stim" indication LED will light in the setting of "Stim" position, showing direct stimulation from the probe is now ON.
- 2) Acupuncture point detection which can be used for locating the acupuncture points. Set the Therapeutic switch to "Loc" (point location) position. Digital display will show the location of acupuncture point numerically when Therapeutic switch is set at the "Loc" position. During acupuncture point location, a higher numerical value indicates closeness to the acupuncture point. The "Loc" indication LED will light continuously when the acupuncture point is located.
- 3) Polarity change-over switch which allows user to reverse each output channel polarity easily and without reversing lead wires during treatment. In doing this, the output intensity should be turned down first in order to avoid a sudden increase of intensity.

- 4) Acupuncture treatment through the 4 output channels, which emit electric stimulation via the cables (alligator type connecting wires) and acupuncture needles to the patient. Set the Therapeutic switch to "Needle" position to perform this function. The "Ind" indication LED will light in this setting, to show power on and frequency speed of the device.
- 5) Therapeutic switch "Stim" which allows immediate stimulation on a point right after its location. Simply move the switch from the "Loc" (point location) to the "Stim" (stimulation) position. The "Stim" indication LED will light in this setting.
- 6) Multiple transmit message so that 3 different kinds of waves can be performed. Their frequency varies from 0-100 Hz (or 10-999 Hz at x10 setting), with continual adjustment and free combinations. By varying the combinations of these multiple messages, a large number of stimulating conditions can be obtained to prevent adaptation and enhance therapeutic efficiency.
- 7) High intensity of output, divided in 'high' and 'low' ranges, smooth adjustment, high stability and low power consumption.
- 8) Improved design of accessories, alligator clip wires which provide very sturdy and convenient connection to needle, probe for point detection & electric stimulation, and optional accessories which expand its function to a powerful T.E.N.S device.
- 9) Professional design, portable and elegant.
- 10) Equipped with a battery low indicator. Yellow low battery lamp illuminates when battery power drops to about 5.1 V. Replace battery when this indicator lights up.

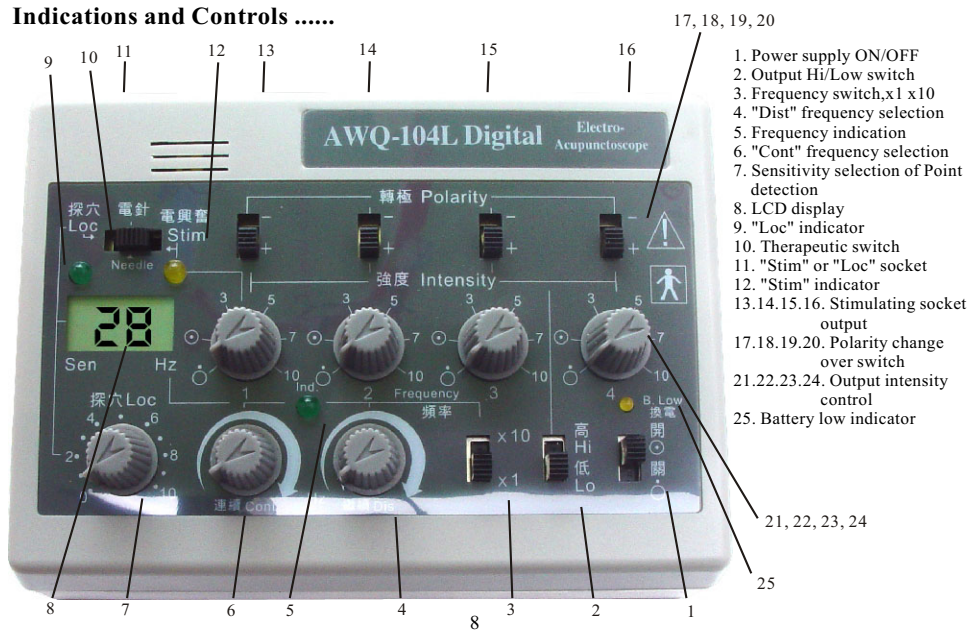
## Battery Information .....

