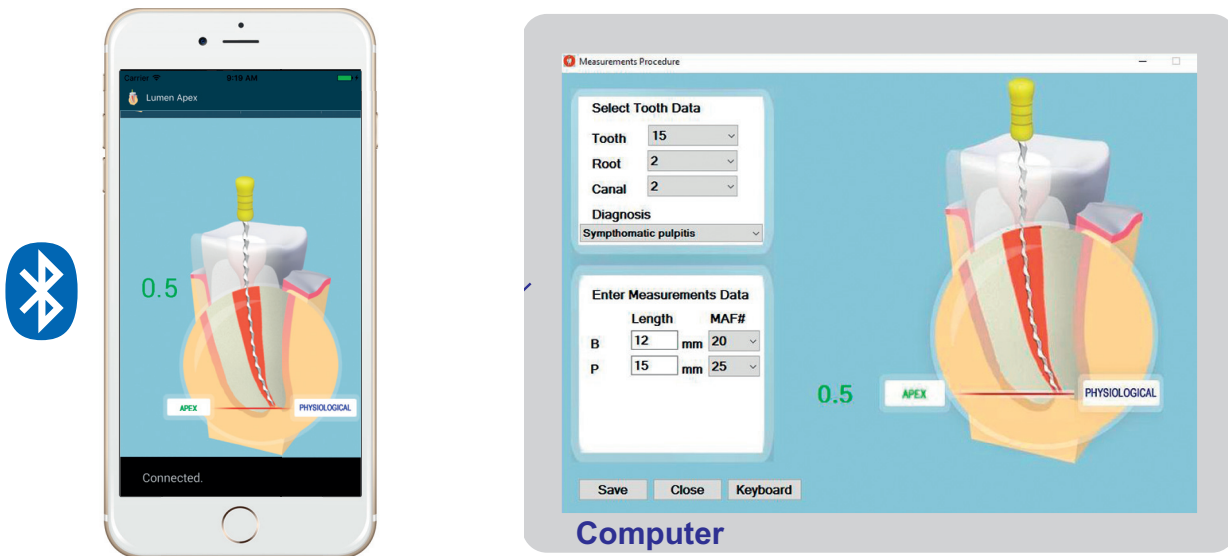


Precise Apex Locator Smart PAL

UK patent No. GB 2431358

CE 2274



INNOVATIONS FOR ENDODONTOLOGY

INTRODUCTION

The PRECISE APEX LOCATOR Smart PAL is the latest generation of apical constriction locators, representing patented new approach to endodontic measurements. Applying the newest computerized technology, the cross-sectional view of the root canal can be displayed in a clear visual format and the working length can be measured with high accuracy, allowing for precise positioning of the endodontic file. The tool works equally well in wet or dry root canals and reveals any cracks or perforations in the dental root. The unit allows the apical constriction to be measured very quickly, without using radiography.

Innovation. To cover dentist's needs and options the universal unit is designed for operation with:

1. PC computers or tablets using Windows XP or higher OS version with USB connection.
2. All smart phones/tablets using Android OS 4.3 or higher and iOS 8.0 or higher versions with Bluetooth

