Tooth Color Comparator
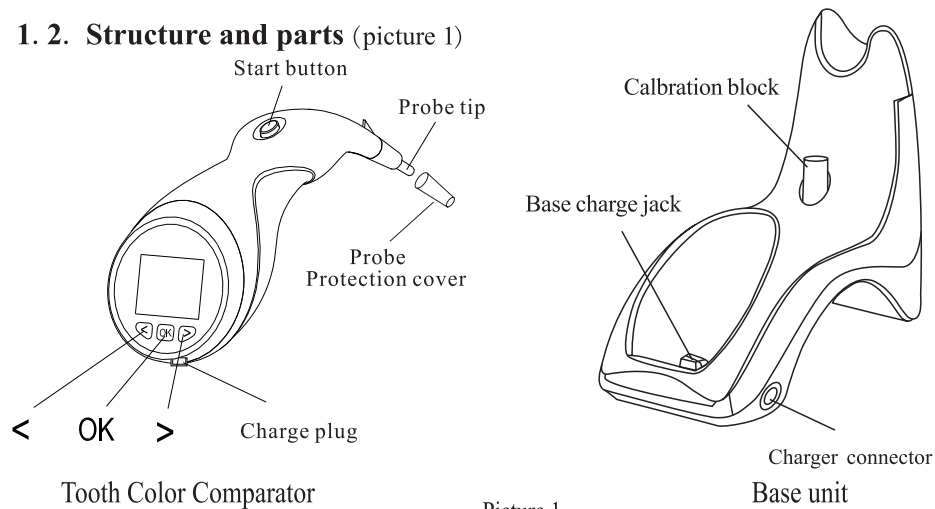# Operation Manual

Content

⚠ Warning：

1. Use only with the Tooth Color Comparator power supply.
2. Never look directly into the Tooth Color Comparator probe tip when the lamp is on.
3. Do not immerse the Tooth Color Comparator hand piece or base unit in water or any other liquid.
4. Follow the instruction to properly apply an anti-infection cover.
5. Do not expose the battery to temperatures above 60℃. Do not disassemble or alter the electrical connections of the battery.
6. The general recommendations for the use of the Tooth Color Comparator instrument in dentist practices and dental laboratories precautions must be followed.
7. Anti-infection covers are for single patient use only.

Thank you for your purchase of the Tooth Color Comparator which provides accurate shade determination for natural dentition and a variety of restorations. The instrument can measure a broad range of shades, including VITAPAN® classical A1–D4 Shades (VITA16), VITA® System 3D-Master® Shades (VITA29), Ivoclar ARGE A-D shade guide(I16), and Ivoclar Chromascop® (I20). For accurate shade matching results, please read these instructions completely before using your instrument.

1. 1. Package contents

1– Operating instruction manual
1–Anti-infection cover suit
1– Tooth Color Comparator
1–Base unit
1–Charger
1– Probe tip protection cover（can be autoclavable in 135℃）

1. 2. Structure and parts (picture 1)

Start button
Probe tip
Calbration block
Probe Protection cover
Base charge jack

< OK >
Charge plug
Charger connector

Tooth Color Comparator
Base unit

Picture 1

Note：Please take off the probe tip protection cover before use.

1. 3. Battery charging

Connect charger with electricity and insert the plug in the base of Comparator （picture2）. Indicator light of charger will shine. Red light means charging, green light means fully charged .

Note：If it is first time use, please charge more than 5hours.

Picture 2
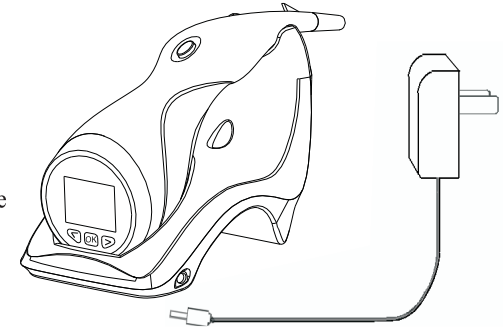
When using this equipment on a patient, in order to prevent cross infection, the use of an anti-infection barrier cover is highly recommended.
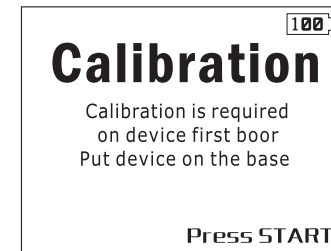
1. Insert the tip of probe into anti-infection barrier cover.
2. Take away the paper from anti-infection barrier cover.
3. Place the Anti-infection cover hold ring on the probe, a make it tight and flat

Push the Anti-infection cover hold ring to the end and make it tight.