Your device requires one 9V battery, use PP3, 6F22 or its equivalent type of battery. The battery is replaced by opening the battery door on the bottom side of the device. Slide the battery door off, remove the old battery and insert the new one. Insert the battery correctly with the polarity according to the below diagrams (A,B,C) shown in the battery compartment label. Make sure the directions of the positive and negative poles of the battery inserted are correct and be sure you are using a fresh battery. Close the battery door. Battery life is 4 to 20 treatment hours depending on how high the current is set and how long each treatment session is. Many short treatment sessions give longer battery life than fewer longer sessions.



- **To avoid battery leakage, remove the battery if the unit will not be used for an extended period of time.**

## Indications and Controls .....



1. Power supply ON/OFF
2. Output Hi/Low switch
3. Frequency switch, x1 x10
4. "Dist" frequency selection
5. Frequency indication
6. "Cont" frequency selection
7. Sensitivity selection of Point detection
8. LCD display
9. "Loc" indicator
10. Therapeutic switch
11. "Stim" or "Loc" socket
12. "Stim" indicator
- 13.14.15.16. Stimulating socket output
- 17.18.19.20. Polarity change over switch
- 21.22.23.24. Output intensity control
25. Battery low indicator

21, 22, 23, 24

25



## Operation of Controls .....

The device consists of the following controls :

- ON/OFF switch - on the bottom right corner of the device.
- Hi/Lo switch - next to the ON/OFF switch, this switch is to select either a High range or Low range of intensity for the output channels.
- x1 x10 multiplier switch - next to the Hi/Lo switch, this switch is to select the frequency of the output in normal range of 1 ~ 100 Hz, or multiplies 10, i.e. 10 ~ 999 Hz. (Maximum).
- "Cont" and "Dis" (Hz) frequency controls - located at the lower middle part of the device. These two knobs control and select different waveforms and frequencies.
- Loc knob - located at the bottom left corner of the device, to control the sensitivity when locating the acupuncture point.
- 4 output channel control knobs located in the center of the device. These 4 knobs control the output intensities of channels 1, 2, 3, 4 respectively.
- 4 Polarity change-over switches located at the top of the device. These 4 switches change the polarity of individual output channels.
- Therapeutic switch- When the switch is in "Loc" position, the device is able to locate the acupuncture point by connecting the Point locator probe into the device. When the switch is in "Needle" position, output channels 1,2,3,4 will function and deliver electric pulses when adjusting the output control knobs. When the switch is in "Stim" position, this output channel works as an electric stimulation output by connecting the stimulation probe (point locator probe) to the device. The output intensity of this channel is controlled by the Channel 1 control knob.

On top of the On/Off switch is the battery low pilot lamp indicator (yellow in color). When this lights up, the voltage of the battery inside the device is too low to operate the device. Replace the battery with a new one and continue use.

There is a green pilot lamp indicator "Ind" between the two frequency switches. This indicator shows the frequencies of the device you have selected. When the frequency is low (under 3 Hz), the indicator flashes on for about one second and off for about 1 second. At higher cycles the flashing is much faster. That speed is still visible to the eye and is obviously flashing. At the high frequency settings of 30 Hz to 999 Hz, the light appears to be a solid light because it is flashing too fast for the eye to discriminate the flashes.

There are two pilot lamp indicators on the left upper corner of the device, one in green under the "Loc" and the other one in yellow under the "Stim" . The indicator will light up when you have selected the desired function. "Loc" indicator lights up during the acupuncture point location. "Stim" indication lights up when setting is at "Needle" or "Stim" position.

A digital display is located under the Therapeutic switch. This is to show the frequency of stimulation during operation, and the numerical display shows the sensitivity of point detection during the location of acupuncture point.

The digital display will show the frequency from 1 to 100 when setting is at "Needle" and "Stim", with the multiplier switch at x1 position.

The digital display will show the frequency from 10 to 999 when setting is at "Needle" and "Stim", with the multiplier switch at x10 position.

