

Be Smart, Be Compact!

Dr's Finder NEO

New Concept of Apex Locator

Model : AL-DFA20

User manual

Eng

1. Introduction	02
- Features	
- Description	
2. Safety Information	03
- Warning and caution	
- Notes and reference	
- Installation and Connection	
- Operation	
- Maintenance	
3. List of Components	09
4. Parts identification	10
5. Installation	11
6. How to use	14
7. Maintenance	21
8. Trouble Shooting	22
9. Specification	25
10. Accessories	25
11. Warranty	25
12. Warranty card	26

1 Introduction

Thank you for purchasing the device. The instructions described below have been designed to provide the necessary information for the successful operation, maintenance and safety for the use of this device.

Features

- Touch color screen
- Smallest size
- Rechargeable battery
- Working length select

Description

This unit can be used to detect the apex of root canal.

2 Safety information

It is important to understand the following information to use this product safely.

Warning and caution

Warning and caution used in this manual are shown below.



Warning

Indicates a potentially hazardous situation which, if not avoided, may result in serious injury or death.



Caution

Indicates a potentially hazardous situation which, if not avoided, may result in minor/moderate injury or in damage of property.

Notes and references

Notes and references used in this manual are shown below.



Note

Indicates that potential malfunctions may occur if the description is ignored.



Reference

Supplementary information to facilitate better operation.

2 Safety information

Installation and Connection



Warning

- Keep away from source of ignition to avoid fire or explosion.
- Protect the device from any liquid to avoid electric shock or functional error.
- Place the device on a flat and stable surface. Do not drop device to avoid internal defect that may cause overheating or fire.
- Do not place the electric cord near a gas burner or sources of heat. Should the cord catch on fire, replace with the new one to avoid short-circuit.



Caution

- Do not use or leave the unit in areas of high temperature or exposed to direct sunlight, internal circuit defect may cause overheat or fire.
- Securely connect the dust-free power plug to the outlet.
- Use this device ventilated areas. Overheating may cause fire.
- Do not touch the terminal areas of device with finger or conductive objects, such as metal wire or safety-pin. It may electric shock or fire.
- Do not use any accessories other then supplied. It may cause fire or device malfunction.
- Make sure the cables, file hook, lip hook, and etc are securely plugged for each and device. A poor connection can prevent measurement.

Operation



Warning

- Do not plug the charging cable with wet hands. This may result in an electric shock.
- In case of fluid leak from battery or partial discoloration/deformation of the device, immediately discontinue use.
- Connect the cord to device when charging.
Wrong directed placing may cause malfunction, explosion, or fire.
- In case of partial discoloration of device, immediately turn off the device and repair it.
- In case battery fluid contacts the eye, immediately flush with copious amount of clean water and seek medical attention.
- Do not use this product on a person with a pacemaker as it may cause malfunction of the pacemaker.
- Accurate canal measurement is not always possible depending on the shape and condition of the tooth as well as a decline in the equipment's performance.
- Do not use damaged accessories (file hook, probe cord, or etc.).
An accurate measurement can not be made with damaged accessories.
- A rubber dam should be used when performing endodontic treatment.
- Check the device operation before each patient. If the indicators in the display do not all appear normally, the device may not be able to make an accurate measurement. In this case, stop using the instrument and have it repaired.
- The measured figure on the display does not correspond to any actual distance and should only be used as estimates.
- Never connect this device to any device not approved by manufacturer.
- In some case such as a blocked canal, a measurement cannot be made.
- Always check the measurement with an x-ray.
In some cases, an accurate measurement cannot be made because of the canal shape, unusual cases, or poor performance of the device.

2 Safety information

Operation



Warning

- Stop using the instrument immediately if you sense something odd or abnormal while taking a measurement.
- Do not use the device ultrasonic scaler with the lip hook attached to the patient. Electric noise from the scaler could interfere with canal measurements.
- Autoclave file hook and lip hook after each patient.



Caution

- Avoid damage or use of unnecessary force on the power cord and device. This may cause an electric shock, fire, or malfunction.
- Should battery fluid contact the skin or clothes, immediately wash it off with copious amount water to avoid skin damage.
- Turn off the device, when don't use it.
- Do not use this product for any purpose other than dental use.
- This device is not water prove. Be careful the device from the wet or liquid. In case of malfunction due to this case, it is not covered by warranty.
- Federal law restricts this device to sale by or on the order of a dentist (for U.S.A.).
- Blocked canals cannot be accurately measured.
- This device must not be connected to or used in combination with any other apparatus or system. It must be used as an integral component of any other apparatus or system. Manufacturer will not be responsible for accident, equipment damage, bodily injury or any other trouble which results from ignoring this caution.