4.0 connection. *Lumen apex* app free download from



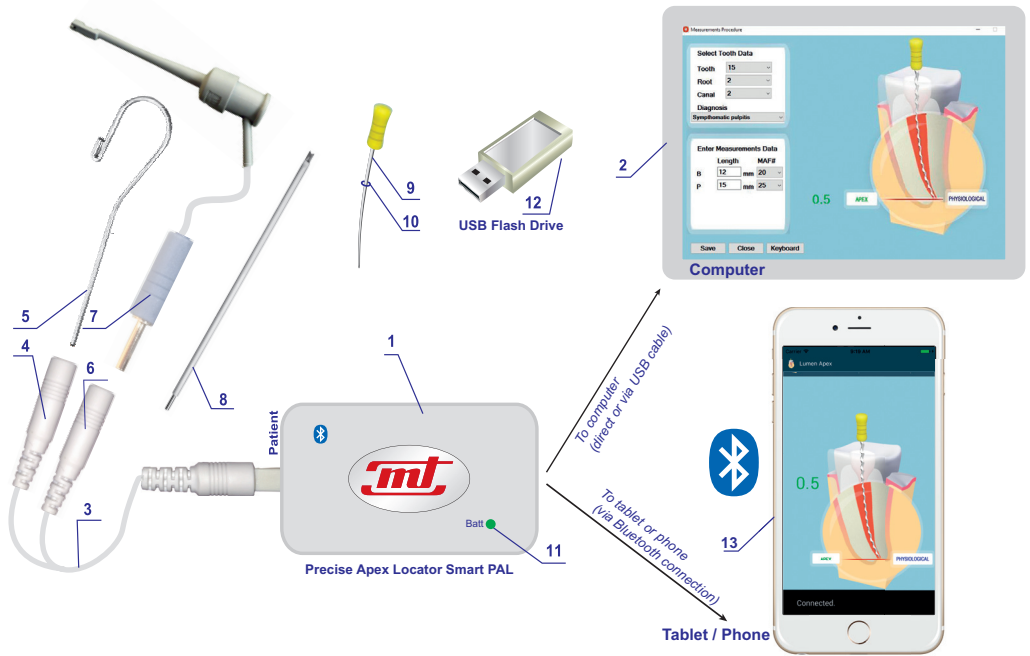
or Google play



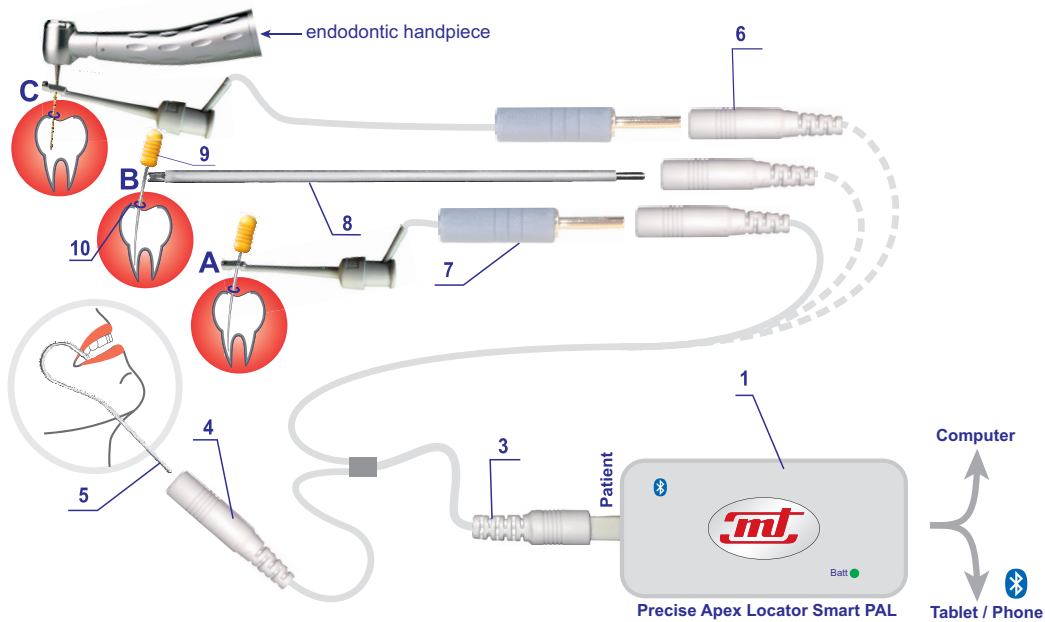
TECHNICAL DATA

1. Three parameters are displayed on the screen:
 - the distance from the tip of the file to the apical constriction during the approach,
 - the measurement of the apical constriction,
 - the degree of penetration beyond the apex.
2. Three indications of the apex location are provided:
 - the view of the file position on the display,
 - the digital read-out,
 - an adjustable audible signal.
3. The unit is powered by a USB port directly from the computer or via extension USB cable. Modified unit is powered by 3V battery and is applied to all smart phones and tablets using Bluetooth 4.0 connection.
4. Power consumption is 0.1 W.
5. Measurement current is no more than 10 μ A.
6. The weight of the unit is 26 g.