## **OUTPUT JACKS**

There are 5 output jacks on the top front side of the device. The output jack on the left hand side marked **1<sup>+</sup>** is for the direct stimulation "Stim" function. The Point locator is inserted into this jack for either point location (when in "Loc" position) or electric stimulation (when in "Stim" position). The rest of the 4 output jacks are channel outputs. Each output channel is individually controlled by the intensity control knob aligned with the jack.

## **THERAPEUTIC SWITCH**

When this switch is in "Loc" setting, channel **1<sup>+</sup>** functions as a point detector when the point locator is inserted in this jack. LCD display will show the numerical value for the correct location of the acupuncture point. All other output channels will function normally and deliver electric pulse stimulation.

When this switch is in "Needle" setting, channel **1<sup>+</sup>** is disabled. LCD display will show working frequency at the desired setting. All other output channels work normally and deliver an electric pulse.

When this switch is in "Stim" setting, channel **1<sup>+</sup>** functions as a direct electric stimulation channel when the stimulation probe (point locator probe) is inserted into this jack. LCD display will show the working frequency setting. All other output channels will be disabled during this function.

- 1) Push the "ON/OFF" switch in the "ON" position i.e. turn on the power.
- 2) Select the Therapeutic switch ("Loc/Needle/Stim") by sliding the switch.
- 3) Select the desired "Hi/Lo" switch by sliding the switch.
- 4) Select the desired "X10/X1" switch by sliding the switch.
- 5) Select the desired Frequency mode by turning the frequency knobs.
- 6) Plug in the wires & connecting needles/pads onto the skin/treatment part.
- 7) Lastly turn on the "Intensity" knobs slowly to do the treatment.

**Please find a summary and explanation as follows:**

<b>Channel</b>	<b>"Loc"</b>	<b>"Needle"</b>	<b>"Stim"</b>
<b>1<sup>+</sup></b>	For point detection LCD shows numerical.	No function, no output (disabled). LCD shows working frequency.	Output in Hi setting, Intensity is controlled by Channel 1. x1-x10, polarity switch is in function for Channel 1. LCD shows working frequency.
<b>1</b>	Output normal. Hi-Lo, x1-x10, polarity switches all in function.	Output normal. Hi-Lo, x1-x10, polarity switches all in function.	No function, no output (disabled).
<b>2</b>	- ditto -	- ditto -	No function, no output (disabled).
<b>3</b>	- ditto -	- ditto -	No function, no output (disabled).
<b>4</b>	- ditto -	- ditto -	No function, no output (disabled).

## Wave Form Pictures .....

The adjustment of the stimulating wave forms and frequencies are controlled by :

Cont = fixed frequencies Dis = variable frequencies  $\times 1 \times 10 =$  multiplier

There are two positions on switch "x1" and "x10" . The frequency of output impulse, can be adjusted within two different ranges, (0-100 Hz and 10-999 Hz). There are 3 different forms of combinations by using "Cont" and "Dis" .

(1) When "Dis" is at 0 (fully counterclockwise), by adjustment "Cont", a continuous wave is obtained.

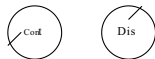


Continuous

Figure A : continuous wave

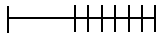


(2) When "Cont" is at 0 (fully counterclockwise), by adjusting "Dis", a discontinuous wave is obtained.

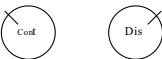


Discontinuous

Figure B : discontinuous wave



(3) By adjusting "Cont" and "Dis", but keep "Cont" < "Dis", a composite wave of alternating frequencies "Cont" and "Dis" is obtained (i.e. dense-disperse wave).



Dense-disperse

Figure C : dense-disperse wave



## **LCD DIGITAL DISPLAY - FREQUENCY SETTING**

The operating frequency of the device will be displayed on the LCD digital display when the Therapeutic Switch is set at the "Needle" or "Stim" position, and by adjusting the "Cont" & "Dis" frequency knobs. The correct frequency reading will be displayed for about 2 seconds (sampling time) after the adjusting of the frequency knobs.