2 Safety information

- Illumination devices such as fluorescent lights and the Film viewer which use an inverter can cause the device to operate erratically.
Do not use the device near devices such as these.
- Electromagnetic wave interference could cause this device to operate in an abnormal, random and possibly dangerous manner.
Cellular phone, transceivers, remote controls and all other devices which transmit electromagnetic waves located inside the building should be turned off.
- Do not let the file touch the gums. This will cause the meter to jump to Apex.
- If the canal is extremely dry, the meter may not move until it is quite close to the apex.
If the meter does not move, try moistening the canal with oxydol or saline.
- Occasionally the meter will make a sudden and large movement as soon as the file is inserted into the root canal, but it will return to normal as the file is advanced down towards the apex.
- The lip hook could cause an adverse reaction if the patient has an allergy to metals.
Ask the patient about this before using the lip hook.
- Take care that medicinal solutions such as formalin cresol or sodium hypochlorite do not get on the file hook or the lip hook. These could cause an adverse reaction such as inflammation.
- Always clip the file hook to the upper part of file shaft, near the handle.
The metal and plastic part of the file hook can be damaged if they are attached to the file's cutting part or the transition to the cutting part.
- Use files and reamers with plastic handles only.
If the file has a metal handle, electrical leakage will occur when the handle is touched by fingers and it will prevent an accurate root canal measurement. Even if the file handle is made of plastic, make sure not to touch the metal part of the file with finger.

2 Safety information

Maintenance



Warning

- Use only accessories supplied from manufacturer to avoid fluid leak, explosion, or malfunction.
- Do not disassemble or overhaul the device. Unusual performance may cause injuries, electric shock, fire, or malfunction.
- Be careful from any liquid when cleaning.

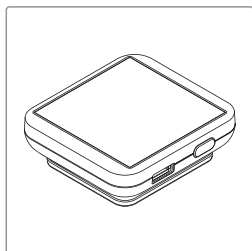


Caution

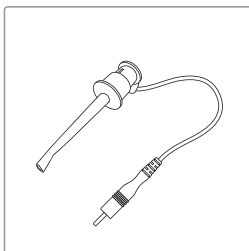
- Do not use solvent (containing orange oil, ethanol or acetone) when clean the device.
- User must be in charge of operation, maintenance and check.
- Do not autoclave the probe cord.

3 List of components

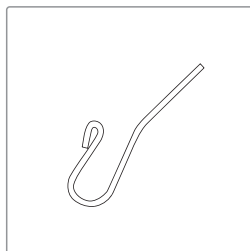
Please check the contents described below when removing the contents from the original packaging.



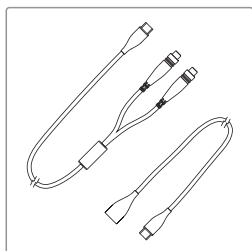
Main body



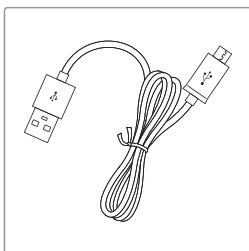
File hook (x 2 ea)



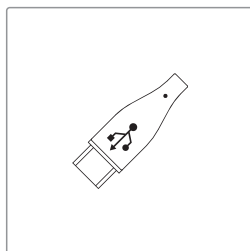
Lip hook (x 3 ea)



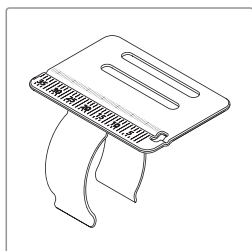
Probe cord & extension cord



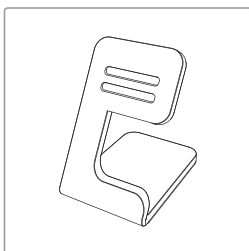
Charging cable



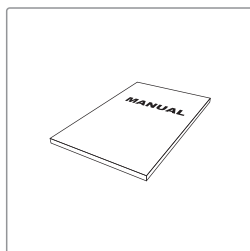
Calibration jig



Ruler (x 2 ea)

