iOptima

ENG INSTRUCTIONS FOR USE.

Other languages available on www.bienair.com/ifu
Set iOptima REF 1700544-001

1x REF 1600926-001
1x REF 1600677-001
1x REF 1600762-001
1x REF 1501938-001

Set iOptima REF 1700547-001

1x REF 1600926-001
1x REF 1600762-001
1x REF 1501938-001

Options

1x REF 1600036-006
Set iOptima\textsuperscript{INT} REF 1700704-001

1x REF 1502475-001
1x REF 1600677-001
1x REF 1600809-001
1x REF 1601074-001
1x REF 1500666-001
1x REF 1502568-001
1x REF 1300067-001
1x REF 3300404-001
1x REF 3300403-001

Set iOptima\textsuperscript{INT} REF 1700705-001

1x REF 1502475-001
2x REF 1600677-001
2x REF 1600809-001
1x REF 1601075-001
1x REF 1500666-001
1x REF 1502568-001
1x REF 1300067-001
1x REF 3300404-001
1x REF 3300403-001

Set iOptima\textsuperscript{INT} REF 1700706-001

1x REF 1502475-001
1x REF 1600677-001
1x REF 1600809-001
1x REF 1600755-001
1x REF 1500666-001
1x REF 1502568-001
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iOptima description

Compatible with iPod Touch from 6\textsuperscript{th} generation
# 1 Symbols

## 1.1 Description of symbols for iOptima unit

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CE 0123</td>
<td>CE Marking with number of the notified body.</td>
<td>📣</td>
<td>RF emitting device (Interference may occur in the vicinity of equipment marked with this symbol).</td>
</tr>
<tr>
<td>🏟️</td>
<td>Manufacturer.</td>
<td>⚙️</td>
<td>Alternating current.</td>
</tr>
<tr>
<td>REF</td>
<td>Reference number.</td>
<td>🔑</td>
<td>Main switch - Power OFF.</td>
</tr>
<tr>
<td>SN</td>
<td>Serial number.</td>
<td>⚡️</td>
<td>Main switch - Power ON.</td>
</tr>
<tr>
<td>Rx Only</td>
<td>CAUTION! In accordance with federal law (USA), this device is only available for sale upon recommendation by an accredited practitioner.</td>
<td>🎤</td>
<td>Sound alerts</td>
</tr>
<tr>
<td>🔴</td>
<td>Separate collection of electric and electronic equipment.</td>
<td>🔂</td>
<td>Move fully to the stop, in the direction indicated.</td>
</tr>
<tr>
<td>👤</td>
<td>Refer to the accompanying documents for the correct use of the product. (<a href="http://www.bienair.com/ifu.">www.bienair.com/ifu.</a>)</td>
<td>🌍</td>
<td>4-hole connection and 4 electric (4VLM).</td>
</tr>
<tr>
<td>🚀</td>
<td>Recyclable materials.</td>
<td>🌘</td>
<td>4-hole connection (4way).</td>
</tr>
<tr>
<td>!</td>
<td>CAUTION! Consult accompanying documents. Provides an instruction that should be observed for safety reasons.</td>
<td>🌍</td>
<td>4-hole connection (4way).</td>
</tr>
</tbody>
</table>
1.2 Description of symbols for iOptima accessories

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="CE" /></td>
<td>CE Marking with number of the notified body.</td>
<td><img src="image" alt="x" /></td>
<td>Separate collection of electric and electronic equipment.</td>
</tr>
<tr>
<td><img src="image" alt="Manufacturer" /></td>
<td>Manufacturer.</td>
<td><img src="image" alt="SN" /></td>
<td>Serial number.</td>
</tr>
<tr>
<td><img src="image" alt="Reference number" /></td>
<td>Reference number.</td>
<td><img src="image" alt="Electrical safety" /></td>
<td>Electrical safety. Applied part type B.</td>
</tr>
</tbody>
</table>
2 Identification, Intended use and Notation

2.1 Identification

**iOptima**
Electronically controlled unit for dentistry allowing operation of a single MX2 micromotor with variable speed using the dental unit pedal.
It is essential to connect a compatible iPod Touch® using the lightning connector.
The unit provides power to the iPod Touch® device as soon as it is connected. Under normal use (power supply = 32Vdc), the unit does not use any battery energy of the iPod Touch®.
The iOptima unit charges the iPod Touch® battery when connected.
The restorative, endodontics parameters are defined before operation using the iOptima application installed on the iPod Touch®.
The iOptima application indicates the operation steps, the ratio of the handpiece, tool speed, torque value, light intensity, footpedal mode and the micromotor rotation direction. iOptima application is compatible with Apple iOS operating system.

⚠️ CAUTION
In endodontic mode, the predefined torque and speed values are only intended as a guide. The file values used must be adapted according to the manufacturer instructions of the files.

2.2 Intended use

Product intended for professional use only.
The iOptima equipments are only intended for use in general dentistry, restorative dentistry and endodontics procedure by dentists and dental professionals in a dental office.

**FIG. 1**
iOptima system connected to an iPod Touch® that controls a MX2 motor.

Any use other than that for which this product is intended is unauthorized and can be harmful.

*Note 1*
2.3 Notation

- **A, B, C,** etc.
  Text preceded by a letter indicates a procedure to be carried out step-by-step.
- **▾**
  Indicates a procedure result.
- **(1), (2), (3),** etc.
  Text preceded by a number indicates text used in conjunction with an illustration.
- **OK, Save, Settings,** etc.
  Text in bold italic font style indicates on-screen elements such as buttons, menus, menu items, screen areas, values, fields when they are named and screen names.
  Tap **Settings** to open the **Settings** screen, change parameters and tap **Done**.

---

**NOTES**

1. The technical specifications, illustrations and dimensions contained in these instructions are given only as a guide. They may not be the subject of any claim. The manufacturer reserves the right to make technical improvements to its equipment, without amending these instructions. For all additional information, please contact Bien-Air Dental SA at the address indicated on the back cover.
3 Warnings & Precautions of Use

⚠ CAUTION
The iOptima unit is not designed for use in an explosive atmosphere (anesthetic gas).

⚠ CAUTION
To prevent any risk of electric shock, the iOptima unit must be connected only to a power supply network provided with a protective earth.

⚠ CAUTION
The power plug of the iOptima is the device used for disconnection in case of problems, it must be easily accessible at all times.

⚠ WARNING
Never connect a handpiece on a running micromotor.

⚠ CAUTION
Ensure that the micromotor hose is not bent.

⚠ WARNING
The iPod Touch® must never be disconnected from the iOptima dental unit during operation!

⚠ WARNING
The parameters contained in the dental procedures are indicative only.
Bien-Air Dental SA cannot be held liable for them.

Note 1

NOTES

1 The predefined parameters may be subject to modification without notice.
4 Description

4.1 iOptima system overview

The iOptima system consists of:

- iOptima unit (3) with docking station for iPod Touch® (4);
- A MX2 micromotor (12) and MX2 hose (10, A);
- A pneumatic 4-way connection input (6, B);
- A power supply (2) and plug cord (C).

FIG. 1

1. Power supply cord
2. Power Supply (C)
3. iOptima unit
4. iPod Touch® [not provided in set]
5. MX2 micromotor hose output (A)
6. 4-way connector input, air and water inlet from your pneumatic unit (B)
7. Power input connector (with lock) (C)
8. Main power switch
9. MX2 micromotor hose* (A)
10. iOptima status light (green power on)
11. MX2 micromotor*
12. Handpiece* [not provided in set]
13. Dental unit with pedal (B) [not provided in set]

*Applied parts (per IEC 60601-1)
4.2  iOptima system table

Summary of the iOptima functions and technological features.

<table>
<thead>
<tr>
<th>Product</th>
<th>Device</th>
<th>Technology</th>
<th>Motor</th>
<th>Restorative</th>
<th>Endodontics</th>
<th>CA ENDO option</th>
<th>Surgery</th>
<th>Piezoscaling</th>
</tr>
</thead>
<tbody>
<tr>
<td>iOptima</td>
<td>iPod Touch®</td>
<td>DMX2</td>
<td>MX2</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

4.3  Set supplied

4.3.1  iOptima system

iOptima set REF 1700544-001

<table>
<thead>
<tr>
<th>Designation</th>
<th>REF number</th>
</tr>
</thead>
<tbody>
<tr>
<td>iOptima unit (1x)</td>
<td>1600926-001</td>
</tr>
<tr>
<td>MX2 Micromotor (1x)</td>
<td>1600677-001</td>
</tr>
<tr>
<td>MX2 Micromotor hose (1x)</td>
<td>1600762-001</td>
</tr>
<tr>
<td>Power supply (1x)</td>
<td>1501938-001</td>
</tr>
<tr>
<td>3P cable system, Switzerland, length 2.00 m (1x)</td>
<td>1300065-001</td>
</tr>
<tr>
<td>3P cable system, Europe, length 2.50 m (1x)</td>
<td>1300066-001</td>
</tr>
<tr>
<td>3P cable system, US/Asia, length 2.00 m (1x)</td>
<td>1300067-001</td>
</tr>
</tbody>
</table>

iOptima set REF 1700547-001

<table>
<thead>
<tr>
<th>Designation</th>
<th>REF number</th>
</tr>
</thead>
<tbody>
<tr>
<td>iOptima unit (1x)</td>
<td>1600926-001</td>
</tr>
<tr>
<td>MX2 Micromotor hose (1x)</td>
<td>1600762-001</td>
</tr>
<tr>
<td>Power supply (1x)</td>
<td>1501938-001</td>
</tr>
<tr>
<td>3P cable system, Switzerland, length 2.00 m (1x)</td>
<td>1300065-001</td>
</tr>
<tr>
<td>3P cable system, Europe, length 2.50 m (1x)</td>
<td>1300066-001</td>
</tr>
<tr>
<td>3P cable system, US/Asia, length 2.00 m (1x)</td>
<td>1300067-001</td>
</tr>
</tbody>
</table>

4.4  Options

<table>
<thead>
<tr>
<th>Designation</th>
<th>REF number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spraynet, cleaning spray 500 ml, box of 6 cans</td>
<td>1600036-006</td>
</tr>
</tbody>
</table>
4.5 Technical data

Dimensions L x W x H
- iOptima unit: 125 x 145 x 75 mm
- iOptima unit (with iPod Touch®): 125 x 145 x 160 mm
- MX2 hose: L 1.7 m
- MX2 micromotor: Ø 21 x L 73.5 mm
- Power Supply: 130 x 75 x 45 mm

Weight
- iOptima unit: 0.4 kg
- Power Supply: 650 g
- MX2 micromotor: 94 g

Electrical and pressure data
- Voltage: 100-240 VAC
- Frequency: 47-63 Hz
- Nominal power: 90 W
- Max. input power: 160 W
- Max. input pneumatic pressure: 5 bar / 72.5 psi
- Min. input pneumatic pressure: 3 bar / 43.5 psi

Environmental conditions

<table>
<thead>
<tr>
<th>Environmental conditions</th>
<th>Operating</th>
<th>Transport and storage (max. 15 weeks)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature</td>
<td>+10°C (50°F) to +25°C (77°F)</td>
<td>-25°C (-13°F) to +70°C (158°F)</td>
</tr>
<tr>
<td>Relative humidity</td>
<td>30% to 80%</td>
<td>30% to 80%</td>
</tr>
<tr>
<td>Atmospheric pressure</td>
<td>700 hPa to 1060 hPa</td>
<td>500 hPa to 1060 hPa</td>
</tr>
<tr>
<td>Altitude</td>
<td>0 to 3'048 m (0 to 10’000 ft)</td>
<td>-</td>
</tr>
</tbody>
</table>

⚠ CAUTION
Do not use iOptima outside the range of operating temperature.

Classification
Class IIa in accordance with European Directive 93/42/EEC concerning medical devices.

Electric insulation class
Class I per IEC 60601-1 (apparatus protected against electric shocks).

Degree of protection
IP 40 (protection against insertion of objects larger than 1 mm)

Memory
- • Restorative
  - Storage of 20 user-defined Operations
- • Endodontics
  - Storage of 10 user-defined Brands
  - Storage of 10 user-defined Systems
  - Storage of 8 Files per System including adjustment of speed and torque values for each file

List of errors & Troubleshooting
See chapter “18 List of errors & Troubleshooting” on page 69.