When "Cont" knob is adjusted, but keeping the "Dis" knob at zero (fully counterclockwise) position, the frequency will show a continuous pulse rate reading, such as 5... 60... 90... Hz etc.

When "Dis" knob is adjusted, but keeping the "Cont" knob at zero (fully counterclockwise) position, the frequency will show a discontinuous pulse rate reading, such as 5, 0.. 60, 0... or 90, 0... Hz etc.

When both "Cont" and "Dis" knobs are adjusted, the frequency will show a dense-disperse pulse rate reading, such as 5, 20... 30, 65... 50, 90... Hz etc.

## Instructions For Use .....

### POINT DETECTION - BASIC PRINCIPLE

On the body surface, the electric resistance of an acupuncture point is lower than its surrounding area. It can be readily located by means of an instrument which is sensitive to resistance changes. When the metal probe touches a low resistance point, the loudspeaker gives a sound signal and the digital display shows a numerical value. Its pitch rises and digital display number increases with the lowering of the electric resistance of the skin. The pitch will get higher and the numerical value will increase as the probe moves closer to the acupuncture point. With this instrument and method of detection, acupuncture points located usually produce a strong sensation and reaction to electric stimulation, and will achieve the best therapeutic results.

### Operation Instruction

Insert the point detector (with hand pole) in the "1+" socket, set the Therapeutic Switch to the "Loc" position. (figure D).

Ensure battery is inserted correctly (see battery information). Turn on the device by switching the ON/OFF switch to "ON" position. Adjust the sensitivity knob of the "Loc" to the appropriate position (it turns with increasing sensitivity). Touch the hand pole with the probe, the buzzer gives a sharp sound signal, digital display shows increasing numbers, and the pilot lamp of the "Loc" will flash continuously which indicates that the section for "Loc" works normally.

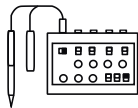


Figure D

Let the patient grasp the hand pole in one hand. Search for the acupuncture point with the probe head on the patient's skin in the corresponding anatomical position. When doing this, the probe should be held in a vertical position perpendicular to the surface of skin. The pressure and duration in touching the point with the probe should be kept the same, for the effect of the electrical negative current on the body would lower the electrical resistance of the point under pressure. If the probe contacts too long or with greater pressure it would cause the appearance of false reacting points. When the probe touches the acupuncture points the buzzer gives out a shrill sound (the pilot lamp of the "Loc" will flash continuously at the same time), the digital display shows a higher number and a very light electric stimulus is felt by the patient. Since the acupuncture point is very small, it should be located with patience and care.

If the electric resistance of the general surface of the skin is low, or when the skin is wet or sweating, which would lower the skin resistance, the buzzer would give a sound signal on the skin surface wherever the probe touches. When this happens, dry the skin with a towel, maneuver the probe with lighter pressure, and readjust the sensitivity knob to a lower level so that the point to be located can be discriminated from the surrounding surface of skin. There is no definite standard for the sensitivity, the appropriate sensitivity can be found through experience.

**Never use the probe on open cuts or wounds!**

If a choice of several acupuncture points arise for treating a certain disease, the best therapeutic point can be singled out by comparing their reaction to the searching probe, for the most reactive point would give a better therapeutic effect.



If located point will be stimulated by the probe head, keep the probe head touching the located point, set Therapeutic Switch to "Stim" position (the "Stim" pilot lamp will turn on at this position), adjust the intensity knob of Channel No. 1, preset waveform and frequency will be provided by the probe head. (figure E)

## ELECTRIC STIMULATION

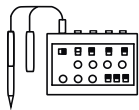


Figure E

This section of the instrument produces stimulating impulses, which act on acupuncture points through electrodes for therapeutic purpose.

### Operating instructions

1. Ensure battery is inserted correctly (see battery information). Turn on the device by switching the ON/OFF switch to "ON" position.
2. The adjustment of the stimulating wave forms and frequencies is controlled by the following knobs and switches :

Cont = fixed frequencies

Dis = variable frequencies

x1 x10 = multiplier

There are two positions on switch x1 and x10. The frequency of output impulse, x1 x10, which can be adjusted within two different ranges, (1-100 Hz and 10-999 Hz). There are 3 different forms of combinations by using Cont and Dis.