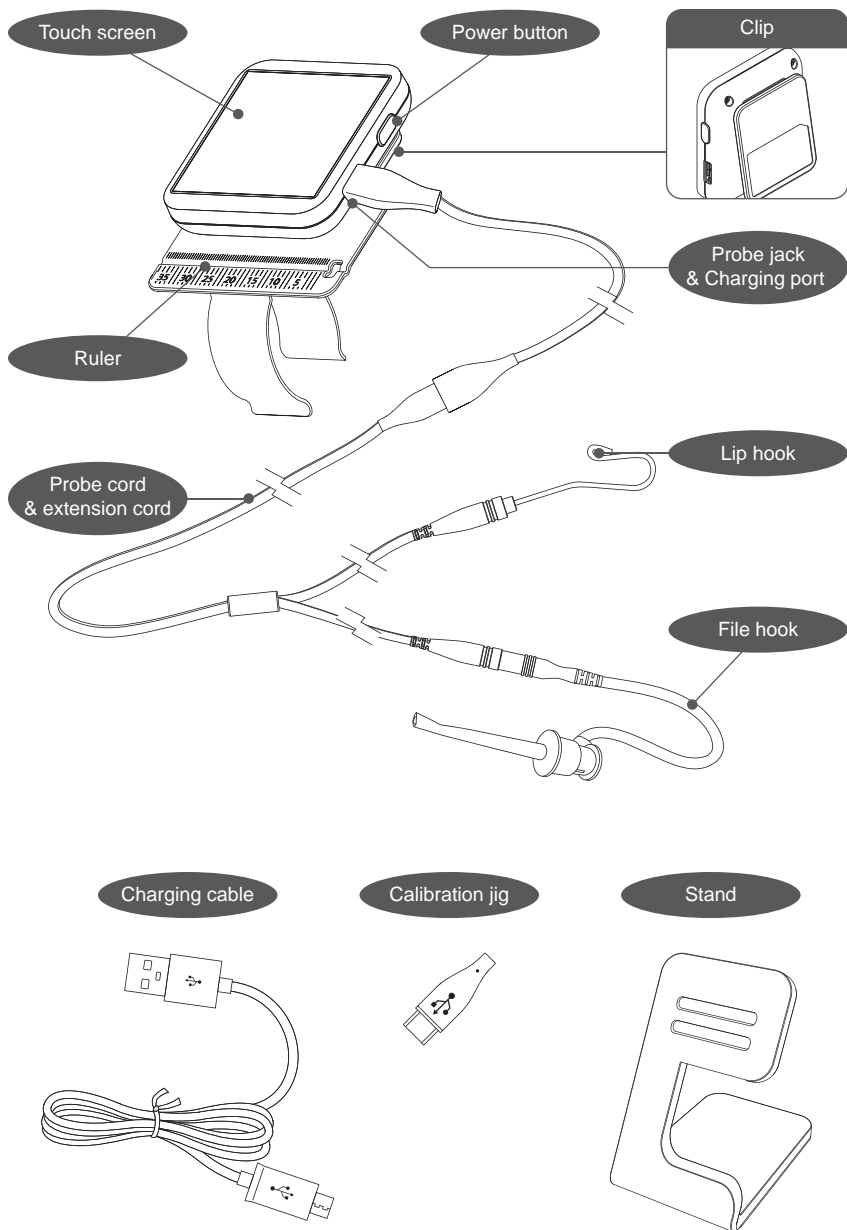


Stand



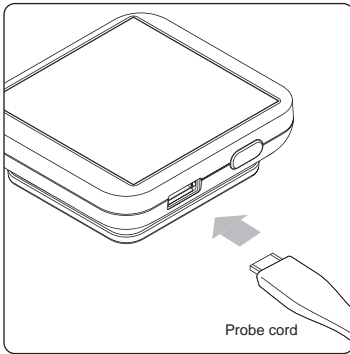
User Manual

4 Parts identification



5 Installation

1. Connecting the probe cord



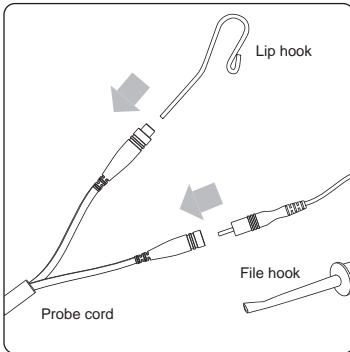
Insert the probe cord completely into the probe jack on the upper side of device carefully.