Important: Consult the Instructions for Use of the following devices:

<table>
<thead>
<tr>
<th>Product</th>
<th>Micromotor</th>
<th>IFU</th>
<th>Hose</th>
<th>IFU</th>
</tr>
</thead>
<tbody>
<tr>
<td>iOptima</td>
<td>MX2 LED</td>
<td>2100199</td>
<td>MX2</td>
<td>2100223</td>
</tr>
</tbody>
</table>
4.6 Environmental protection and information for disposal

The disposal and/or recycling of materials must be performed in accordance with the legislation in force.

This unit and its accessories must be recycled. Electrical and electronic equipment may contain dangerous substances which constitute health and environmental hazards. The user must return the unit to its dealer or establish direct contact with an approved body for treatment and recovery of this type of equipment (European Directive 2002/96/EC).

4.7 Limitation of liability

Bien-Air Dental SA shall not be held liable for any non-compliant use of the iPod Touch®. The conditions for and restrictions on use set by Apple must be respected (jailbreak, hardware modification, etc.). To ensure optimum operation of the iOptima application, iOS updates must be according to version used during validation of the application.
4.8 Electromagnetic compatibility (technical description) for iOptima

4.8.1 Electromagnetic compatibility warnings

The intended EM environment (per IEC 60601-1-2 ed. 4.0) is Professional healthcare facility environment.

⚠ CAUTION

The iOptima complies with the EMC requirements according to IEC 60601-1-2. Radio transmitting equipment, cellular phones, etc., should not be used in the immediate vicinity of the device, since this could affect its operation. The device is not suitable for being used close to high-frequency surgical equipment, magnetic resonance imaging (MRI) and other similar devices where the intensity of electromagnetic disturbances is high. In any case, ensure that no high frequency cables are routed above or near the device. If in doubt, contact a qualified technician or Bien-Air Dental SA. Special precautions should be taken when using strong emission sources such as high-frequency surgical equipment and other similar devices, to ensure that HF cables are not routed above or near the device. If in doubt, please contact a qualified technician or Bien-Air.

Portable RF communications equipment (including peripherals such as antenna cables and external antennas) should be used no closer than 30 cm (12 inches) to any part of the iOptima, including cables specified by the manufacturer. Otherwise, degradation of the performance of this equipment could result.

⚠ CAUTION

The use of accessories, transducers and cables other than those specified, with the exception of transducers and cables sold by Bien-Air as spare parts for internal components, may result in increased emissions or decreased immunity.

⚠ CAUTION

Since this device is intended to be used adjacent to or stacked with other equipment, the responsibility of verifying normal operation in the configuration in which it will be used falls onto the dental unit manufacturer.

4.8.2 Electromagnetic compatibility – emissions & immunity

Guidance and manufacturer’s declaration - electromagnetic emissions

iOptima is intended for use in the electromagnetic environment specified below. The customer or the user of iOptima should ensure that it is used in such an environment.

<table>
<thead>
<tr>
<th>Emissions test</th>
<th>Compliance</th>
<th>Electromagnetic environment - guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>RF emissions</td>
<td>Group 1</td>
<td>The iOptima uses RF energy for its internal operation only. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.</td>
</tr>
<tr>
<td>RF emissions</td>
<td>Class B</td>
<td>The iOptima is suitable for use in any building, including residential buildings and those directly connected to the public low-voltage power supply network that supplies buildings used for residential purposes.</td>
</tr>
<tr>
<td>Harmonic emissions IEC 61000-3-2</td>
<td>Class A</td>
<td></td>
</tr>
<tr>
<td>Emissions due to voltage fluctuations IEC 61000-3-3</td>
<td>Conforming</td>
<td></td>
</tr>
</tbody>
</table>
**Guidance and manufacturer’s declaration – Electromagnetic immunity**

The iOptima is intended for use in the electromagnetic environment specified below. The customer or the user of the iOptima must ensure that it is actually used in such an environment.

<table>
<thead>
<tr>
<th>Immunity test</th>
<th>IEC 60601 test level</th>
<th>Compliance level</th>
<th>Electromagnetic environment - guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrostatic discharge (ESD)</td>
<td>±8 kV contact</td>
<td>±8 kV contact</td>
<td>Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%.</td>
</tr>
<tr>
<td>IEC 61000-4-2</td>
<td>±2 kV air</td>
<td>±2 kV air</td>
<td></td>
</tr>
<tr>
<td></td>
<td>±4 kV air</td>
<td>±4 kV air</td>
<td></td>
</tr>
<tr>
<td></td>
<td>±8 kV air</td>
<td>±8 kV air</td>
<td></td>
</tr>
<tr>
<td></td>
<td>±15 kV air</td>
<td>±15 kV air</td>
<td></td>
</tr>
<tr>
<td>Electrical fast transient burst</td>
<td>±2 kV for power supply lines</td>
<td>±2 kV for power supply lines</td>
<td>Mains power quality should be that of a commercial or hospital environment.</td>
</tr>
<tr>
<td>IEC 61000-4-4</td>
<td>±1 kV for other lines</td>
<td>±1 kV for other lines</td>
<td></td>
</tr>
<tr>
<td></td>
<td>±1 kV for lines no input/output</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surge</td>
<td>±0.5 kV line to line</td>
<td>±0.5 kV line to line</td>
<td>Mains power quality should be that of a commercial or hospital environment.</td>
</tr>
<tr>
<td>IEC 61000-4-5</td>
<td>±1 kV line to line</td>
<td>±1 kV line to line</td>
<td></td>
</tr>
<tr>
<td></td>
<td>±0.5 kV line to earth</td>
<td>±0.5 kV line to earth</td>
<td></td>
</tr>
<tr>
<td></td>
<td>±1 kV line to earth</td>
<td>±1 kV line to earth</td>
<td></td>
</tr>
<tr>
<td></td>
<td>±2 kV line to earth</td>
<td>±2 kV line to earth</td>
<td></td>
</tr>
<tr>
<td>Voltage dips, short interruptions and voltage variations</td>
<td>0% $U_T$ for 0.5 cycle, at 0°, 45°, 90°, 135°, 180°, 225°, 270° and 315°</td>
<td>0% $U_T$ for 0.5 cycle, at 0°, 45°, 90°, 135°, 180°, 225°, 270° and 315°</td>
<td>Mains power quality should be that of a commercial or hospital environment. If the user of the iOptima INT requires continued operation during mains power interruptions, it is recommended that the iOptima be powered from an uninterruptible power supply or a battery.</td>
</tr>
<tr>
<td>on power supply input lines IEC 61000-4-11</td>
<td>0% $U_T$ for 1 cycle and 70% $U_T$ for 25/30 cycles at 0°</td>
<td>0% $U_T$ for 1 cycle and 70% $U_T$ for 25/30 cycles at 0°</td>
<td></td>
</tr>
<tr>
<td>Magnetic field due to mains frequency (50/60 Hz)</td>
<td>30 A/m</td>
<td>30 A/m</td>
<td>Magnetic fields generated by the mains frequency should be at levels characteristic of a typical location in a typical commercial or hospital environment.</td>
</tr>
<tr>
<td>IEC 61000-4-8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conducted disturbances induced by RF fields IEC</td>
<td>$3V_{RMS}$ 0.15 MHz – 80 MHz</td>
<td>$3V_{RMS}$ 0.15 MHz – 80 MHz</td>
<td>Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey should be less than the compliance level in each frequency range. Interference may occur in the vicinity of equipment marked with the following symbol:</td>
</tr>
<tr>
<td>61000-4-6</td>
<td>$6V_{RMS}$ in ISM bands 0.15 MHz – 80 MHz</td>
<td>$6V_{RMS}$ in ISM and amateur bands 0.15 MHz – 80 MHz</td>
<td></td>
</tr>
<tr>
<td></td>
<td>80% AM at 1 kHz</td>
<td>80% AM at 1 kHz</td>
<td></td>
</tr>
<tr>
<td>Radiated RF EM fields IEC 61000-4-3</td>
<td>3 V/m 80 MHz – 2.7 GHz</td>
<td>3 V/m 80 MHz – 2.7 GHz</td>
<td></td>
</tr>
<tr>
<td></td>
<td>80 % AM at 1 kHz</td>
<td>80 % AM at 1 kHz</td>
<td></td>
</tr>
</tbody>
</table>
### Immunity test

<table>
<thead>
<tr>
<th>Proximity fields from RF wireless communications equipment IEC 61000-4-3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>IEC 60601 test level</strong></td>
</tr>
<tr>
<td>Test freq. [MHz]</td>
</tr>
<tr>
<td>385</td>
</tr>
<tr>
<td>450</td>
</tr>
<tr>
<td>710, 745, 780</td>
</tr>
<tr>
<td>810, 870, 930</td>
</tr>
<tr>
<td>1720, 1845, 1970</td>
</tr>
<tr>
<td>2450</td>
</tr>
<tr>
<td>5240, 5500, 5785</td>
</tr>
</tbody>
</table>

**NOTE:** $U_T$ is the AC mains voltage prior to application of the test level. Essential performance per IEC 60601-1: The essential performance is to maintain the visual luminous intensity of the LED and the motor speed. The maximum speed deviation is ±5%.

---

**Note 1 - 2**

---

**NOTES**

1. At 80 MHz and 800 MHz, the higher frequency range applies.

2. These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.
5 Installation

5.1 Install the iOptima app

A. Open the “App Store”.
B. Search the iOptima application.
C. Install the iOptima application designed by Bien-Air Dental.

*Note 1*

5.2 Install the iOptima system

⚠ CAUTION
Before installing, please read carefully this product instruction.

*Note 2*

**FIG. 1**
A. Place the iOptima on a flat surface capable of bearing its weight.

⚠ CAUTION
It may be positioned on a table, on a trolley or any another surface but in no circumstances on the floor. It is not designed to be placed on wet surfaces or to come in contact with liquids.

**FIG. 2**
B. Connect the power cord (2) to the power supply (1) and plug to the mains.

*Note 3*

⚠ CAUTION
The power plug is the device used for disconnection in case of problems, it must be easily accessible at all times.

**FIG. 3**
C. Connect the power supply cable (1) to the input connector (2) and turn right to lock.

⚠ CAUTION
Ensure that the power switch (3) is off «O».

⚠ CAUTION
Before connecting the MX2 cable ensure that all o-rings are correctly fitted and connectors are clean of dust.

**FIG. 4**
D. Connect the MX2 cable plug (2) to the output connector (1):
   - First sleeve up and carefully and firmly insert the cable plug, by guiding the connector and plug with the index pin on the connector;
   - Sleeve down and tighten (CW).
NOTES

1 The iPod Touch® must be correctly connected to a Wi-Fi network before the App Store is opened; refer to Apple’s user guide for appropriate use of the iPod Touch®.

2 In order to conform to the IEC 60601-1-2 standards, take into account the different routes of the wires through the system (bend, fold, section etc) (see chapter “4.1 iOptima system overview” on page 10 and only use the power supply provided with the iOptima. In order to maintain warranty, this unit must be installed with the greatest care. Follow all the necessary instructions. Protect the unit from direct sunlight and dust. Keep the original packaging for storage and shipment.

3 The equipment is powered by your mains power supply (100-240 VAC).

FIG. 5
E. Connect the MX2 cable (2) to the MX2 micromotor (1), by guiding the connector and plug with the index pin on the connector and tighten (CW).

⚠ CAUTION
Never connect a handpiece on a running micromotor.

FIG. 6
F. Connect the 4-way hose (1) to the 4-way connector of the iOptima unit (2):
   • First guide the sleeve and carefully and firmly insert the hose sleeve, by matching the connector and the coupling;
   • Tighten (CW).

FIG. 7
G. Switch ON the water and power supply of the dental unit (refer to your dental unit instructions).
H. Switch ON the iOptima (1) («I» = ON).

⚠ The led (4) turns green (power ON).
I. Once it has been switched ON, connect the interface device «iPod Touch®» (2) to the iOptima carefully sliding it along the lightning adapter (3).

⚠ The iOptima is ready for use.

See chapter “6 Interface overview” on page 19.
6 Interface overview

6.1 iOptima application

The iOptima application allows to carry out endodontics and restorative dentistry operations.

6.1.1 Compatibility

The iOptima application is compatible with iPod Touch® from 6th generation.