7. The dimensions of the unit are 60 mm × 35 mm × 20 mm.



1 – Smart PAL, 2 – computer (not included), 3 – cable, 4 – socket for lip contact, 5 – lip contact, 6 – socket for endodontic clip probe, 7 – endodontic clip probe, 8 – extension probe, 9 – endodontic file (not included), 10 – rubber marker for determination of working length of root canal (not included), 11 – LED, 12 – USB Flash Drive or internet link download software (**Lumen APEX Treatment**), 13 – smart device



ADVANTAGES

1. The **PRECISE APEX LOCATOR SMART PAL** helps ensure that the root canal is filled quickly & completely, increasing the success of the endodontic treatment. The unit is very universal and ensures needs of both beginners in endodontic and skillful professional endodontists. The unit also allows using **complete and updated Software of different levels**.

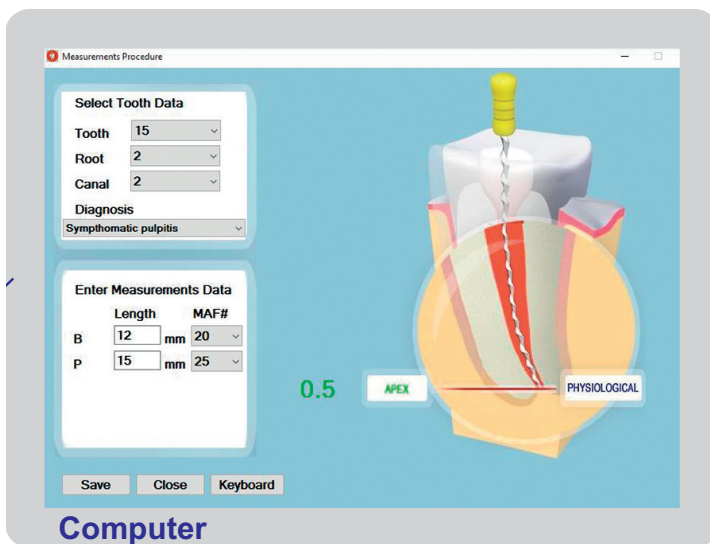
2. The unit identifies the apical constriction with high accuracy. This makes the unit far more accurate than radiographs, particularly when the apex is on the labial or lingual projection. The extraordinary level of accuracy is achieved by a measuring error elimination system protected by UK patent No. GB 2431358. The unit determines the working length of the root canal to high degree of precision, even when the canal is filled with blood, hypochlorite, and saline

or pulp tissue.

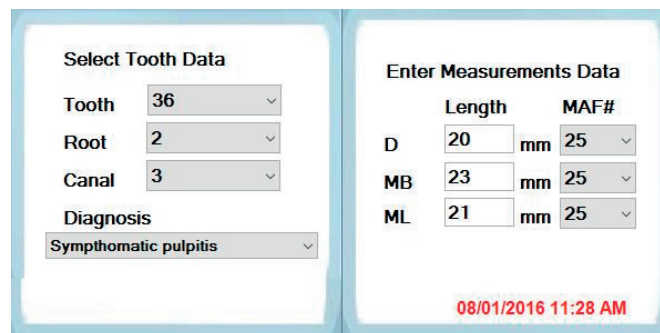
3. The unit can be operated manually, or operated with an endodontic handpiece.
4. The unit enables the dental surgeon to eliminate or reduce the need for radiography and the resulting exposure to the patient.
5. The unit reveals any cracks or perforations in the root canal.
6. This is a class II BF type of device, with double insulation and floating applied parts to protect against electric shock.
7. There are no batteries or chargers involved. The unit can be operated any time it is receiving power through a USB port from computer. Modified unit for all smart phones/tablets is powered by 3V battery.