Note

- Make sure the probe cord plug is securely plugged into the probe jack. A poor connection can prevent measurement.

- Do not drop anything on or bang the probe cord plug after it has been inserted into the probe jack.



Insert file hook and lip hook into the probe cord.

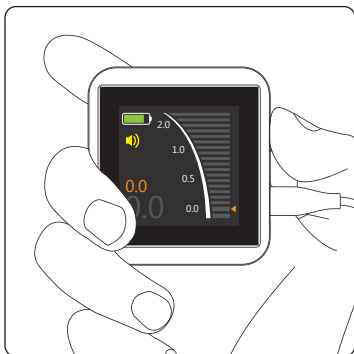


Reference

It doesn't matter connect the file hook and lip hook any female connector.

5 Installation

2. Checking the function

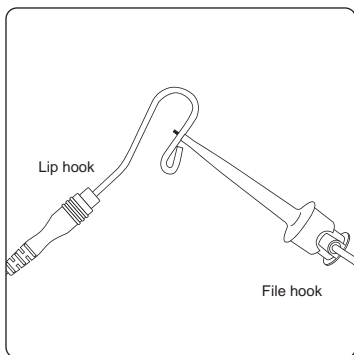


Click power button. The display will appear on screen with beep sound.



Note

The device turn off after 1 minute without use.



Check that the probe cord is properly plugged in the jack. And check that the file hook and lip hook are properly connected to the probe cord. Then Touch metal part of the file hook with the lip hook. Check that all the meter bars on the display light up.



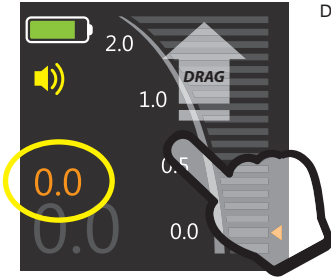
Warning

Check the device operation before each patient. If the indicators in the display do not all appear normally, the device may not be able to make an accurate measurement. In this case, stop using the instrument and have it repaired.

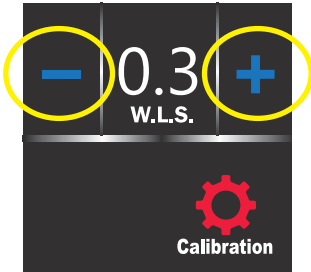
5 Installation

3. Working length setting

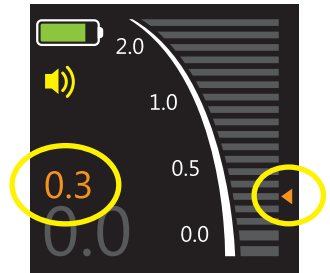
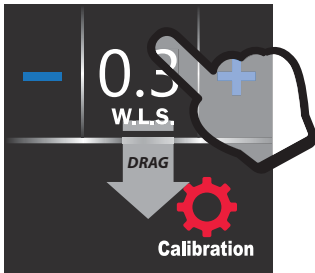
Set the working length on the setting mode.



Drag the screen on upper side to go setting mode.

