

Rootmaster

Apex Locator

Operating Manual

Important recommendations on the application, maintenance, and safety. Please read completely before operating.

Brief Description of Interfaces



Symbol	Mean
Demo	Demo Module
↔	Shortcut of probe cord
APEX	Apex
🔊	Disconnect probe cord
0.4	Apex Distance for reference
🔋	Volume and Battery

UNPACKING

Rootmaster package includes the following unit and accessories:

1 X Unit (Apex Locator Rootmaster)

1 X Probe Cord

2 X File Holders

2 X Contrary Electrodes

1 X Charger

1 X Manual

① Some models may contain items that are not listed.

② Contact your dealer if items are missing or damaged.

POWER

① Battery

Rootmaster can use three ordinary AAA batteries or can also use three 1.2V NiHM rechargeable batteries.

② Charge NiHM rechargeable battery

Unplug the measure cord from the unit. Connect the external charger to the device 1394 jack, the device will automatically switch to the charging interface.

Δ WARNING

Only recommended to use the original charger. Before replacing the battery, you must unplug the charger power cord from the unit. Charging feature is only available with 1.2V NiHM rechargeable batteries. Users will bear all the consequences arising from the non-NiHM battery charger.

Rootmaster automatically turn off after 5 minutes when not in use. To prolong the lifetime of the battery, it is recommended to switch the device off after each operation.

OPERATION

A. Root Canals Measurement

Δ IMPORTANT NOTICE

The use of rubber dam is recommended to avoid electrical interference.

Choose the correct root canal Instrument and insert into the canal.

To avoid electrical interference the operator should be wearing gloves.

LENGTH OF MEASUREMENT OF CANAL ROOT:

① Plug the measurement cable into the 1394 port of the unit

② Connect the file clip and the lip clip to the measurement cable.

③ Press and hold the power on/off switch on the device.

④ Place the lip clip on the patient's lip on the opposite side of the tooth to be treated.

⑤ Insert the file into the root canal and the file clip should be on the metal part of underneath the handle.

SOUND VOLUME CONTROL

During the measurement process, the system will make an audible tone as you get closer to the apex allowing the user to test the apex without looking at the screen.

The tone level will be saved. To adjust the sound level press the volume key, the selected volume level will be displayed on the screen.

MEASUREMENT PROCESS

• ROOT CANAL CROWN AND MIDDLE REGION

Gently insert the file into the root canal. The animation wizard of the root canal on the screen will show the movement of the file past the crown of the root and down the middle area toward the apical.

• NEAR APICAL AND APICAL

With the gradual deepening of the file, the device will show the movement of the file.

As you approach, the apex small boxes begin to light up on the large display:

- Five blue rectangular indicators: Far from the apical.
- Three green rectangular indicators: The narrow area leading to the apical foramen.
- Red Grid: the file has reached the apical foramen.



- Red dot: the file is beyond the apical foramen.

When the file has passed the apical, the following image will appear on the display:

Δ NOTE:

The image on the screen does not represent a specific size or distance!

Once the root canal file is outside apical foramen,



FAQ:

Please review the below checklist to better understand any inconsistent measuring results and take appropriate actions

Contact your local if the below Question Answer chart cannot settle your issue.

Question	Probable cause	Help
Suddenly shut down during the measurement	Check if battery has power	
Image instability	<ol style="list-style-type: none"> 1. Check if lip clips and lips connect problem 2. Check if file dirt. 3. Check if file contact file clip well. 	<ol style="list-style-type: none"> 1. Place the lip clip on the patient's lip on the opposite side of the tooth to be treated. 2. Rinse file clip with Ethanol. 3. Clamp the file clip to metal part-directly underneath the handle.
Premature display apical arrival	<ol style="list-style-type: none"> 1. Too much fluid in the access canal. 2. If the gingiva contact the file directly. 3. Gingiva direct contact with the measuring file causing a short circuit. 	<ol style="list-style-type: none"> 1. Dry the access cavity with a cotton pellet. Isolate the access cavity by: <ul style="list-style-type: none"> -adequate preparation filling -placing a rubber dam -electro cauterise 2. Carefully enlarge the access cavity and isolate

When the file moves into the Apical, zoom is accompanied by an audio signal. The more the file approaches the apex; the interval between beeps becomes shorter.

When the file reaches the apical foramen, a constant sound is emitted. Once the file tip has passed the apical foramen, a warning beep will sound.

B. Demo Mode

During power on, press the volume key for a few seconds, hear the buzzer "beep", once the sequence "DEMO" is written on the screen, the machine will begin to stimulate root canal measurement.

The DEMO mode allows the user to get acquainted with the device.

TECHNICAL SPECIFICATIONS

Rootmaster belongs to the following category of medical devices:

- Internally powered device (3.6V NiHM rechargeable battery or Ordinary alkaline batteries)
- Protection against electric shock: BF Type
- Not suitable for use in proximity of inflammable anesthetic mixtures containing air, oxygen, or Nitrogen Oxide.
- Nonwaterproof
- Transportation conditions:

Temperature Range: -20°C to +60°C (4°F to 140°F)

Relative Humidity: 10%-90%, non-condensing

Dimension: 130*105*40mm

Weight: 480gr. (Net Weight w/o battery)

Display: 3.5" TFT color LCD Panel

Power: Rechargeable Batteries (3.6V NiHM)

Input: AC210~230V, 50Hz.

Output DC: 5.1V

Δ only use the original charger for NiHM batteries charging!