6.1.2 Notation

In order to simplify the notation, in this manual:
- iOptima application is referred to as «iOptima app»;
- Restorative and Endodontics modes are referred to as «RESTO» and «ENDO».

6.2 Sound alerts

<table>
<thead>
<tr>
<th>Sound alert</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>One long beep</td>
<td>Entering in endodontics or restorative mode</td>
</tr>
<tr>
<td></td>
<td>ENDO mode when selecting the first File</td>
</tr>
<tr>
<td>Alternate short beeps</td>
<td>Warning notifications</td>
</tr>
<tr>
<td>Alternate medium beeps</td>
<td>Micromotor REVERSE running indicator</td>
</tr>
<tr>
<td>Alternate long beeps</td>
<td>ENDO mode when the micromotor is running in reverse</td>
</tr>
<tr>
<td></td>
<td>System failure notification</td>
</tr>
</tbody>
</table>
6.3 iPod Touch® and iOptima connection / disconnection conditions

6.3.1 Disconnection
If the iPod Touch® is disconnected, the iOptima system is in standby mode (micromotor stopped).

⚠ WARNING
The iPod Touch® must never be disconnected from the iOptima dental unit during operation! If the iPod Touch® is disconnected during an operation, the micromotor stops immediately.

6.3.2 Connection
The micromotor can start only when the iPod Touch® is connected and the application is in operative mode.

⚠ CAUTION
If the footpedal is pressed before entering in operative mode, a warning message «Please release pedal...» will be displayed. The micromotor will not start to run until the footpedal is released and pressed again.

6.3.3 iOptima unit switched ON
If the iOptima app is running and the iPod Touch® plugged to the iOptima (switch ON):
- The iPod Touch® will charge up (even if the app is not running);
- The sleep mode is deactivated;
- The micromotor can be operated with the pedal (iOptima app in operative mode).
iOptimaint description

Compatible with iPod Touch from 6th generation
and iPad Mini from 4th generation
# 7 Symbols

## 7.1 Description of symbols for iOptima\textsuperscript{INT}

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CE Marking with number of the notified body.</td>
<td>RF emitting device (Interference may occur in the vicinity of equipment marked with this symbol).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manufacturer.</td>
<td>Alternating current.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reference number.</td>
<td>Main switch - Power OFF.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Serial number.</td>
<td>Main switch - Power ON.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAUTION! In accordance with federal law (USA), this device is only available for sale upon recommendation by an accredited practitioner.</td>
<td>Sound alerts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAUTION! Consult accompanying documents. Provides an instruction that should be observed for safety reasons.</td>
<td>Move fully to the stop, in the direction indicated.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Separate collection of electric and electronic equipment.</td>
<td>4-hole connection and 4 electric (4VLM).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Refer to the accompanying documents for the correct use of the product. (<a href="http://www.bienair.com/ifu">www.bienair.com/ifu</a>.)</td>
<td>4-hole connection (4way).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recyclable materials.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## 7.2 Description of symbols for iOptima\textsuperscript{INT} accessories

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CE 0123</td>
<td>CE Marking with number of the notified body.</td>
<td></td>
<td>Separate collection of electric and electronic equipment.</td>
</tr>
<tr>
<td>![Manufacturer symbol]</td>
<td>Manufacturer.</td>
<td>![Serial number symbol]</td>
<td>Serial number.</td>
</tr>
<tr>
<td>REF</td>
<td>Reference number.</td>
<td></td>
<td>Electrical safety. Applied part type B.</td>
</tr>
</tbody>
</table>
8 Identification, Intended use and Notation

8.1 Identification

iOptima\textsuperscript{INT}

Electronically controlled integrated unit for dentistry allowing operation of multiple micromotors (MX2 and MX-i) with variable speed using the dental unit pedal. iOptima\textsuperscript{INT} can be used as a drive unit for a piezo-ceramic oscillation system, which sets the scaler tip in linear vibration. It is essential to connect a compatible iPod Touch\textsuperscript{®} or iPad Mini\textsuperscript{®} using the lighting connector with the provided docking station.

The unit provides power to the iPod Touch\textsuperscript{®}/iPad Mini\textsuperscript{®} device as soon as it is connected. Under normal use (power supply = 32Vdc), the unit does not use any battery energy of the iPod Touch\textsuperscript{®}/iPad Mini\textsuperscript{®}.

The iOptima/iOptima\textsuperscript{INT} unit charges the iPod Touch\textsuperscript{®}/iPad Mini\textsuperscript{®} battery when connected.

The restorative, endodontics and surgery parameters are defined before operation using the iOptima application installed on the iPod Touch\textsuperscript{®}/iPad Mini\textsuperscript{®}.

The iOptima application indicates the operation steps, the ratio of the handpiece, tool speed, torque value, light intensity, footpedal mode and the micromotor rotation direction. iOptima application is compatible with Apple iOS operating system.

⚠ CAUTION

The predefined torque and speed values are only intended as a guide. The file values used must be adapted according to the manufacturer instructions of the files.

8.2 Intended use

Product intended for professional use only.

The iOptima\textsuperscript{INT} systems are intended for use in general dentistry, restorative dentistry, oral surgery, implantology, endodontics and piezoscaling procedure by dentists and dental professionals in a dental office.

FIG. 1

iOptima\textsuperscript{INT} system connected to an iPod Touch\textsuperscript{®}/iPad Mini\textsuperscript{®} that controls a MX2 micromotor in holder 1 (endodontics + restorative) and a MX-i micromotor in holder 2 allowing access to the surgery (SR) mode.

Any use other than that for which this product is intended is unauthorized and can be harmful.

\textit{Note 1}
8.3 Notation

- **A, B, C, etc.**
  Text preceded by a letter indicates a procedure to be carried out step-by-step.

- ****
  Indicates a procedure result.

- **(1), (2), (3), etc.**
  Text preceded by a number indicates text used in conjunction with an illustration.

- **OK, Save, Settings, etc.**
  Text in bold italic font style indicates, on-screen elements such as buttons, menus, menu items, screen areas, values, fields when they are named and screen names.
  Tap **Settings** to open the **Settings** screen, change parameters and tap **Done**.

⚠ **CAUTION**

All illustrations and screenshots shown in this manual refer to the iPod Touch® and may differ from what is displayed on the iPad Mini®.

[Notes]

1 The technical specifications, illustrations and dimensions contained in these instructions are given only as a guide. They may not be the subject of any claim. The manufacturer reserves the right to make technical improvements to its equipment, without amending these instructions. For all additional information, please contact Bien-Air Dental SA at the address indicated on the back cover.
9 Warnings & Precautions of Use

⚠ CAUTION
The iOptima\(^{\text{INT}}\) unit is not designed for use in an explosive atmosphere (anesthetic gas).

⚠ CAUTION
To prevent any risk of electric shock, the iOptima\(^{\text{INT}}\) unit must be connected only to a power supply network provided with a protective earth.

⚠ WARNING
Never connect a handpiece on a running micromotor.

⚠ CAUTION
Ensure that the micromotor hose is not bent.

⚠ WARNING
The iPod Touch\(^{\circledR}\)/iPad Mini\(^{\circledR}\) must never be disconnected from the iOptima\(^{\text{INT}}\) dental unit during operation!

⚠ WARNING
Never touch simultaneously the iPod Touch\(^{\circledR}\)/iPad Mini\(^{\circledR}\) and the patient.

⚠ WARNING
The parameters contained in the dental procedures are indicative only. Bien-Air Dental SA cannot be held liable for them.

Note 1

NOTES

1 The predefined parameters may be subject to modification without notice.
10 Description

10.1 iOptima\textsuperscript{INT} system overview

The iOptima\textsuperscript{INT} system mainly consists of:

- A unit as a docking station (2) for iPod Touch\textsuperscript{®}/iPad Mini\textsuperscript{®} device.
- The iPod Touch\textsuperscript{®}/iPad Mini\textsuperscript{®} provide the user interface to the iOptima\textsuperscript{INT} system, except speed reference input.
- The electronic board (1), integrated in the dental unit system, is in charge to drive the micromotor (MX2, MX-i, piezoscaler) and communicate with the interface through the Lightning connector.
- A dental micromotor and the related hose (MX2, MX-i, piezoscaler).
- A power supply 100-240 VAC.

10.2 iOptima\textsuperscript{INT} system table

Summary of the iOptima\textsuperscript{INT} functions and technological features.

<table>
<thead>
<tr>
<th>Product</th>
<th>Device</th>
<th>Technology</th>
<th>Motor</th>
<th>Restorative</th>
<th>Endodontics</th>
<th>CA ENDO option</th>
<th>Surgery</th>
<th>Piezoscaling</th>
</tr>
</thead>
<tbody>
<tr>
<td>iOptima\textsuperscript{INT}</td>
<td>iPod/iPad</td>
<td>DMX3</td>
<td>MX2</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>X</td>
</tr>
<tr>
<td>iOptima\textsuperscript{INT}</td>
<td>iPod/iPad</td>
<td>DMX3</td>
<td>MX-i</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>
10.3 Set supplied

10.3.1 iOptima\textsuperscript{INT} system

### iOptima\textsuperscript{INT} set REF 1700704-001

<table>
<thead>
<tr>
<th>Designation</th>
<th>REF number</th>
</tr>
</thead>
<tbody>
<tr>
<td>iOptima\textsuperscript{INT} iDevice fixation (1x)</td>
<td>1502475-001</td>
</tr>
<tr>
<td>MX2 Micromotor (1x)</td>
<td>1600677-001</td>
</tr>
<tr>
<td>MX2 Micromotor hose (1x)</td>
<td>1600809-001</td>
</tr>
<tr>
<td>Power supply reset switchs (1x)</td>
<td>1502568-001</td>
</tr>
<tr>
<td>Power supply PMP90 (1x)</td>
<td>1500666-001</td>
</tr>
<tr>
<td>3P cable system, US/Asia, length 2.00 m (1x)</td>
<td>1300067-001</td>
</tr>
<tr>
<td>1 Motor Control Boards (1x)</td>
<td>1601074-001</td>
</tr>
<tr>
<td>M3 TORX-S Screw Head</td>
<td>3300404-001</td>
</tr>
<tr>
<td>M4 TORX-S Screw Head</td>
<td>3300403-001</td>
</tr>
</tbody>
</table>

### iOptima\textsuperscript{INT} set REF 1700705-001

<table>
<thead>
<tr>
<th>Designation</th>
<th>REF number</th>
</tr>
</thead>
<tbody>
<tr>
<td>iOptima\textsuperscript{INT} iDevice fixation (1x)</td>
<td>1502475-001</td>
</tr>
<tr>
<td>MX2 Micromotor (2x)</td>
<td>1600677-001</td>
</tr>
<tr>
<td>MX2 Micromotor hose (2x)</td>
<td>1600809-001</td>
</tr>
<tr>
<td>Power supply reset switch (1x)</td>
<td>1502568-001</td>
</tr>
<tr>
<td>Power supply PMP90 (1x)</td>
<td>1500666-001</td>
</tr>
<tr>
<td>3P cable system, US/Asia, length 2.00 m (1x)</td>
<td>1300067-001</td>
</tr>
<tr>
<td>Dual Motor Control Boards (1x)</td>
<td>1601076-001</td>
</tr>
<tr>
<td>M3 TORX-S Screw Head</td>
<td>3300404-001</td>
</tr>
<tr>
<td>M4 TORX-S Screw Head</td>
<td>3300403-001</td>
</tr>
<tr>
<td>Pack of 10 attachment collars for fastening the sterile irrigation line to a cable</td>
<td>1303711-010</td>
</tr>
</tbody>
</table>

### iOptima\textsuperscript{INT} set REF 1700706-001

<table>
<thead>
<tr>
<th>Designation</th>
<th>REF number</th>
</tr>
</thead>
<tbody>
<tr>
<td>MX2 Micromotor hose (1x)</td>
<td>1600809-001</td>
</tr>
<tr>
<td>Power supply reset switch (1x)</td>
<td>1502568-001</td>
</tr>
<tr>
<td>Power supply PMP90 (1x)</td>
<td>1500666-001</td>
</tr>
<tr>
<td>3P cable system, US/Asia, length 2.00 m (1x)</td>
<td>1300067-001</td>
</tr>
<tr>
<td>Dual Motor Control Boards (1x)</td>
<td>1601074-001</td>
</tr>
</tbody>
</table>