- (1) When Dis at 0, by adjustment Cont continuous wave is obtained.
- (2) When Cont is at 0, by adjusting Dis, a discontinuous wave is obtained.
- (3) By adjusting Cont and Dis, but keeping  $\text{Cont} < \text{Dis}$ , a composite wave of alternating frequencies Cont and Dis is obtained (i.e. dense-disperse wave).

See figure A, B, C for the illustration of different wave forms. Select the desired wave forms and frequencies for treatment.

### 3. Acupuncture therapy

- (1) Set "intensity" knob to zero and switch to "Hi" or "Lo" position as required.
- (2) Apply acupuncture needles to patient.
- (3) Insert alligator type connecting wires into 1, 2, 3 & 4 sockets and fasten their clips (improved alligator) to the acupuncture needles.
- (4) Set the desirable waveforms and frequencies with knobs Cont, Dis and x1/x10.
- (5) Adjust intensity to appropriate degree. The current of each output channel can be adjusted from 0 to 18mA (when "Hi-Lo" at "Lo" position) or from 0 to 40 mA (when "Hi-Lo" at "Hi" position) using the knob labeled INTENSITY 1, 2, 3, 4 respectively. Rotating the knob clockwise will first turn on the output channel and then increase the current output. The "Hi" position is the high intensity range and the "Lo" position is the low intensity range.

(6) Polarity of each channel can be reversed with "polarity" switch by switching to "-" or "+" position. When doing this, all output intensities should be turned down to zero first, in order to avoid a sudden increase of intensity to patient discomfort to change of polarity.

#### 4. Therapy with Electric Stimulation probe

(1) Use Stimulation probe (point detector with hand pole) and put onto the acupuncture points or the other selected parts of the skin.

(2) Set Therapeutic Switch to "Stim" position (the "Stim" pilot lamp will turn on at this position) and the intensity is regulated by No. 1 Channel.

NOTE : The output intensity of "Stim" is about 2 times as strong as No. 1 channel.

#### **Accessories & Packing .....**

1. Output connecting wire, alligator type (3.5 mm plug) .....	4 pcs.
2. Pointer probe with hand grip electrode .....	1 pc.
3. 9V battery (PP3, 6F22 or its equivalent) .....	1 pc.
4. Instruction manual .....	1 pc.

The device and its accessories are packed in a carrying case

## Technical Specifications .....

Color	: Beige/Grey
Channel	: Four outputs
Output Channel	: 0~18 mA (low) (on 500 ohm load), adjustable 0~40 mA (high) (on 500 ohm load), adjustable
Pulse Rate	: X1 - 1 ~ 100 Hz adjustable X10 - 10 ~ 999 Hz adjustable
Pulse Width	: at X1 - 350 $\mu$ S at X10 - 40 $\mu$ S
Pulse Shape	: Asymmetric Square Wave with a negative spike
Digital Display	: Frequency at X1 setting shows 1~ 100 Hz at X10 setting shows 10 ~ 999 Hz (max) Point location shows number from 1~200(max)
Indicator Lamp	: Green lamp to show power and pulse rate speed for all channels, a yellow low battery lamp which is to illuminate when battery power drops to about 5.1 V. Another Green lamp on the left top corner of the unit lights on when a point is found during the detection. A Yellow lamp next to this lamp will on when switch from "LOC" function to "STIM" function, indicates that the location output channel is now worked as a stimulation channel.
Wave form	: Adjustable, dense-disperse, and intermittent
Polarity	: Changeable from positive to negative or vice versa
Power Source	: 9V battery, type PP3, 6F22 or its equivalent
Output Jack	: 3.5 mm diameter jack
Unit Dimensions	: 155 x 105 x 60 (mm)
Unit Weight	: 330 gm (body only)
Accessories	: Pointer probes and hand grip probe. 4 connecting wires alligator type 1 pc. 9V battery (PP3, 6F22 or equivalent) 1 artificial leather carrying case 1 instruction manual
Tolerance	: $\pm$ 20%
Operation Temperature	: 16°C to + 40°C or +60.8°F to +104°F

Specifications are nominal and subject to variation from the listed values due to production tolerances.