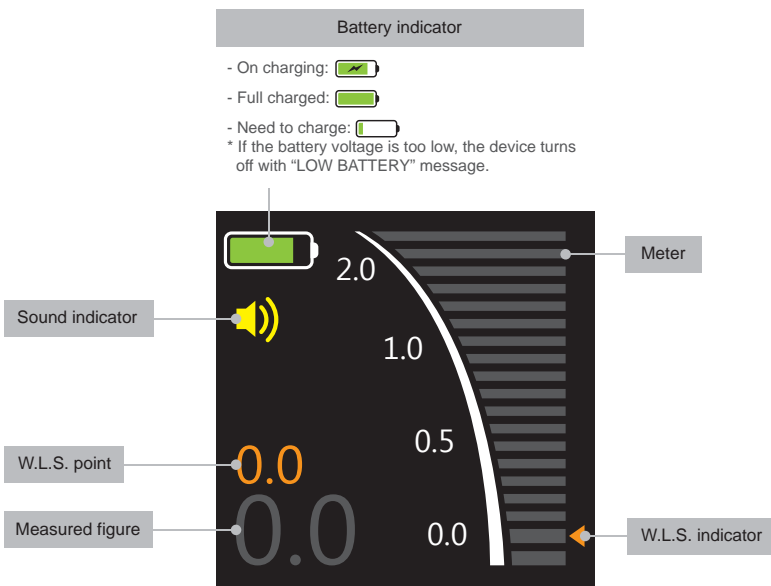


Adjust working length by click + or - icon



6 How to use

1. Operation display and buttons



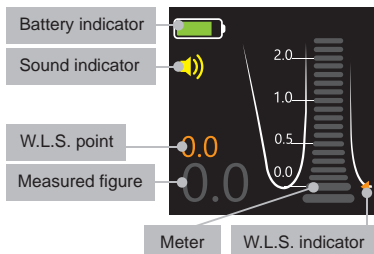
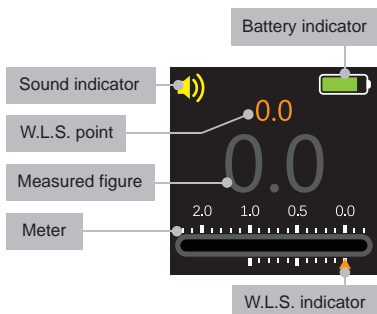
Warning

The meter reading does not correspond to any actual distance and should only used as estimates.



Reference

Can change the display style by drag left or right.

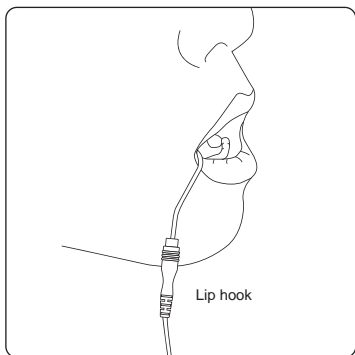


6 How to use

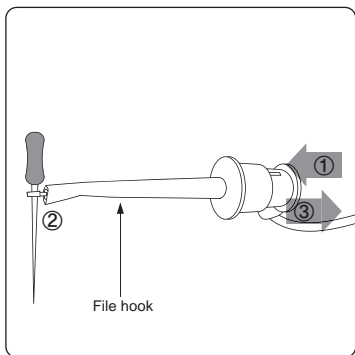
2. Operation



1) Turn the device on.



2) Hook the lip hook in the corner of the patient's mouth.



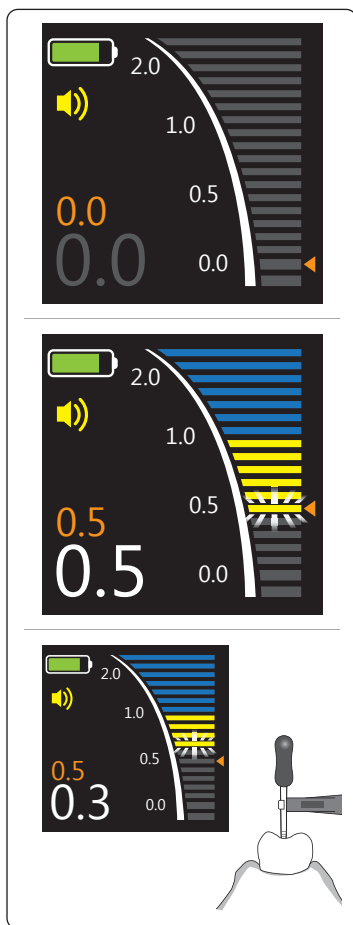
3) Clip the file hook to the metal shaft of the file.

- ① Press in direction of arrow with the thumb.
- ② Clip the file
- ③ Release thumb.

6 How to use

4) Determine the working length.

- The beep sound is changed as measured figure.
- * The working length will differ somewhat depending on each individual tooth. This discrepancy must be judged by the dentist as he works on the tooth.



Note

Make sure to take x-ray to check the results.

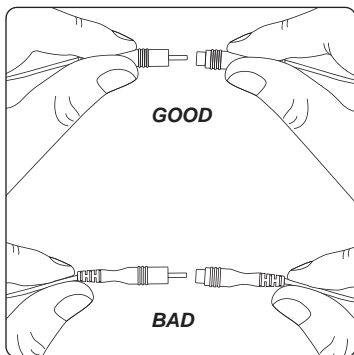


Reference

The beep sound is changed as measured figure.