MAIN OPTIONS

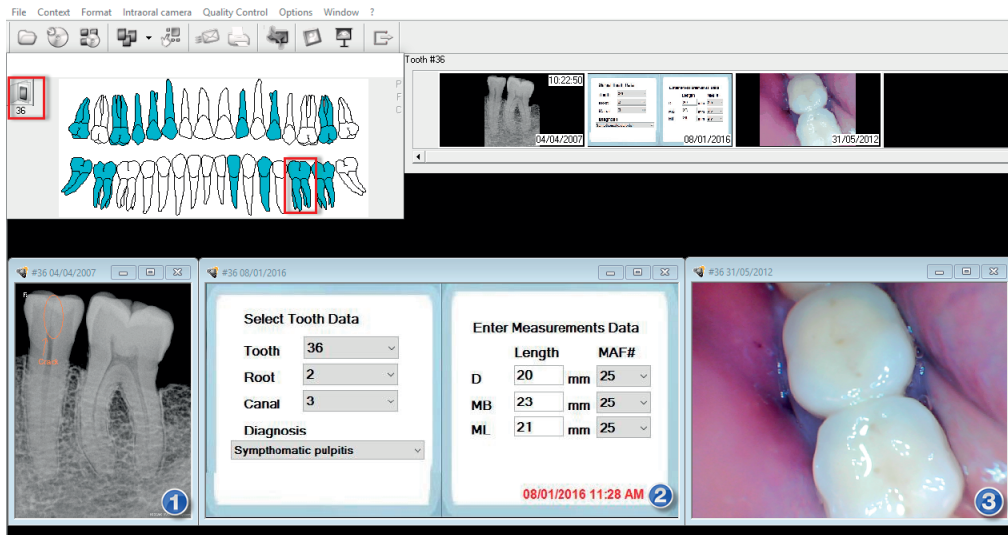
- Visualization of measuring data on PC computer display+Updated Software



- Visualization of measuring data can be saved
 - as measurement data picture (jpg format file)



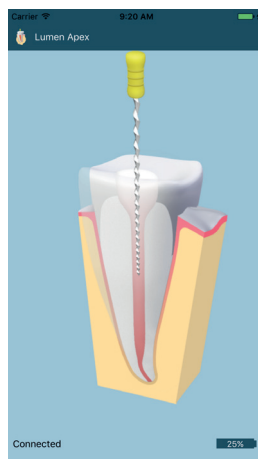
- Measurement data picture can be imported in main x-ray sensors software. This advantage enables the dentist to view all/optionally necessary integrated data of patient using only one x-ray sensor software:
 - 1 x-ray picture;
 - 2 apex working length measuring data picture,
 - 3 intraoral view picture



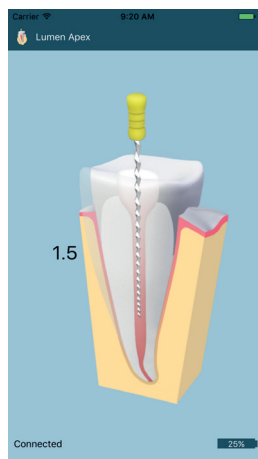
- Visualization of apex measuring process on Smart phones/tablets (all iOS and Android devices)



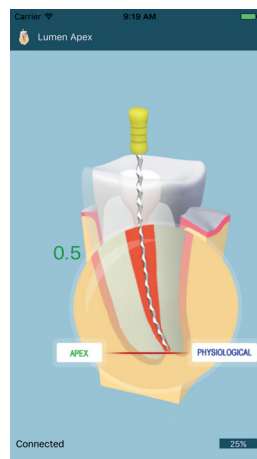
Installed view



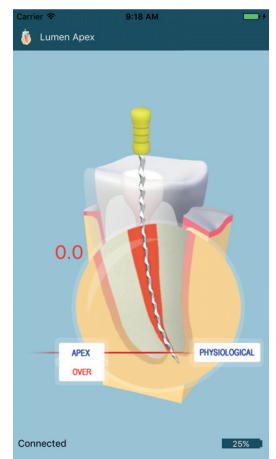
After connection



Approach



Apex physiological



Over penetration

ml MEDICAL TECHNOLOGIES
- An American-Lithuanian Joint Venture Company



Manufacturer
Medical Technologies LBI
Savanoriu pr. 271
LT-50131 Kaunas Lithuania
www.medtech.lt
Ph. +370 37 312208

Distributor
JSC Lumen
Savanoriu pr. 298-22
LT-49454 Kaunas Lithuania
E-mail: info@lumen.lt, www.lumen.lt
Ph. +370 682 63486