### iOptima\textsuperscript{INT} set REF 1700730-001

<table>
<thead>
<tr>
<th>Designation</th>
<th>REF number</th>
</tr>
</thead>
<tbody>
<tr>
<td>MX2 Micromotor hose (2x)</td>
<td>1600809-001</td>
</tr>
<tr>
<td>Power supply reset switch (1x)</td>
<td>1502568-001</td>
</tr>
<tr>
<td>Power supply PMP90 (1x)</td>
<td>1500666-001</td>
</tr>
<tr>
<td>3P cable system, US/Asia, length 2.00 m (1x)</td>
<td>1300067-001</td>
</tr>
<tr>
<td>Dual Motor Control Boards (1x)</td>
<td>1601075-001</td>
</tr>
</tbody>
</table>
### 10.4 Options

<table>
<thead>
<tr>
<th>Designation</th>
<th>REF number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mechanical interface iPod Touch® right mount</td>
<td>1502620-001</td>
</tr>
<tr>
<td>Mechanical interface iPod Touch® left mount</td>
<td>1502621-001</td>
</tr>
<tr>
<td>Mechanical interface iPad Mini® right mount</td>
<td>1502622-001</td>
</tr>
<tr>
<td>Mechanical interface iPad Mini® left mount</td>
<td>1502623-001</td>
</tr>
<tr>
<td>Mounting tools</td>
<td>1502567-001</td>
</tr>
</tbody>
</table>

### 10.5 Technical data

**Dimensions L x W x H**
- MX2 hose: L 1.7 m
- MX-i hose: L 2.05 m
- MX2 micromotor: Ø 21 x L 73.5 mm
- MX-i micromotor (including nose): Ø 23.2 x L 100.4 mm

**Weight**
- MX2 micromotor: 94 g
- MX-i micromotor: 110 g

**Electrical and pressure data**
- Voltage: 100-240 VAC
- Frequency: 47-63 Hz
- Nominal power: 90 W
- Max. input power: 160 W
- Max. input pneumatic pressure: 5 bar / 72.5 psi
- Min. input pneumatic pressure: 3 bar / 43.5 psi

### Environmental conditions

<table>
<thead>
<tr>
<th>Environmental conditions</th>
<th>Operating</th>
<th>Transport and storage (max. 15 weeks)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature</td>
<td>+10°C (50°F) to +35°C (77°F)</td>
<td>-25°C (-13°F) to +70°C (158°F)</td>
</tr>
<tr>
<td>Relative humidity</td>
<td>30% to 80%</td>
<td>30% to 80%</td>
</tr>
<tr>
<td>Atmospheric pressure</td>
<td>700 hPa to 1060 hPa</td>
<td>500 hPa to 1060 hPa</td>
</tr>
<tr>
<td>Altitude</td>
<td>0 to 3'000 m (0 to 9842 ft)</td>
<td>-</td>
</tr>
</tbody>
</table>

⚠ **CAUTION**

Do not use iOptimaINT outside the range of operating temperature.

**Classification**

Class IIa in accordance with European Directive 93/42/EEC concerning medical devices.

**Electric insulation class**

Class I per IEC 60601-1 (apparatus protected against electric shocks).

**Memory**

- Restorative, Surgery, Piezoscaling
  - Storage of 20 user-defined Operations for each mode
- Endodontics
  - Storage of 10 user-defined Brands
  - Storage of 10 user-defined Systems
  - Storage of 8 Files per System including adjustment of speed and torque values for each file

**List of errors & Troubleshooting**

See chapter “18 List of errors & Troubleshooting” on page 69.

**Important:** Consult the Instructions for Use of the following devices:

<table>
<thead>
<tr>
<th>Product</th>
<th>Micromotor</th>
<th>IFU</th>
<th>Hose</th>
<th>IFU</th>
</tr>
</thead>
<tbody>
<tr>
<td>iOptimaINT</td>
<td>MX2 LED</td>
<td>2100199</td>
<td>MX2</td>
<td>2100223</td>
</tr>
<tr>
<td>iOptimaINT</td>
<td>MX-i</td>
<td>2100245</td>
<td>MX-i</td>
<td>2100163</td>
</tr>
</tbody>
</table>
10.6 Environmental protection and information for disposal

The disposal and/or recycling of materials must be performed in accordance with the legislation in force.

This unit and its accessories must be recycled. Electrical and electronic equipment may contain dangerous substances which constitute health and environmental hazards. The user must return the unit to its dealer or establish direct contact with an approved body for treatment and recovery of this type of equipment (European Directive 2002/96/EC).

10.7 Limitation of liability

Bien-Air Dental SA shall not be held liable for any non-compliant use of the iPod Touch®/iPad Mini®. The conditions for and restrictions on use set by Apple must be respected (jailbreak, hardware modification, etc.). To ensure optimum operation of iOptima\textsuperscript{INT} the application, iOS updates must be according to version used during validation of the application.

10.8 Electromagnetic compatibility (technical description) for iOptima\textsuperscript{INT}

10.8.1 Electromagnetic compatibility warnings

The intended EM environment (per IEC 60601-1-2 ed. 4.0) is Professional healthcare facility environment.

⚠ CAUTION

The iOptima\textsuperscript{INT} complies with the EMC requirements according to IEC 60601-1-2. Radio transmitting equipment, cellular phones, etc., should not be used in the immediate vicinity of the device, since this could affect its operation. The device is not suitable for being used close to high-frequency surgical equipment, magnetic resonance imaging (MRI) and other similar devices where the intensity of electromagnetic disturbances is high. In any case, ensure that no high frequency cables are routed above or near the device. If in doubt, contact a qualified technician or Bien-Air Dental SA. Special precautions should be taken when using strong emission sources such as high-frequency surgical equipment and other similar devices, to ensure that HF cables are not routed above or near the device. If in doubt, please contact a qualified technician or Bien-Air. Portable RF communications equipment (including peripherals such as antenna cables and external antennas) should be used no closer than 30 cm (12 inches) to any part of the iOptima\textsuperscript{INT}, including cables specified by the manufacturer. Otherwise, degradation of the performance of this equipment could result.

⚠ CAUTION

The use of accessories, transducers and cables other than those specified, with the exception of transducers and cables sold by Bien-Air as spare parts for internal components, may result in increased emissions or decreased immunity.

⚠ CAUTION

Since this device is intended to be used adjacent to or stacked with other equipment, the responsibility of verifying normal operation in the configuration in which it will be used falls onto the dental unit manufacturer.
## 10.8.2 Electromagnetic compatibility – emissions & immunity

### Guidance and manufacturer’s declaration - electromagnetic emissions

iOptima<sup>INT</sup> is intended for use in the electromagnetic environment specified below. The customer or the user of iOptima<sup>INT</sup> should ensure that it is used in such an environment.

<table>
<thead>
<tr>
<th>Emissions test</th>
<th>Compliance</th>
<th>Electromagnetic environment - guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>RF emissions CISPR 11</td>
<td>Group 1</td>
<td>The iOptima&lt;sup&gt;INT&lt;/sup&gt; uses RF energy for its internal operation only. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.</td>
</tr>
<tr>
<td>RF emissions CISPR 11</td>
<td>Class B</td>
<td></td>
</tr>
<tr>
<td>Harmonic emissions IEC 61000-3-2</td>
<td>Class A</td>
<td>The iOptima&lt;sup&gt;INT&lt;/sup&gt; is suitable for use in any building, including residential buildings and those directly connected to the public low-voltage power supply network that supplies buildings used for residential purposes.</td>
</tr>
<tr>
<td>Emissions due to voltage fluctuations IEC 61000-3-3</td>
<td>Conforming</td>
<td></td>
</tr>
</tbody>
</table>

### Guidance and manufacturer’s declaration – Electromagnetic immunity

The iOptima<sup>INT</sup> is intended for use in the electromagnetic environment specified below. The customer or the user of the iOptima<sup>INT</sup> must ensure that it is actually used in such an environment.

<table>
<thead>
<tr>
<th>Immunity test</th>
<th>IEC 60610 test level</th>
<th>Compliance level</th>
<th>Electromagnetic environment - guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrostatic discharge (ESD) IEC 61000-4-2</td>
<td>±8 kV contact ±2 kV air ±4 kV air ±8 kV air ±15 kV air</td>
<td>±8 kV contact ±2 kV air ±4 kV air ±8 kV air ±15 kV air</td>
<td>Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%.</td>
</tr>
<tr>
<td>Electrical fast transient burst IEC 61000-4-4</td>
<td>±2 kV for power supply lines ±1 kV for other lines</td>
<td>±2 kV for power supply lines ±1 kV for lines no input/output</td>
<td>Mains power quality should be that of a commercial or hospital environment.</td>
</tr>
<tr>
<td>Surge IEC 61000-4-5</td>
<td>±0.5 kV line to line ±1 kV line to line ±0.5 kV line to earth ±1 kV line to earth ±2 kV line to earth</td>
<td>±0.5 kV line to line ±1 kV line to line ±0.5 kV line to earth ±1 kV line to earth ±2 kV line to earth</td>
<td>Mains power quality should be that of a commercial or hospital environment.</td>
</tr>
</tbody>
</table>
### Immunity test

| Voltage dips, short interruptions and voltage variations on power supply input lines | 0% UT for 0.5 cycle, at 0°, 45°, 90°, 135°, 180°, 225°, 270° and 315° | 0% UT for 0.5 cycle, at 0°, 45°, 90°, 135°, 180°, 225°, 270° and 315° | Mains power quality should be that of a commercial or hospital environment. If the user of the iOptima INT requires continued operation during mains power interruptions, it is recommended that the iOptima INT be powered from an uninterruptible power supply or a battery. |
| Magnetic field due to mains frequency (50/60 Hz) | 30 A/m | 30 A/m | Magnetic fields generated by the mains frequency should be at levels characteristic of a typical location in a typical commercial or hospital environment. |
| Conducted disturbances induced by RF fields | 3 V\text{RMS} \ 0.15 \text{ MHz} – 80 \text{ MHz} \ 6 V\text{RMS} \text{ in ISM bands} \ 0.15 \text{ MHz} – 80 \text{ MHz} \ 80\% \text{ AM at 1 kHz} | 3 V\text{RMS} \ 0.15 \text{ MHz} – 80 \text{ MHz} \ 6 V\text{RMS} \text{ in ISM and amateur bands} \ 0.15 \text{ MHz} – 80 \text{ MHz} \ 80\% \text{ AM at 1 kHz} | Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey should be less than the compliance level in each frequency range. Interference may occur in the vicinity of equipment marked with the following symbol: |
| Radiated RF EM fields | 3 V/m \ 80 \text{ MHz} – 2.7 \text{ GHz} \ 80\% \text{ AM at 1 kHz} | 3 V/m \ 80 \text{ MHz} – 2.7 \text{ GHz} \ 80\% \text{ AM at 1 kHz} |
| Proximity fields from RF wireless communications equipment | | | Distance: 0.3 m |

| Test freq. [MHz] | Max. power [W] | Immunity test level [V/m] | |
|---|---|---|
| 385 | 1.8 | 27 |
| 450 | 2 | 28 |
| 710, 745, 780 | 0.2 | 9 |
| 810, 870, 930 | 2 | 28 |
| 1720, 1845, 1970 | 2 | 28 |
| 2450 | 2 | 28 |
| 5240, 5500, 5785 | 0.2 | 9 |

**NOTE:** \( U_T \) is the AC mains voltage prior to application of the test level. Essential performance per IEC 60601-1: The essential performance is to maintain the visual luminous intensity of the LED and the motor speed. The maximum speed deviation is ±5%. IEC 61000-4-6: motor rotation slightly perturbed between 950 kHz and 1 MHz. Rotation speed slightly under the -5% tolerance. As no risks have been identified, the tests were considered passed without deviation in compliance levels.

---

a. Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and mobile field radios, amateur radios, AM and FM radio broadcasts and TV broadcasts cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the iOptima INT is used exceeds the RF compliance level mentioned above, the iOptima INT should be observed to verify that it is operating normally. If abnormal operation is observed, additional measures may be necessary, such as reorienting or relocating the iOptima INT.
11 Installation

11.1 Install the iOptima app

A. Open the "App Store".
B. Search the iOptima application.
C. Install the iOptima application designed by Bien-Air Dental.