Stick the surface of Probe tip tight
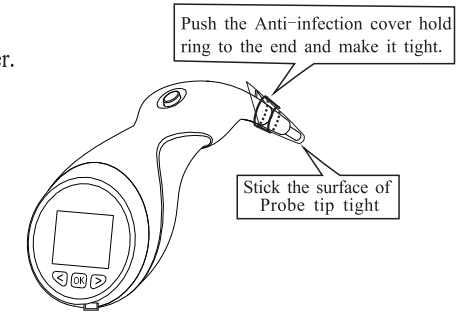
Ensure the Anti-infection cover extends uniformly and the surface of probe tip is tight.（picture3）

Picture 3

1.4. Power on

Press and hold button"OK", Tooth Color Comparator will turn on. (picture4) Icon will display"Calibration", this means Comparator needs to be calibrated.

100

Calibration

Calibration is required
on device first boor
Put device on the base

Press START

Picture 4

1.5. Calibration

Before calibration, please make sure the surface of calibration block is clean. If it is dirty, please use a clean cloth to clean it. The Calibration block has a magnet. Please put the probe tip of the Tooth Color Comparator vertically on the calibration block.

When you press "Start" button, the light of the probe tip flashes, you will hear three 'beep', then the calibration process has been finished.

Note: When the calibration icon flashes, you cannot use other push-buttons and cannot conduct the measurement.
(Note: No need put the anti-infection barrier cover on during calibration.)

1.6. Menu navigation

1.6.1 After correct calibration, Choice Menu will display on the screen. You can select the universal shade guide with the "<"or">"key. Press "OK" to go into the next menu. For example, select V29 and then press "OK". (picture 5)
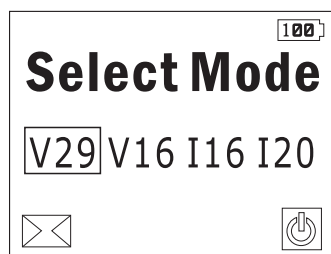
Picture 5

1.6.2. The menu will display, please select single point measurement or three positions. measurement, press "OK" to go into the next menu. (picture 6)
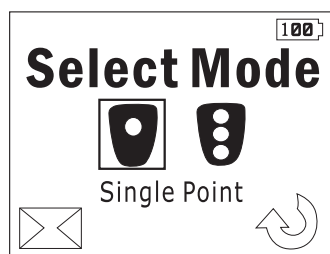
Picture 6

1.6.3 If you choose single point measurement, this menu will display. The circle in the middle of the tooth flashes. (picture 7)
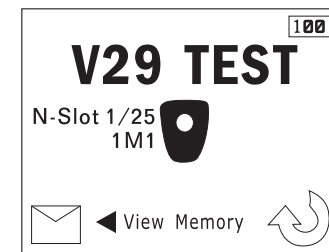
Picture 7

Now you can conduct the measurement. Tooth Color Comparator's correct measuring process:

The probe tip should be kept vertical and flush with the tooth.

The probe tip should be kept 0~0.5mm away from the tooth.