6 How to use

3. After using the device



1) Turn the device off

2) Disconnect the probe cord and other cords or cables.



Note

- Do not pull directly on the cords when connecting or disconnecting the probe and file hook.
Always grip the connectors to connect and disconnect cords.
- Do not wrap the probe cord around the body of the main unit.

4. Charging

Connect charging cable (micro USB) to device. And connect the charging cable.



Reference

- Charging time is around 1~1.5 hours.
- Can use the electric power source USB port from or 5V AC adapter.



Warning

AC adapter for charging should be 5V. If use other voltage adapter, the device could get malfunction.

6 How to use

5. Turn off

Click the power button for 2 seconds, then the device will be turn off.



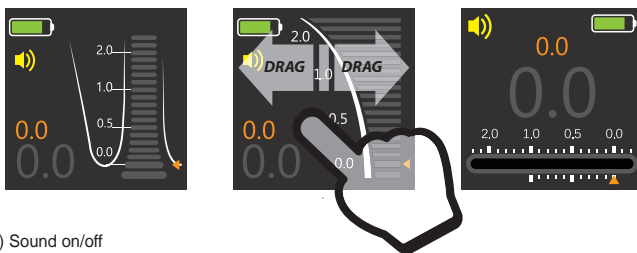
Reference

If the device is not working for 1 minutes, the device will be turn off to save electric power.

6. Functions

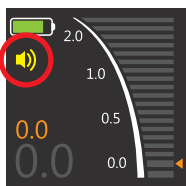
1) Display style

There are 3 display style. Drag by finger to left or right.



2) Sound on/off

Click the sound indicator by finger.



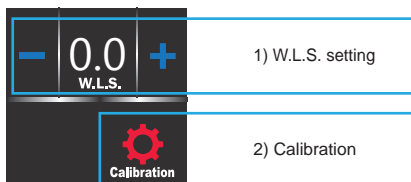
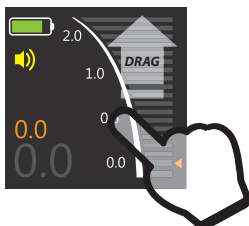
Sound on



Sound off

7. Setting mode

Drag the display from bottom to up as follow image by finger. To back drag the display to up again.



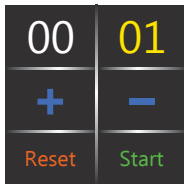
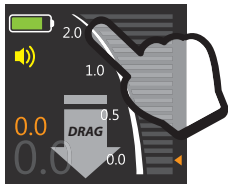
1) W.L.S. setting

2) Calibration

6 How to use

8. Timer mode

Drag the display from up to bottom as follow image by finger. To back drag the display to up again.



Click Min. or Sec.
Then adjust the time
by click +, - icon.



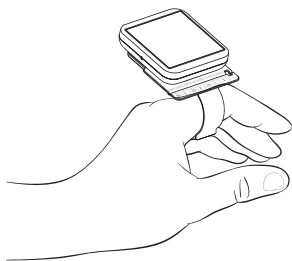
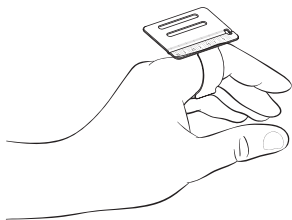
Reference

Click and hold the + or - icon, then the figure change speed will be increased.

9. Accessory

1) Ruler

Included ruler can be use as follow



6 How to use

2) Calibration jig

* Accuracy check

- Connect the calibration jig on the probe jack. And turn on the device.
- Check the measured figure shows 2.9.



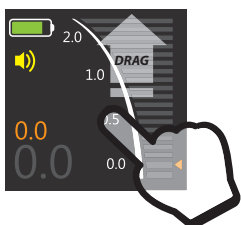
Note

If the figure is not 2.9. Need to calibrate.

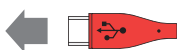
* Calibration

- If the figure doesn't show 2.9 from the accurate check, need to calibrate as follow step:

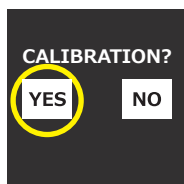
i) Drag the display from bottom to up as follow image by finger. To back drag the display to up again.



ii) Connect the calibration jig and click Calibration icon.



iii) click "YES" button.