*Note 1*

11.2 Install the iOptima\(^{\text{INT}}\) system

Refer to the iOptima\(^{\text{INT}}\) installation manual.

*Note 2*

NOTES

1. The iPod Touch\(^{\text{®}}\)/iPad Mini\(^{\text{®}}\) must be correctly connected to a Wi-Fi network before the App Store is opened; refer to Apple’s user guide for appropriate use of the iPod Touch\(^{\text{®}}\)/iPad Mini\(^{\text{®}}\).

2. The iOptima\(^{\text{INT}}\) system must be installed by a service engineer certified by Bien-Air Dental SA.
12 Interface overview

12.1 iOptima application

The iOptima application allows to carry out endodontics, surgery, restorative and piezoscaling dentistry operations.

12.1.1 Compatibility

The iOptima application is compatible with iPod Touch® from 6th generation and iPad Mini® from 4th generation.

12.1.2 Notation

In order to simplify the notation, in this manual:
- iOptima application is referred to as «iOptima app»;
- Restorative, Endodontics, Surgery and piezoscaling modes are referred to as «RESTO», «ENDO», «SURG» and «PIEZO».

12.2 Sound alerts

<table>
<thead>
<tr>
<th>Sound alert</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>One long beep</td>
<td>Entering in endodontics, surgery, restorative or piezoscaling mode</td>
</tr>
<tr>
<td></td>
<td>ENDO mode when selecting the first File</td>
</tr>
<tr>
<td>Alternate short beeps</td>
<td>Warning notifications</td>
</tr>
<tr>
<td>Alternate medium beeps</td>
<td>Micromotor REVERSE running indicator</td>
</tr>
<tr>
<td>Alternate long beeps</td>
<td>ENDO mode when the micromotor is running in reverse</td>
</tr>
<tr>
<td></td>
<td>System failure notification</td>
</tr>
</tbody>
</table>
12.3 iPod Touch®/iPad Mini® and iOptima\textsuperscript{INT} connection / disconnection conditions

12.3.1 Disconnection

If the iPod Touch®/iPad Mini® is disconnected, the iOptima\textsuperscript{INT} system is in standby mode (micromotor stopped).

⚠ WARNING
The iPod Touch®/iPad Mini® must never be disconnected from the iOptima\textsuperscript{INT} dental unit during operation! If the iPod Touch®/iPad Mini® is disconnected during an operation, the micromotor stops immediately.

12.3.2 Connection

The micromotor can start only when the iPod Touch®/iPad Mini® is connected and the application is in operative mode.

⚠ CAUTION
If the footpedal is pressed before entering in operative mode, a warning message «Please release pedal...» will be displayed. The micromotor will not start to run until the footpedal is released and pressed again.

12.3.3 iOptima\textsuperscript{INT} unit switched ON

If the iOptima app is running and the iPod Touch®/iPad Mini® plugged to the iOptima\textsuperscript{INT} (switch ON):
- The iPod Touch®/iPad Mini® will charge up (even if the app is not running);
- The sleep mode is deactivated;
- The micromotor can be operated with the pedal (iOptima app in operative mode).

12.3.4 iOptima\textsuperscript{INT} last set operation memory

For iOptima\textsuperscript{INT}, the operation displayed by default is associated to the active motor. Memory of each operation set at last usage for each motor is kept (e.g. a user who has two motors can leave a blue CA on «motor 1» and a red CA on «motor 2» and, depending on which motor is activated, the corresponding modes are automatically activated).
iOptima/iOptima\(^\text{INT}\) operation
13 Getting started

13.1 Back up data

Use iTunes or iCloud to automatically back up your iOptima application user-defined settings. Refer to Apple's user guide for appropriate use of the iPod Touch®/iPad Mini®, iTunes or iCloud.

13.2 Use of the Touch screen

The iOptima application is operated with the iPod Touch®/iPad Mini® screen with a few simple gestures:

**FIG. 1**
• Tap to click.

**FIG. 2**
• Slide to scroll and adjust parameters.

**FIG. 3**
• Swipe to restore or remove parameters.

*Note 1*

**FIG. 4**
• Long tap to access the drag and drop function;

• Drag and drop to sort files/operations.

13.2.1 Display onscreen keyboard

**FIG. 5**
• Tap a text field to display the onscreen keyboard;
• Type characters with the onscreen keyboard (tap ❌ to delete all characters).
13.3 Launch iOptima app

**FIG. 6**

A. Make sure that the sound volume on your iPod Touch®/iPad Mini® is ON and set to an appropriate level according to the ambient noise of the room:
   - Volume down (1) and up (2).

B. Close all other applications in order not to disrupt the operation:
   - Double-click the home button (6) to show the multitasking display and drag the app up to close.
   - Click the home button again to return to the main screen.

C. Deactivate all alerts. Refer to Apple’s user guide for appropriate use of the iPod Touch®/iPad Mini®.

D. Ensure that the latest application updates have been installed (see chapter “13.7 iOptima app update” on page 43).

E. Tap the app icon (5) to launch the iOptima application.

*Note 2*

**NOTES**

1. The swipe gesture is only active in the delimited area (1).

2. If not using your iPod Touch®/iPad Mini®, press the Sleep/Wake button (3) to lock it.
13.4 Welcome screen and disclaimer

A. To ensure the appropriate working of the iOptima Dental unit, make sure to only use your iOptima application with the iOS version validated by Bien-Air Dental.

FIG. 7
Refer to the current version of your device (1).
See also chapter “18.3 iOS compatibility errors (disclaimer screen),” on page 71.

For more information go to the App Store © under «what’s new» of the selected application.

B. Tap **OK** (2) to acknowledge disclaimer message and access the DISCLAIMER message second screen (3).

FIG. 8
C. Make sure to have set all steps of disclaimer (3) and tap **OK** (4), see chapter “13.3 Launch iOptima app” on page 40 for details.

The Welcome screen is displayed.

FIG. 9
The Welcome screen differs whether using the iOptima or iOptimaINT system and depends on which type of micromotor is connected (e.g. Surgery mode is available only if the micromotor MX-i is connected using the iOptimaINT system).
See chapter “4.2 iOptima system table” on page 11 for more information.

D. Tap **RO** (5) to enter the restorative mode.
See chapter “14.1 Enter Restorative mode” on page 45.

E. Tap **EN** (6) to enter the endodontics mode.
See chapter “15.1 Enter Endodontics mode” on page 51 for details.

F. Tap **SR** (7) to enter the surgery mode.
See chapter “16.1 Enter Surgery mode” on page 59 for details.

G. Tap **PZ** (8) to enter the piezoscaling mode.
See chapter “17.1 Enter Piezoscaling mode” on page 65 for details.

H. Tap **i** (9) to open the Information screen.
See chapter “13.5 Information” on page 42 for details.

I. Tap **Settings** (10) to open the Settings screen.
See chapter “13.5 Information” on page 42 for details.

J. Tap **WaveOne** (11) to enter the CA ENDO mode.
See chapter “15.8 CA ENDO / Reciproc option” on page 58 for details.
13.5 Information

FIG. 10

A. Tap (1) to access Bien-Air (catalogue, new products, etc.) and iOptima (User Manual and About) information screen.

FIG. 11

The information screen allows to navigate to the following pages:

- **Latest news** (2) (opens Bien-Air website latest news page);
- **User manual** (3) (application detects the language of the iPod Touch®/iPad Mini® and downloads the User Manual in the same language);

*Note 3*

- **Catalogue** (4) (opens online catalogue (pdf file));
- **Web TV** (5) (opens Bien-Air web TV);
- **About** (6) (displays About screen (FIG. 12, 9) with iOptima system and Bien-Air factory information);
- **Contact us** (7) (opens email application with predefined email address iOptima@bienair.com);
- **Troubleshooting** (8) (opens troubleshooting guide (FIG. 13), follow the guide in case of performance issue).

*Note 4*

FIG. 14

- **Chapter links** and the table of contents
  By clicking on a chapter section in the table of contents or in the manual, the user can directly access it. The dedicated button (10) links the user directly to the table.

**NOTES**

3. If the User Manual is not available in the correct language, the English manual is downloaded.

4. Latest News, Catalogue, Web TV and Contact us functions are available only if the iPod Touch®/iPad Mini® is connected to a Wi-Fi network.
13.6 Settings

**FIG. 15**

A. Tap 🎨 (1) to access iOptima/iOptima\textsuperscript{INT} system **Settings** screen.

The **Settings** screen allows to set the torque unit for each available mode and to define the system settings.

**FIG. 16**

B. Tap **Torque unit** to access its screen.

**FIG. 17**

C. Tap ENDO (3) to access the endodontics screen.

**FIG. 18**

D. Tap your preferred torque unit.

E. Select between; \textit{Ncm}; \textit{mNm}; \textit{gcm} and \% (RESTO mode only).

### 13.6.1 Service engineer settings

With service engineer access (password protected), the settings screen also allows access to the micromotor holder configuration (iOptima\textsuperscript{INT}) and lock settings.

**Important:** if **Lock settings** is set, it is not possible to save any user-defined data!

**Note 5**

13.7 iOptima app update

**FIG. 19**

When the application is launched, it will check whether a new version is available on the App Store. If a new update is available, a message box will be displayed on Disclaimer screen to notify the user should download the application.

**Note 6**

- **Download:** user can automatically access App Store application page.
- **Remind Me Later:** user can delay the update and continue to work with currently installed app version (the message appears once a day).
- **Ignore:** User can ignore the update and continue to work with currently installed app version (the message reappears only if a new version is available).
13.8 Software update

**FIG. 20**

When the application is launched and the iOptima/iOptima\textsuperscript{INT} connected, it will check whether a new software of the dental unit is available.

If a new software is available, a message box will be displayed on the screen where the user were when connecting the device to notify the user should update the software.

A. Tap *Update* to install it.

**FIG. 21**

The screen shows the installation progress.

⚠️ **CAUTION**

- The iPod Touch®/iPad Mini® must not be disconnected from the iOptima/iOptima\textsuperscript{INT} dental unit during installation.
- The iOptima application must not be closed during installation.
- The iOptima/iOptima\textsuperscript{INT} power supply must not be disconnected during installation.

When the installation is completed, there are two possibilities:

**FIG. 22**

- *Update complete*: restart the application to finish the update process.

**FIG. 23**

- *Update failed*: follow the instructions on the screen.

---

**NOTES**

5. To modify service engineer settings, please contact a service engineer certified by Bien-Air Dental SA.

6. This function is active only when the iPod Touch®/iPad Mini® is connected to a Wi-Fi network.
14 Operation - Restorative mode

14.1 Enter Restorative mode

FIG. 1
Tap RO to enter the restorative mode. Predefined restorative operations are available by default, it is possible to modify and restore them. It is possible to create and delete User-defined operations.

Note 1 - 2

14.2 Operative screen description

FIG. 2
The operative screen displays the selected operation type and settings:

(1) Settings (access to operation types and settings)
(2) Selected operation type
(3) Micromotor rotation mode: FORWARD and REVERSE
(4) Save (customize settings)
(5) Footpedal mode: PROGRESSIVE or ON/OFF mode
(6) Light intensity
(7) Handpiece ratio
(8) Maximum micromotor torque in % (or according to settings, see chapter “13.6 Settings” on page 43)
(9) Maximum micromotor speed in rpm
(10) Back to the previous screen

Note 3
See chapter “14.3 Standard Use - Operating mode (Start)” on page 47.

14.2.1 Micromotor Speed & Torque

FIG. 3
Slide to adjust the maximum speed and torque values. Or tap the icons ⬅️ ⬇️ to enter a precise value.

FIG. 4
Tap the motor speed or torque values and tap Cancel or Done to validate.

Note 4

FIG. 5
When the power demand of the micromotor is excessive, the operative screen displays the overheating symbol ⬇️. In this case the iOptima unit automatically lowers the torque in order to avoid overheating of the micromotor. To restore 100% torque, allow the motor to idle or stop for a few seconds.

14.2.2 Handpiece ratio

FIG. 6
Tap and select the handpiece ratio.
CAUTION
Verify that the handpiece corresponds to your selection.

Note 5 - 6

14.2.3 Light intensity

FIG. 7
Slide or tap the appropriate dot to set up the light intensity of the micromotor.
11 levels of adjustment are possible:
• light OFF, 10%, 20%, 30%, 40%, 50%, 60%, 70%, 80%, 90% and 100% of the max light intensity value.