Hold the probe tip steady against the tooth, press the "Start" button, after hearing short 'beep' sounds, the measurement has been successfully completed and the result will be displayed on the screen. (picture 8)
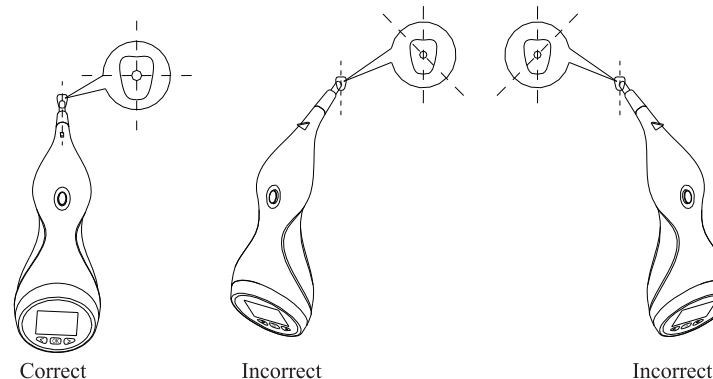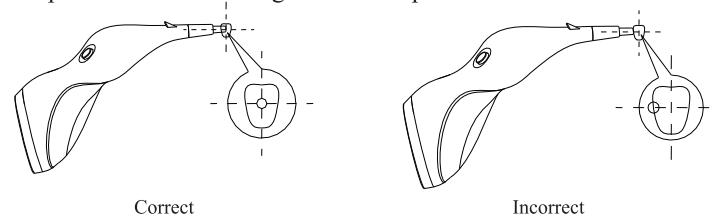
Picture 8

Incorrect aim section（picture 9）
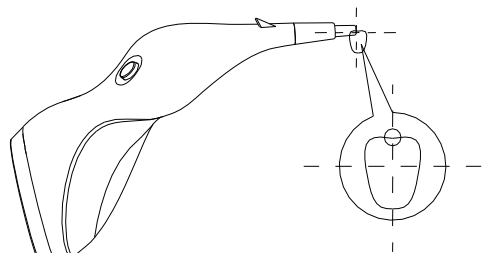
Picture 9

Probe & tooth are not in same level （picture 10）

| Correct | Incorrect | Incorrect |

Picture 10

Incorrect position- test the margin of teeth（picture 11 ）

| Correct | Incorrect |

Picture 11

Incorrect position- test cervix of teeth
The Probe tip is too close with the periodontal tissues（picture 12 ）

Incorrect
Picture 12

If the probe head is taken away too early, the instrument will issue three 'beep' sound will display an error message or error of measurement results. The colour will need to be re-measured again.

At this point you can press "<" "OK" ">" in any key to return to upper directory.

You can press the "Start" button to continue.

1.6.4. Means three point measurement and will test the teeth part of neck, middle and cut end and the measurement sequence of tooth neck, in the central and cut end.

First, place the probe on the tooth neck region, press "OK" button if have three times rapidly 'beep' sound show that measure success, the screen.

Icon "○" will become green, and will be obedient in the central and cut ends of the measurement. (Picture 13, 14)
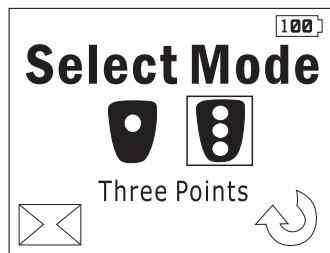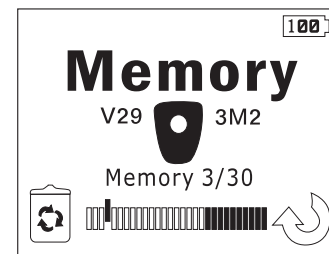

Picture 13
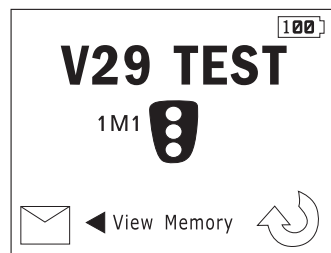
Picture 14

1.7. Memory

When the screen with the icon as a store, press "<"or">" keys choose to go to this icon, press the key to enter the next interface. If you select the "<"or">" keys to delete the icon, then press "OK" key can delete the current record. Select store icon, press the "OK" key can be "<"or">" keys search previous stored record. (Picture 15)

The memory can store 25 stores of measurement data.