## Explanation of symbols .....

The following symbols are used in this device :



On



Off



“See Instruction



Type BF  
Equipment



Year of  
Manufacture



Caution



Serial Number

## MAINTENANCE

Maintenance of the device is limited to cleaning the device battery contacts and wire replacement.

The device operates on a 9 volt battery. When adequate stimulation can no longer be maintained, change the battery.

Remove the old battery and replace it with a new battery.

The system will provide stimulation only if the battery is properly installed.

## CLEANING

DO NOT IMMERSE THE DEVICE IN ANY CLEANING SOLUTION.

The device should be periodically wiped clean using a damp cloth and a solution of mild soap and water. Use of other cleaning solutions may damage the case.

The wires should be wiped clean with a cloth dampened with a mild soap solution and then wiped dry.

## TROUBLE SHOOTING .....

If your device seems to be functioning improperly, check the procedures shown below to determine what may be wrong.

If none of these measures correct the problem, the device should be serviced. **Do not attempt to repair the device by yourself!** Return the device to your local authorized dealer or to the manufacturer as listed in this manual for repair or service.

	PROBLEM	PROBLEM	PROBLEM
	Indicator lights up but device does not function properly.	Low battery lamp illuminates.	No indicators light up.
SOLUTION	a. Check control settings, are they set to values prescribed as desired. b. Check if frequency control is turned on (not too low, or at zero setting) c. Are needles firmly fixed and in proper position? d. Check connecting wire. Make sure all alligators are firmly clipped to needles. e. Replace connecting wire with another to check for broken wires.	Replace battery with a new one.	Replace battery with a new one.

1. Battery replacement - Battery should be replaced whenever sufficient stimulation cannot be maintained.
2. Care of Device - The device and connecting wires should be kept clean. The device should not be immersed in any liquid. Avoiding rough use will help prevent premature failure.

### **Storage and Transportation .....**

Store the device in a dry location free from dust and contamination where the temperature remains fairly constant and within the range of  $-16^{\circ}\text{C}$  to  $40^{\circ}\text{C}$  ( $3.2^{\circ}\text{F}$  to  $104^{\circ}\text{F}$ ).

Do not drop, mishandle, or expose to temperature or humidity extremes <outside the range of  $-20^{\circ}\text{C}$  to  $50^{\circ}\text{C}$  ( $-4^{\circ}\text{F}$  to  $122^{\circ}\text{F}$ ), 10-98% RH non-condensing>. Do not use if the device malfunctions or has been damaged in any manner.

There is generally no restricted shelf-life of the device.

### **Disposal**

Please follow the local environment requirement when disposes the device.

### Limited Warranty .....

This warranty is in lieu of any other warranty expressed or implied:

This AWQ-104L Digital Electronic Acupunctoscope is warranted to the initial purchase.

(" purchases" ) and to no other person against any defects in material and workmanship for a period of one year from the date of purchase. If the device is found to be defective within the warranty period, it will be repaired or replaced if returned prepaid to an authorized service center. This warranty does not cover damage caused by rental, misuse, negligence, accident, abuse, alteration, or modification of the device. Repairs after the warranty period will be made and charged to the customers on the basis of rates which are available on request. Except for personal injury, no liability is held in either tort or contract for any loss or damage, direct, consequential, or incidental arising out of the use, misuse, or inability to use this device.

Serial No. \_\_\_\_\_

(located on the rear side of the device, next to the battery compartment door)

Date Purchased \_\_\_\_\_

Customer : Please record this information

Manufacture date.....

Date of Manufacture : see device

Dist. By : Lhasa Medical, Weymouth, MA. USA  
1-800-722-8775

Rev 9  
2020-08  
Made in China