Note 7 - 8

14.2.4 Footpedal mode

FIG. 8
Tap and select the footpedal mode:
• ON/OFF (1): The speed consign is equal to the maximum speed once the footpedal is pressed; whatever the pressure on it.
• Progressive (2): The speed consign value is (linear) function to the pressure on it.

Note 9

14.2.5 Micromotor rotation direction

FIG. 9
Tap and select the rotation mode of the micromotor:
• Forward (clockwise)
• Reverse (counterclockwise).

Note 10 - 11

NOTES

1 In restorative mode, the air spray is always switched ON by the help of the electro-valve integrated in the iOptima unit.

2 Save and create + buttons are disabled if a lock is set (see chapter “13.6 Settings” on page 43).

3 All parameters can be changed and saved directly in the operative screen (except if a lock is set).

4 If the entered value is out of range, the maximal or minimal value will be indicated.

5 The handpiece ratio is red-colored for multiplication gears, blue-colored for direct-drive, and green-colored for reduction gears.

6 The operative screen always displays the selected handpiece ratio.

7 The light intensity value is set for each operation. The default value of the light intensity is 100%.

8 The operative screen always displays the selected light intensity value.

9 The operative screen always displays the selected footpedal mode.

10 In reverse mode (CCW), the symbol flashes and there is a sound alert (alternate medium beeps).

11 The operative screen always displays the selected rotation direction.
14.3 Standard Use - Operating mode (Start)

A. Tap \( \text{RO} \) to enter the RESTO mode, the operative screen opens.

Note 12

B. Tap \texttt{Settings} to open the \textit{Operations} screen.

Note 13

C. Tap to select an operation type.

\[ \text{The app navigates back to the operative screen.} \]

D. Press the dental unit pedal to switch ON the micromotor.

\[ \text{CAUTION} \]

If the footpedal is pressed before entering in operative mode, a warning message «Please release pedal...» will be displayed. The micromotor will not start to run until the footpedal is released and pressed again.

E. Tap the operation type above (1) or below (2) the selected operation type to navigate to the operation respectively preceding or following the current one in the predefined operation list.

See chapter “14.4.3 Sort operations” on page 48 to sort operations in the list.

14.4 Customize default operations

A. From the operative screen, tap \texttt{Settings} to open the \textit{Operations} screen.

\[ \text{FIG. 14} \]

B. Tap \( \text{[custom]} \) to customize an operation type.

\[ \text{The \textit{Operation} screen opens.} \]

C. Customize the operation settings.

\[ \text{FIG. 15} \]

D. Tap \texttt{Cancel} (2) or \texttt{Save} (3) to validate custom settings and tap back (1).

\[ \text{If saved, the symbol \( \text{[factory]} \) (factory predefined settings) changes to \( \text{[custom]} \) (custom settings).} \]

E. Select an operation.

\[ \text{The app navigates back to operative screen.} \]

Note 14 - 15

- Slide to adjust the micromotor speed and torque values of the selected operation.
- Adjust the handpiece ratio, light intensity, footpedal mode or rotation direction of the selected operation.
- Tap \texttt{Save} (3) to validate the new settings.

Note 16
14.4.1 Restore (default) and delete (user-defined) operations

**FIG. 17**
Swipe left to restore or delete.

*Note 17 - 18*

14.4.2 Default Operations

**FIG. 18**

⚠ **CAUTION**
The parameters contained in the dental procedures are indicative only.
Bien-Air Dental cannot be held liable for them.

*Note 19*

14.4.3 Sort operations

**FIG. 19**

A. Do a long tap on an operation to activate the drag and drop function and display the icons (2).
B. Tap the icon to drag and drop the operations.
C. Tap *Done* (1) to validate.

**NOTES**

12 If using iOptima^INT system, each time you pull a motor from a holder, the operative mode previously used with that motor is displayed by default (only from Home page).

13 Each operation in the list is tagged with a colored dot to indicate which type of gear ratio it is associated to: red for multiplication gears, blue for direct-drive, green for reduction gears.

14 When the micromotor is switched ON, the speed and torque values displayed in the operative screen FIG. 13, toggle from predefined values to real time values. Once the motor stops running, the speed and torque values displayed toggle back to maximum predefined values.

15 All parameters can be directly modified in the operative screen (only when the footpedal is released).

16 Modifications are discarded when leaving the operative screen without saving.

17 Predefined RESTO operations can not be deleted. But it is possible to restore the default values if modified. Only user-defined operations can be deleted.

18 Custom and user-defined operations are represented by .
Default operations are represented by .

19 The predefined parameters may be subject to modification without notice.
14.5 Create new operations (user-defined)

**FIG. 20**
A. From the operative screen, tap *Settings* to open the *Operations* screen.

**FIG. 21**
B. Tap ‡ to create a new operation type.

- The *Operations* screen opens.

**Note 20**

**FIG. 22**
C. Tap in the *Operation name* text field (1) to display the onscreen keyboard.

**FIG. 23**
D. Type the new *Operation name* (3) and tap *Done* (4).

E. Set handpiece ratio and operation settings.

F. Tap *Cancel* or *Save* (2) to validate user-defined operation and tap back, FIG. 22.

- If saved, the new operation is displayed in the *Operations* screen (5) with the symbol 🔄 (user-defined) beside it, FIG. 21.

G. Select an operation.

- The app navigates back to operative screen.
NOTES

20 Maximum storage of 20 user-defined operations, if reached the icon disappears.
15 Operation - Endodontics mode

15.1 Enter Endodontics mode

FIG. 1
Tap  to enter the endodontics mode. Predefined endodontics systems are available by default, it is possible to modify and restore them. It is possible to create and delete User-defined endodontics brands, systems and files.

Note 1 - 2

15.2 Operative screen description

FIG. 2
The operative screen displays the selected operation brand, system type and file settings:

1. Access to brands, systems and file settings
2. File name and color designation of file according to ISO 3630-1 standard
3. Micromotor rotation mode: FORWARD, AUTO-REVERSE, AUTO-FORWARD
4. Save (to customize settings)
5. Footpedal mode: PROGRESSIVE or ON/OFF mode
6. Light intensity
7. Handpiece ratio
8. Maximum micromotor torque in Ncm (or according to settings, see chapter “13.6 Settings” on page 43)
9. Maximum micromotor speed in rpm
10. Figure of the file
11. File system name
12. File brand
13. Back to the previous screen

Note 3

15.2.1 Micromotor Speed & Torque

FIG. 3
Slide to adjust the maximum speed and torque values. Or tap the icons  to enter a precise value.

FIG. 4
Enter the motor speed or torque values and tap Cancel or Done to validate.

Note 4

FIG. 5
When the power demand of the micromotor is excessive, the operative screen displays the overheating symbol . In this case the iOptima unit lowers the torque automatically in order to avoid overheating of the micromotor. To restore 100% torque, allow the motor to idle or stop for a few seconds.
15.2.2 Handpiece ratio

**FIG. 6**
Tap and select to modify the handpiece ratio.

⚠ **CAUTION**
Verify that the handpiece corresponds to your selection.

*Note 5 - 6 - 7*

15.2.3 Light intensity

**FIG. 7**
Slide or tap the appropriate dot to set up the light intensity of the micromotor.
11 levels of adjustment are possible:
- light OFF, 10%, 20%, 30%, 40%, 50%, 60%, 70%, 80%, 90% and 100% of the max light intensity value.

*Note 8 - 9*

15.2.4 Footpedal mode

**FIG. 8**
Tap and select the footpedal mode:
- **ON/OFF** (1): the speed consign is equal to the maximum speed once the footpedal is pressed; whatever the pressure on it.
- **Progressive** (2): The speed consign value is (linear) function to the pressure on it.

*Note 10*

---

**NOTES**

1. In endodontics mode, the air spray is always switched OFF by the help of the electro-valve integrated in the iOptima/iOptima INT unit.

2. Save and create + buttons are disabled if a lock is set (see chapter “13.6 Settings” on page 43).

3. All parameters can be changed and saved directly in the operative screen (except if a lock is set).

4. If the entered value is out of range, the maximal or minimal value will be indicated.

5. The operative screen always displays the selected handpiece ratio.

6. If a different ratio than 8:1 Bien-Air or 1:1 Bien-Air is chosen, a disclaimer is displayed on the handpiece ratio popup:
   «IMPORTANT WARNING: If instruments other than the 8:1 Bien-Air or the 1:1 Bien-Air Dental are used with the iOptima, please note that the displayed torque values cannot be guaranteed any longer (they represent a purely indicative information). In such case, Bien-Air Dental declines all responsibilities in case of any injury or any damage resulting of the inappropriate use of the equipment.».

7. The handpiece ratio is red-colored for multiplication gears, blue-colored for direct-drive, and green-colored for reduction gears.

8. The light intensity value is set for each operation. The default value of the light intensity is 100%.

9. The operative screen always displays the selected light intensity value.

10. The operative screen always displays the selected footpedal mode.
15.2.5 Micromotor rotation direction

**FIG. 9**
Tap to select the rotation mode of the micromotor:
- **Forward** (clockwise) (1)
- **Auto-reverse** (2): the direction of rotation reverses automatically once the maximum torque set is reached (clockwise to counterclockwise).
- **Auto-forward** (3): the direction of rotation reverses automatically once the maximum torque set is reached (clockwise to counterclockwise).

In Auto-forward mode (reverse), the motor stops and reverses automatically after the time set (4): 0.5 to 3.0 seconds counterclockwise to clockwise).

*Note 11 - 12*

15.3 Standard Use - Operating mode (Start)

**FIG. 10**
A. Tap **EN** to enter the ENDO mode, the operative screen opens.

*Note 13*

**FIG. 11**
B. Tap **Settings** to open the **Brands** screen,

**FIG. 12**
C. Tap to choose a brand, the **Systems** screen opens.

**FIG. 13**
D. Tap to select a file system.

*Note 14*

⚠ **CAUTION**
If the footpedal is pressed before entering in operative mode, a warning message «Please release pedal...» will be displayed. The micromotor will not start to run until the footpedal is released and pressed again.

**FIG. 14**

F. Tap the file figure area to jump to the next file, parameters of the file system previously selected are automatically loaded (or directly tap the required file (1)).

*Note 15 - 16*

15.4 Customize settings

15.4.1 Customize default settings (operative screen)

**FIG. 15**

*Note 16*

A. Slide to adjust the micromotor speed and torque values of the selected file.

B. Adjust the handpiece ratio, light intensity, footpedal mode or rotation direction to customize settings for the selected file system.

C. Tap **Save** to validate the new settings.

*Note 17*
15.4.2 Customize system settings

FIG. 16
A. Tap *Settings* to open the *Brands* screen.

FIG. 17
B. Tap a *Brand* to open the *Systems* screen.
C. Tap 📋 to customize a file system, the *Settings* screen opens.

FIG. 18
D. Customize the file system settings:
   • tap any file (4) to open the *File* screen and modify motor speed and torque values (tap (3) to go back);
   • tap the icons (5) to modify the handpiece ratio, etc...;
   • tap in the *Add new file* field (6) to create a new file, make a long tap to sort the files, or swipe left to remove existing files. See chapter “15.5 Add, sort or remove files” on page 55, for details.

E. Tap *Cancel* (1) or *Save* (2) to validate custom settings.

Note 18
See chapter “15.7 Create new Brands and Systems” on page 57, for details

NOTES

11 The operative screen always displays the selected rotation direction.

12 In reverse mode (CCW), the symbol flashes and there is a sound alert (alternate medium beeps).

13 If using iOptima\textsuperscript{INT} system, each time you pull a motor from a holder, the operative mode previously used with that motor is displayed by default (only from Home page).

14 If an ENDO file systems foreseeing the reciprocating movement is selected, speed, torque, motor direction, light, pedal mode disappear and the gear ratio is fixed. See chapter “15.8 CA ENDO / Reciproc option” on page 58.

15 When the micromotor is switched ON, the speed and torque values displayed toggle from predefined values to real time values. Once the motor stops running, the speed and torque values displayed toggle back to maximum predefined values.

16 All parameters can be directly modified in the operative screen (only when the footpedal is released). See chapter “15.4.1 Customize default settings (operative screen)” on page 53.