Picture 15

1.8. Cleaning and disinfecting

After each patient use, the equipment body and base unit should be cleaned with a medical equipment surface disinfection wipe.

If iodine, phenyl, phenol based products or isopropyl alcohol are used to clean or disinfect tooth color comparator handpiece , permanent discoloration and cracks may result which are not covered by the product warranty.
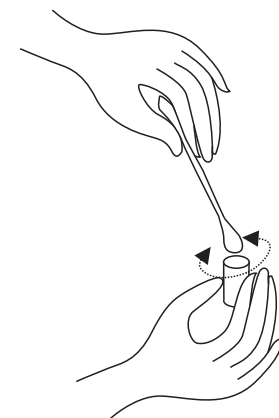
Picture 16

If the calibration block becomes contaminated, please use alcohol to clean it.

Note: Only wipe the medical alcohol on the head of calibration. (Picture 16)

1.9. Precaution

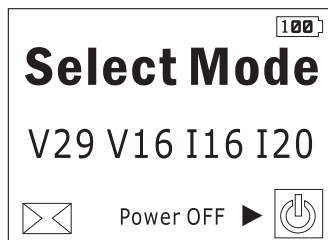After tooth color comparator is turned on, without any operation if within 2 minutes, the screen will automatically come into saving power mode, and then, you need wake up any keys in the screen. After twenty minutes of inactivity, tooth color comparator turns off automatically.

2.0. Battery

The battery charge level is indicated by the battery icon, in order to ensure accuracy measurement, please recharge immediately.

2.1. Power off

Select return key enter into the interface, through the "<" or ">" keys select to the icon, press "OK" key, the machine is now powered off.(Picture 17)

Select Mode

V29 V16 I16 I20

◁ Power OFF ▶ ⏻

Picture 17

2.2. Troubleshooting

Problem	Solution
Tooth Color Comparator Can not be turned on	Charge the battery as described in section 1.3.
Tooth Color Comparator can not be calibrated or repeatedly prompts to calibrate again	1) Please check the calibration block touch the probe tip completely. 2) Please clean the calibration block. (see section 1.8)
Measurements can not be made after switching on the Tooth Color Comparator	Make sure that the correct Measurement mode icon is highlighted on the Measurement screen. (see section 1.4) Make sure that the instrument is calibrated in accordance with section 1.5.
Consistently inaccurate shades are displayed when testing on shade tabs	Repeat the measurement, assuring that the probe tip is touching the surface at 90 in the middle of the shade tab and that the probe tip is not moving during the measurement. Please use this method to test again, and use the correct measurement method.

2.3. Technical data

Height /Width/Depth:	22.5X11X15cm
Weight:	511g
Battery:	Rechargeable Li-Ion battery, 8.4V
Lamp type:	White High Power LED
Adapter(Input):	AC110V-240V, 50-60Hz
Temperature range:	15℃to40℃

2.4. Storage and transport conditions

Temperature range:	-40℃to+60℃
Pressure range:	500 to 600 hPa

2.5 Note

1. The Tooth Color Comparator is for indoor use only. Avoid being too close to a window or strong light.
2. Tooth Color Comparator can not be used to test denture.
3. Important information on electromagnetic compatibility.

Portable and mobile radio frequency (RF) communications equipment can affect medical electrical equipment. This product is intended for use in the electromagnetic environments specified. The user of this product should assure it is used in such an environment.

A) Portable and mobile RF Communications equipment
   (Cell phones) should not be used at close distances.
B) Power frequency magnetic fields should be at levels characteristic of a typical location in a commercial or hospital environment.
4. Please don't test it directly to the color shade board, the outside light can penetrate the color shade board and affect the result.
5. The use of silicon fittings is highly recommended.

2.6. Warranty

1.The manufacturer provides a warranty for one year against product faults and workmanship.
2.When error occurs during operation of the machine, please get in touch with local distributor.

Please note : Our products should be used only according to the working instructions provided. We cannot be held liable for damages resulting from incorrect handling or usage.The user is furthermore obliged to check the product before use with regard to its suitability for the intended area of applications.