CALIBRATION
SUCCESS

CONFIRM

iv) Wait till "CALIBRATION SUCCESS" message.
And if "CALIBRATION SUCCESS" message is shown,
calibration is done.

CALIBRATION
FAIL

CONFIRM



Note

If "CALIBRATION
SUCCESS FAIL"
message is shown,
try calibration again.

Sterilization

1. Autoclaveable components

- File hook
- Lip hook
- Ruler

Recommended temperature and time: 121°C, 20 minutes minimum with a sterilization pouch.

Minimum drying time after sterilization: 10 minutes



Warning

Autoclave file hook and lip hook after each patient.



Note

- Do not sterilize in any way other than autoclave.
- Autoclave and dry at 121°C, but do not exceed that temperature.
- The file hook and lip hook must be thoroughly washed and cleaned before autoclaving.
- Any chemical or foreign debris left on instruments could cause them to malfunction or could cause discoloration.
- It is highly recommended that instruments be autoclaved in a sterilization pouch (wrapped) or similar device.
- Do not autoclave probe cord & extension cord.
- Follow the manufacturer's recommendations to disinfect files.

2. Sterilize surface of main unit and probe cord & extension cord

- Clean the device gently with a clean, soft, lint-free cloth.
- Do not use solvents or any liquid when clean the device. The device is not waterproof.
- Do not use sharp or pointed tool to clean, as they may damage or scratch the device.
- Remove restorative material gently with plastic spatula. Avoid using sharp tools to clean the main unit.



Warning

- In case change battery, please contact local dealer or Good Doctors.

8 Trouble shooting

If the device does not work normally, please refer to the following points.

Problem	Check points	Response
No power	Check the battery power	Charge the battery
Cannot make a measurement.	Check cord connection. Check probe cord, file hook for broken wire. Device check	Check that all connections are properly secured. Touch the lip hook to the file hook to check probe cord conductivity. Test with calibration jig.
No sound.	Check sound is off	Turn the sound on.
Can not set W.L.S.	Check the setting	Set the W.L.S. on the setting mode.
Display does not appear.	Check the battery power.	If it is not battery power problem, the screen may be malfunctioning.
Measured figure is unstable.	Is lip hook making good contact with oral mucosa? Is the file hook dirty?	Make sure the lip hook makes good contact with the oral mucosa. Clean the file hook.
Measured figure overreacts or is too sensitive. (Measurements are too short. Poor accuracy. Erratic results.)	Is blood or saliva overflowing from the opening of the crown? Is the canal filled with blood, saliva or chemical solutions? Is the tooth surface covered with cutting debris or chemical solutions? Is the file touching the gingival tissue?	If blood or other fluids overflow the canal, the current will leak to the gums and the meter will jump to apex. Clean the canal, canal opening and tooth crown thoroughly. The meter bar may suddenly swing when it breaks the surface of fluids inside the canal, but it will return to normal as the file is advanced down toward the apex. Clean entire tooth surface. This will cause the meter bar to suddenly jump all the way to the "APEX".

8 Trouble shooting

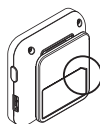
	<p>Is there pulp tissue left inside the root canal?</p> <p>Is the file touching a metal prosthesis?</p> <p>Are proximal surfaces infected with caries?</p> <p>Are there lateral canals or is the tooth fractured?</p> <p>Does a broken crown allow leakage of electric current?</p> <p>Is there lesion at the apex?</p> <p>Is the file hook broken or dirty?</p>	<p>Accurate measurements cannot be obtained if a large amount of pulp tissue is left inside the root canal.</p> <p>Touching a metal prosthesis with the file allows a flow of current to gingival tissue or periodontal pocket and will cause the meter to jump to the "APEX".</p> <p>Current can flow through the caries infected area to the gums and prevent accurate measurement from being made.</p> <p>The meter bar may jump to "APEX" when it reaches the opening of a lateral canal of the opening of a fractured tooth that allows the current to flow to the gingival tissue.</p> <p>Build up an insulating barrier to stop the leakage.</p> <p>A lesion can destroy the apical foramen through absorption and an accurate measurement cannot be obtained.</p> <p>Replace or clean the file hook.</p>
<p>Measured figure does not move at all or only when the file tip is close to the apical foramen.</p>	<p>Is the canal blocked?</p> <p>Is the apical foramen very large and open?</p> <p>Is the canal extremely dry?</p>	<p>Open the passage all the way through the apical constriction first and then take the measurement.</p> <p>If the apical foramen is large or wide open and not completely formed, the measured figure will suddenly jump when the file tip gets close to the apex.</p> <p>Moisten the canal with oxydol or a saline solution.</p>

* If the user is unable to inspect the device himself or if the device fails to work properly after being adjusted or after parts are replaced, contact local dealer or manufacturer.