17 Modifications are discarded when leaving the operative screen without saving.

18 From the *Systems* screen it is also possible to choose a different brand and create a new system or a new brand with the + symbol.
15.5 Add, sort or remove files

Note 19

15.5.1 Add new files

FIG. 19
A. Tap in the Add new file field to open the File screen.

FIG. 20 – FIG. 21
B. Tap in the File name field (3) to display the onscreen keyboard, type the new File name (5) and tap Done (onscreen keyboard).

FIG. 22
C. Tap the file figure (4) to display the Color designation screen, select a color for the new file and tap back (6) (color designation of file is according to ISO 3630-1 standard).

D. Adjust the micromotor speed and torque values (7), FIG. 20.
See “15.2 Operative screen description” on page 51, for details.

E. Tap back (2) and Save (1), FIG. 19.

15.5.2 Sort files

FIG. 23
A. Do a long tap on a file to activate the drag and drop function and display the icons (2).

B. Tap the icon (3) to drag and drop the files.

C. Tap Done (1) to validate.
15.5.3 Remove files

FIG. 24
A. Swipe left to remove existing files and tap *Save* or *Cancel*.

15.6 Restore (default) and delete (user-defined) systems

FIG. 25
Swipe left to restore or delete.

*Note 20 - 21*

15.6.1 Default Systems

FIG. 26
Dentsply Sirona

*Note 22*

FIG. 27
FKG swiss endo

FIG. 28
Komet
VDW

⚠ **CAUTION**
The parameters contained in the dental procedures are indicative only.
Bien-Air Dental cannot be held liable for them.

*Note 23*

---

**NOTES**

19 New files can be added, sorted or removed in default and user-defined files.

20 Predefined ENDO systems can not be deleted. But it is possible to restore the default values if modified. Only user-defined systems can be deleted.

21 Custom and user-defined operations are represented by ✍️.
Default operations are represented by 📊.

22 Predefined endo file systems foreseeing the reciprocating movement need activation on the iOptima\textsuperscript{INT} system. In case the movement wasn’t previously activated, taping it leads to the activation page.
See chapter “15.8 CA ENDO / Reciproc option” on page 58.

23 The predefined parameters may be subject to modification without notice.
15.7 Create new Brands and Systems

**FIG. 29**
A. Tap + to add a new brand or a new system, the Settings screen opens.

**Note 24 - 25**

**FIG. 30**
B. Tap in the Brand text field (1) to display the onscreen keyboard.

**FIG. 31**
C. Type the new Brand name (5) or select an existing brand from the drop-down list box and tap Done (onscreen keyboard).

**FIG. 30**
D. Tap in System field (2), type the System name and tap Done (onscreen keyboard).

**FIG. 33**
E. Tap Add new file (4), refer to chapter “15.5.1 Add new files” on page 55.

**FIG. 30**
F. Tap the icons (6) to set the iOptima unit parameters:
   - Handpiece ratio
   - Light intensity
   - Footpedal mode: PROGRESSIVE or ON/OFF mode
   - Micromotor rotation mode: FORWARD, AUTO-REVERSE, AUTO-FORWARD

See chapter “15.2 Operative screen description” on page 51, for details.

**G. Tap Save (3).**

15.7.1 Restore (custom) and delete (user-defined) brand

**Note 26 - 27**

**FIG. 32**
A. Swipe left on a default brand.

A message box opens: *Restore factory brand.*

B. Tap Cancel or Restore to acknowledge.

**FIG. 33**
A. Swipe left on a user-defined brand.

A message box opens: *Delete user brand.*

B. Tap Cancel or Delete to acknowledge.
15.8 CA ENDO / Reciproc option

**FIG. 34**
It is only possible to access the CA ENDO mode with the iOptima\(^{\text{INT}}\) system.

Tap to enter the CA ENDO mode.

Predefined endo file systems foreseeing the reciprocating movement need activation on the iOptima\(^{\text{INT}}\) system.

In case the movement wasn’t previously activated, tapping it leads to the activation page.

15.8.1 Activation page

**FIG. 35**
A. Tap *More information* and follow the instructions displayed.
B. Input the code obtained and tap *Activate* (2).

A message box displays either:

<table>
<thead>
<tr>
<th>License not Activated</th>
<th>License Activated</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="License not Activated" /></td>
<td><img src="image" alt="License Activated" /></td>
</tr>
</tbody>
</table>

C. If activated the app navigates back to the operative screen.

15.8.2 Operative screen

**FIG. 36**
The pedal symbol (3) invites the user to press it.

A. Press the dental unit pedal to switch ON the micromotor.

**FIG. 37**
The movement symbol (4) displays the tool progression.

*Note 28 - 30*

⚠ **CAUTION**
- Valid only with Bien-Air CA ENDO.
- CA ENDO must be used only with specific tools.

**NOTES**

24 New systems and brands can also be created directly from the system screen.

25 Maximum storage of 10 user-defined brands and 10 systems per brand, if reached the ![icon](image) icon disappears.

26 Restore ALL default system settings from the Brands screen.

27 It is only possible to delete user-defined brands

28 If an ENDO file systems foreseeing the reciprocating movement is selected, speed, torque, motor direction, light, pedal mode disappear and the gear ratio is fixed.

29 When the power demand of the MX2 micromotor is excessive, the operative screen displays the overheating symbol (5). In this case the iOptima\(^{\text{INT}}\) unit lowers the torque automatically in order to avoid overheating of the MX2 micromotor. To restore 100% torque, allow the motor to idle or stop for a few seconds.

30 If stress is excessive on the file, the file stress warning displays (6).
16 Operation - Surgery mode

It is only possible to access the surgery mode with the iOptima\textsuperscript{INT} and MX-i micromotor system.
To set a holder with the MX-i micromotor, please contact a service engineer certified by Bien-Air Dental SA.
If only one holder is set, it will not be possible to access any other mode.

16.1 Enter Surgery mode

FIG. 1
Tap \text{SR} to enter the surgery mode.
Predefined surgery operations are available by default, it is possible to modify and restore them.
It is possible to create and delete User-defined operations.

Note 1

16.2 Operative screen description

FIG. 2
The operative screen displays the selected operation type and settings:
(1) \textit{Settings} (access to operation types and settings)
(2) Selected operation type
(3) MX-i micromotor rotation mode: FORWARD and REVERSE
(4) \textit{Save} (customize settings)
(5) Light intensity
(6) Handpiece ratio
(7) Maximum MX-i micromotor torque in Ncm (or according to settings, see chapter “13.6 Settings” on page 43)
(8) Maximum MX-i micromotor speed in rpm
(9) Back to the previous screen
(10) Irrigation level

Note 2
See chapter “16.3 Standard Use - Operating mode (Start)” on page 61.

16.2.1 MX-i micromotor Speed & Torque

FIG. 3
Slide to adjust the maximum speed and torque values.
Or tap the icons \text{ → } to enter a precise value.

FIG. 4
Enter the motor speed and torque values and tap \textit{Cancel} or \textit{Done} to validate.

Note 4

FIG. 5
When the power demand of the MX-i micromotor is excessive, the operative screen displays the overheating symbol \text{ → } . In this case the iOptima\textsuperscript{INT} unit automatically lowers the torque in order to avoid overheating of the MX-i micromotor.
To restore maximum torque, allow the motor to idle or stop for a few seconds.

16.2.2 Handpiece ratio

**FIG. 6**
Tap and select the handpiece ratio.

⚠ **CAUTION**
Verify that the handpiece corresponds to your selection.

*Note 5 - 6*

16.2.3 Irrigation level

**FIG. 7**
Slide or tap the appropriate dot to set up the irrigation level. 6 levels of adjustment are possible from 0 ml/min (OFF) to 120 ml/min.

*Note 3 - 7 - 8*
16.2.4 Light intensity

**FIG. 8**
Slide or tap the appropriate dot to set up the light intensity of the MX-i micromotor.
11 levels of adjustment are possible:
- light OFF, 10%, 20%, 30%, 40%, 50%, 60%, 70%, 80%, 90% and 100% of the max light intensity value.

*Note 9 - 10*

16.2.5 MX-i micromotor rotation direction

**FIG. 9**
Tap and select the rotation mode of the MX-i micromotor:
- **Forward** (clockwise)
- **Reverse** (counterclockwise).

*Note 11 - 12*

16.3 Standard Use - Operating mode (Start)

**FIG. 10**
A. Tap to enter the SURG mode, the operative screen opens.
*Note 13*

**FIG. 11**
B. Tap **Settings** to open the **Operations** screen.
*Note 14*

**FIG. 12**
C. Tap to select an operation type.
❖ The App navigates back to the operative screen.
D. Press the dental unit pedal to switch ON the MX-i micromotor.

⚠ **CAUTION**
If the footpedal is pressed before entering in operative mode, a warning message «Please release pedal...» will be displayed. The MX-i micromotor will not start to run until the footpedal is released and pressed again.
If a micromotor else than MX-i is unhooked, the previous operative mode used with that motor is displayed, so far as an operative mode has already been defined for that motor. If not, Home page will be displayed instead.

**FIG. 13**
*Note 15 - 16*
- Slide to adjust the MX-i micromotor speed and torque values of the selected operation.
The light intensity value is set for each operation. The default value of the light intensity is 100%.

The operative screen always displays the selected light intensity value.

In reverse mode (CCW), the symbol flashes and there is a sound alert (alternate medium beeps).

The operative screen always displays the selected rotation direction.

Each time you pull a motor from a holder (from the Home page), the operative mode previously used with that motor is displayed by default.

Each operation in the list is tagged with a colored dot to indicate which type of gear ratio it is associated to: red for multiplication gears, blue for direct-drive, green for reduction gears.

When the MX-i micromotor is switched ON, the speed and torque values displayed in the operative screen FIG. 13, toggle from predefined values to real time values. Once the motor stops running, the speed and torque values displayed toggle back to maximum predefined values.

All parameters can be directly modified in the operative screen (only when the footpedal is released).

Modifications are discarded when leaving the operative screen without saving.

16.4 Customize default operations

A. From the operative screen, tap **Settings** to open the **Operations** screen.

B. Tap to customize an operation type.

The **Operation** screen opens.

C. Customize the operation settings.

D. Tap **Cancel** (2) or **Save** (3) to validate custom settings and tap back (1).

If saved, the symbol (factory predefined settings) changes to (custom settings).

E. Select an operation.

The app navigates back to operative screen.
16.4.1 Restore (default) and delete (user-defined) operations

FIG. 17
Swipe left to restore or delete.

Note 18 - 19

16.4.2 Default Operations

FIG. 18

⚠ CAUTION
The parameters contained in the dental procedures are given for information ONLY. Bien-Air Dental cannot be held liable for them.

Note 20

16.4.3 Sort operations

FIG. 19

A. Do a long tap on an operation to activate the drag and drop function and display the icons (2).
B. Tap the icon to drag and drop the operations.
C. Tap Done (1) to validate.

16.5 Create new operations (user-defined)

FIG. 20
A. From the operative screen, tap Settings to open the Operations screen.

FIG. 21
B. Tap + to create a new operation type.
C. The Operations screen opens.

Note 21

FIG. 22
C. Tap in the Operation name text field (1) to display the onscreen keyboard.

FIG. 23
D. Type the new Operation name (3) and tap Done (4).
E. Set handpiece ratio and operation settings.
F. Tap Cancel or Save (2) to validate user-defined operation and tap back, FIG. 22.

⚠ If saved, the new operation is displayed in the Operations screen (5) with the symbol (user-defined) beside it, FIG. 21.

G. Select an operation.

⚠ The app navigates back to operative screen.
18 Predefined SURG operations can not be deleted. But it is possible to restore the default values if modified. Only user-defined operations can be deleted.

19 Custom and user-defined operations are represented by 🧑. Default operations are represented by 🧑.

20 The predefined parameters may be subject to modification without notice.

21 Maximum storage of 20 user-defined operations, if exceeded the 🌈 icon disappears.
17 Operation - Piezoscaling mode

It is only possible to access the piezoscaling mode with the iOptimaINT and piezoscaler system. To set a holder with the piezoscaler, please contact a service engineer certified by Bien-Air Dental SA. Multiple holder must be set to access to this mode.

17.1 Enter Piezoscaling mode

FIG. 1

Tap PZ to enter the piezoscaling mode. Predefined piezoscaling operations are available by default, it is possible to modify and restore them. It is possible to create and delete User-defined operations.

Note 1

17.2 Operative screen description

FIG. 2

The operative screen displays the selected operation type and settings:

(1) Settings (access to operation types and settings)
(2) Selected operation type
(3) Piezoscaler status
(4) Save (customize settings)
(5) Power level
(6) Back to the previous screen

Note 2
See chapter “17.3 Standard Use - Operating mode (Start)” on page 65.

17.2.1 Power level

FIG. 3
Slide to adjust the power level value.

17.3 Standard Use - Operating mode (Start)

Note 3

FIG. 4
A. Tap Settings to open the Operations screen.
B. Tap to select an operation type.
C. Press the dental unit pedal to switch ON the piezoscaler.
**CAUTION**

If the footpedal is pressed before entering in operative mode, a warning message «Please release pedal...» will be displayed. The piezoscaler will not start to run until the footpedal is released and pressed again.

If a micromotor else than piezoscaler is unhooked, the previous operative mode used with that motor is displayed, so far as an operative mode has already been defined for that motor. If not, Home page will be displayed instead.

**FIG. 6**

**Note 4**
- Slide to adjust the piezoscaler power level value of the selected operation.
- Tap **Save** (3) to validate the new settings.

**Note 5**
**D.** Tap the operation type above (1) or below (2) the selected operation type to navigate to the operation respectively preceding or following the current one in the predefined operation list.

See chapter “17.4.3 Sort operations” on page 67 to sort operations in the list.

**NOTES**

1. Save and create + buttons are disabled if a lock is set (see chapter “13.6 Settings” on page 43).

2. All parameters can be changed and saved directly in the operative screen (except if a lock is set).

3. Each time you pull a motor from a holder (from the Home page), the operative mode previously used with that motor is displayed by default.

4. All parameters can be directly modified in the operative screen (only when the footpedal is released).

5. Modifications are discarded when leaving the operative screen without saving.
17.4 Customize default operations

FIG. 7
A. From the operative screen, tap Settings to open the Operations screen.

FIG. 8
B. Tap to customize an operation type.

The Operation screen opens.

FIG. 9
C. Customize the operation settings.
D. Tap Cancel (2) or Save (3) to validate custom settings and tap back (1).

If saved, the symbol (factory predefined settings) changes to (custom settings).

E. Select an operation.

The app navigates back to operative screen.

17.4.1 Restore (default) and delete (user-defined) operations

FIG. 10
Swipe left to restore or delete.

Note 6 – 7

17.4.2 Default Operations

FIG. 11
⚠ CAUTION
The parameters contained in the dental procedures are given for information ONLY.
Bien-Air Dental cannot be held liable for them.

Note 8

17.4.3 Sort operations

FIG. 12
A. Do a long tap on an operation to activate the drag and drop function and display the icons (2).
B. Tap the icon to drag and drop the operations.
C. Tap Done (1) to validate.
17.5 Create new operations (user-defined)

FIG. 13
A. From the operative screen, tap **Settings** to open the **Operations** screen.

FIG. 14
B. Tap to create a new operation type.

The **Operations** screen opens.

*Note 9*

FIG. 15
C. Tap in the **Operation name** text field (1) to display the onscreen keyboard.

FIG. 16
D. Type the new **Operation name** (3) and tap **Done** (4).
E. Set power value setting.
F. Tap **Cancel** or **Save** (2) to validate user-defined operation and tap back, FIG. 15.

If saved, the new operation is displayed in the **Operations** screen (5) with the symbol (user-defined) beside it, FIG. 14.

G. Select an operation.

The app navigates back to operative screen.

---

**NOTES**

6 Predefined PIEZO operations can not be deleted. But it is possible to restore the default values if modified. Only user-defined operations can be deleted.

7 Custom and user-defined operations are represented by .

Default operations are represented by .

8 The predefined parameters may be subject to modification without notice.

9 Maximum storage of 20 user-defined operations, if exceeded the icon disappears.
# 18 List of errors & Troubleshooting

## 18.1 Safety warning (operating)

<table>
<thead>
<tr>
<th>Warning description</th>
<th>Message</th>
<th>Cause of warning</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Footpedal to be released</td>
<td>Please release pedal ...</td>
<td>Pedal is pressed when accessing operative page. Pedal remains pressed when acknowledging any system notification. Motor is jammed for more than 2 seconds.</td>
<td>Release footpedal and press it again.</td>
</tr>
<tr>
<td>Motor torque limitation active</td>
<td></td>
<td>Motor drive limits delivered torque to prevent motor overheating.</td>
<td>Avoid extended use. Let system cool down.</td>
</tr>
<tr>
<td>iPod Touch®/iPad Mini® speaker OFF</td>
<td>Please switch ON sound volume on your iPod Touch®/iPad Mini® and set it to an appropriate level according to the ambient noise level in your practice room.</td>
<td>iPod Touch®/iPad Mini® speaker was switched OFF, or sound volume was disabled by user. It is necessary to have iPod Touch®/iPad Mini® speaker turned ON so that system sound notifications and alarms may be heard distinctly.</td>
<td>Turn iPod Touch®/iPad Mini® speaker ON and set sound volume to an appropriate level.</td>
</tr>
<tr>
<td>Non-verified iOS version in use</td>
<td></td>
<td>iOS version installed on the iPod Touch®/iPad Mini® has not been verified according to Bien-Air validation protocols. Therefore it is NOT recommended to use the system with this configuration.</td>
<td>Do NOT update iPod Touch®/iPad Mini® with new iOS versions unless Bien-Air recommends to do so. If the iPod Touch®/iPad Mini® has been updated with a new iOS version despite everything, do not use the system until Bien-Air has verified and approved the new iOS version.</td>
</tr>
<tr>
<td>User Manual has been updated</td>
<td>User Manual has been updated, and may be consulted in the Information page.</td>
<td>As an update of the User Manual was available on Bien-Air website, it has been automatically downloaded and updated on the iPod Touch®/iPad Mini®.</td>
<td>It is highly recommended to consult the updated User Manual before using the system.</td>
</tr>
</tbody>
</table>
# 18.2 Device operating error

<table>
<thead>
<tr>
<th>Error description</th>
<th>Message</th>
<th>Cause of error</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ERROR 4</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motor connection missing</td>
<td>Motor is not connected ! Please check motor connection.</td>
<td>Motor phase missing failure. Motor is not properly connected.</td>
<td>1. Check motor connection. 2. If problem persists, contact Bien-Air Dental SA.</td>
</tr>
<tr>
<td><strong>ERROR 5</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motor cable failure</td>
<td>Motor cable fault ! Please replace motor cable.</td>
<td>Motor drive power protection failure. Motor cable may be defect.</td>
<td>1. Replace motor cable. 2. If problem persists, contact Bien-Air Dental SA.</td>
</tr>
<tr>
<td><strong>ERROR 6</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motor drive over temperature</td>
<td>Overall system overheating ! Please wait until cool.</td>
<td>Motor drive over temperature failure.</td>
<td>1. Wait for system cooling. 2. If problem persists, contact Bien-Air Dental SA.</td>
</tr>
<tr>
<td><strong>GEN ERROR [FailCode]</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## 18.3 iOS compatibility errors (disclaimer screen),

<table>
<thead>
<tr>
<th>Color</th>
<th>iOS version (identifier digit change)</th>
<th>Text version</th>
<th>Restriction (recommendations)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green</td>
<td>• None. • Currently installed iOS is identical to iOS verified during app validation.</td>
<td>Currently installed iOS x.y.z text section is displayed in green color.</td>
<td>No restrictions</td>
</tr>
<tr>
<td>Orange</td>
<td>• Last digit is different: iOS x.y.Z. • Currently installed iOS was updated for a minor change compared to iOS verified during app validation.</td>
<td>Currently installed iOS x.y.z text section is displayed in orange color. User must be aware that the configuration he is using is slightly different from the recommended configuration.</td>
<td>• Configuration in use is slightly different from recommended configuration. • No restrictions</td>
</tr>
<tr>
<td>Red</td>
<td>• First and/or second digit are/is different: iOS X.y.z, or iOS X.Y.z. • Currently installed iOS was updated for major or at least significant changes compared to iOS verified during app validation</td>
<td>Currently installed iOS x.y.z text section is displayed in red color.</td>
<td>• Configuration in use is significantly different from recommended configuration.</td>
</tr>
</tbody>
</table>

⚠️ CAUTION
The current configuration should NOT be used!

### Note 1
NOTES

1 It is imperative to read and understand this IFU before carrying out any troubleshooting on the iOptima. In case of unclear information or for any error message that is not listed in the following tables contact Bien-Air Dental SA.
19 Maintenance

⚠ CAUTION
Only use original Bien-Air Dental maintenance products and parts or those recommended by Bien-Air Dental. Using other products or parts may cause operational failure and/or void the guarantee.

19.1 Servicing
Never disassemble the device. For any modification and repair, we recommend to contact your regular supplier or Bien-Air Dental SA directly at the address indicated on the back cover.

Note 1

19.2 Cleaning-disinfection

- Disinfect the surfaces of the iOptima unit / iOptima\textsuperscript{INT} dock-in and footpedal by gently rubbing for about 15 seconds with a clean cloth soaked in a suitable product (i.e. Bien-Air Dental Spraynet or isopropyl alcohol) or with an appropriate disinfectant wipe.
- Do not immerse in disinfectant solution.
- Do not immerse in an ultrasonic bath.

19.3 Important
For maintenance of micromotors and hoses: See IFU

<table>
<thead>
<tr>
<th>Product</th>
<th>Micromotor</th>
<th>IFU</th>
<th>Hose</th>
<th>IFU</th>
</tr>
</thead>
<tbody>
<tr>
<td>iOptima</td>
<td>MX2 LED</td>
<td>2100199</td>
<td>MX2</td>
<td>2100223</td>
</tr>
<tr>
<td>iOptima\textsuperscript{INT}</td>
<td>MX2 LED</td>
<td>2100199</td>
<td>MX2</td>
<td>2100223</td>
</tr>
<tr>
<td>iOptima\textsuperscript{INT}</td>
<td>MX-i</td>
<td>2100245</td>
<td>MX-i</td>
<td>2100163</td>
</tr>
</tbody>
</table>
19.4 Replace 4VL seal

FIG. 1

⚠ CAUTION
Immediately replace any damaged or leaking O-rings and seals. Never use sharp tools!
A. Switch off the water and the dental unit power supply.
B. Switch OFF the iOptima unit «O».
C. Unscrew and unplug the 4VL hose (1).
D. Remove the damaged 4VL seal (2).
E. Replace with a new 4VL seal (REF 1302403-010).
☞ Refit hose, switch ON units and water.
See chapter “5.1 Install the iOptima app” on page 17 for details.

19.5 iOptima\textsuperscript{INT}

Refer to the iOptima\textsuperscript{INT} installation manual

⚠ CAUTION
Only a qualified Bien-Air Dental service engineer is permitted to open the dental unit and repair the iOptima\textsuperscript{INT} system.

NOTES

1 Bien-Air Dental SA recommends the user to have its dynamic instruments regularly checked or inspected (at least once a year).
20 General information and guarantee

20.1 General information

The device must be used by qualified professionals in compliance with the current legal provisions concerning occupational safety, health and accident prevention measures, and these instructions for use. In accordance with such requirements, the operators:

- must only use devices that are in perfect working order; in the event of irregular functioning, excessive vibration, abnormal heating or other signs that may indicate malfunction of the device, the work must be stopped immediately; in this case, contact a repair center that is approved by Bien-Air Dental SA;
- must ensure that the device is used only for the purpose for which it is intended, must protect themselves, their patients and third parties from any danger, and must avoid contamination through the use of the product.

20.2 Terms of guarantee

Bien-Air Dental SA grants the user a guarantee covering all functional defects, material or production faults.

The device is covered by this guarantee for:

- 12 months for the hose
- 12 months for the power supply
- 12 months for integrable electronic boards
- 24 months for the iOptima/iOptima\textsuperscript{INT} unit
- 36 months for series MX2 LED electric micromotors from the date of invoicing.

In case of justified claim, Bien-Air Dental SA or its authorized representative will fulfill the company’s obligations under this guarantee by repairing or replacing the product free of charge. Any other claims, of whatever nature, in particular in the form of a claim for damages and interest, are excluded.