Reference


- How to check the serial number.



S/N : DFA 02170001
MM YY Serial

9 Specification

Equipment Class

Model:	AL-DFA20
Trade name:	Dr's Finder Neo
Power supply:	3.7V Lithium-polymer
Safety:	IEC60601-1
EMC (Electro-Magnetic Compliance):	IEC60601-2
Protection from electric shock:	Type BF 
Protection from ingress of liquids:	IPX0 (ordinary equipment)

Operation, transport, and storage condition for the main unit

Operation conditions

Ambient temperature range:	+10C ~ +40C / 50F ~ 104F
Relative humidity:	30 ~ 80 RH% without condensation
Atmospheric pressure range:	800 ~ 1060 hPa

Additional Information

Main unit	Measurement	Approx. 43 x 46 x 16 mm / Approx. 24 g
File hook	Length	Approx. 200 mm (included hook tip)
Lip hook	Length / Dia.	Approx. 65 mm / Approx. 2.15 mm
Probe cord	Length	Approx. 70 cm
Extension cord	Length	Approx. 60 cm
Stand	Measurement	Approx. 43 x 67 x 62 mm / Approx. 52 g

Symbol



This device conforms with the European Directive, 93 / 42 / EEC which includes the requirements for electromagnetic compatibility



This symbol is appixed to fulfill the requirements of EU Directive 2012/19/EU Article 11. This equipment cannot be disposed of as unsorted municipal waste within the European Union. Follow local regulations for disposal.









SN

Serial number
00 00 00 0000
Model / Month / Year / Serial



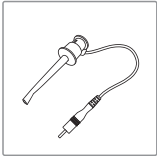
Attention,
consult accompanying documents.

9 Specification

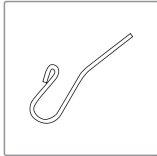
	Type BF applied part (File hook, Lip hook)		Manufacturer
	Prevent by wet.		This box is paper recyclable.
	Do not device on place where get direct sunshine.		Fragile item
	Transport and storage temperature.		No hooks

EC REP Authorized representative in the European Community

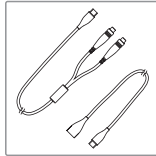
10 Accessories



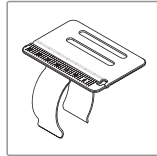
File hook



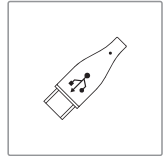
Lip hook



Probe cord
& extension cord



Ruler



Calibration jig

11 Warranty

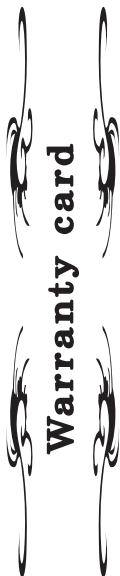
This product is only shipped after strict inspection. Should the product incur any problems under normal use conditions within on year form the date of purchase, the repair will be free of charge. However, repair of accessories (File hook, Lip hook, Probe cord, batteries, or transportation costs) are not covered by the warranty. For more information refer to the 12. Warranty card.

EC REP Gruneworld GmbH

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21315, Republic of Korea
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E-mail : good@gooddrs.com Website : www.gooddrs.com



We guarantee the quality of the product as follows

Name of product :

Name of model :

Customer information

- Office name :
- Office phone :

Distributor

- Dealer name :

Assurance period

- Date of purchase : from _____ , 20____
Product is for 1 year except accessories.

< Assurance details >

1. If there is any defect of manufacturer or product has any fault itself within the assurance period, it will be replaced with the same product.
 - Malfunction and damage according to user's carelessness.
 - Malfunction and damage according to natural disaster such as fire, earthquake and flood etc.
 - Malfunction and damage according to user's intention or accident.
 - Malfunction and damage according to using incompatible product.
3. The manufacturer does not accept any liability resulting misuse.



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