VITA Easyshade® V

Instructions for use

VITA shade determination | VITA shade communication | VITA shade reproduction | VITA shade control

VITA – perfect match.

VITA

Purchase date:	
VITA Easyshade V serial number Handpiece:	
Serial number of the calibration block holder: (The number must correspond to the handpiece)	
VITA Easyshade V charging station serial number:	
Dealer:	

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1 Introduction and explanation of symbols

1.1 Introduction

Dear Customer,

Congratulations on your purchase of the VITA Easyshade V! VITA Easyshade V provides accurate shade determination for natural dentition and a variety of restorations. The instrument covers the broad spectrum of the VITA SYSTEM 3D-MASTER shades, including the BLEACHED SHADE GUIDE shades, as well as the VITA classical A1–D4 shades. You have also chosen the option of digital tooth shade communication and documentation, with the aid of the VITA mobileAssist+ app or the VITA Assist PC software. To achieve precise shade determination, please read this manual all the way through before using the device.

We wish you much success with this instrument.

1.2 Safety information

VITA Easyshade V	Complies with IEC 61010-1 with regard to electrical safety, fire safety and mechanical breakdowns.

Warnings

1. Only use the supplied power adapter and the supplied rechargeable batteries of the "eneloop, Ni-MH, 1.2 V, min. 1900 mAh, HR6, AA" type. The use of other batteries is not permitted and can lead to damage to the instrument or the batteries. VITA Zahnfabrik provides no warranty in this case.
2. Never look directly into the measuring tip of the VITA Easyshade V while the light source is switched on.
3. Do not immerse the VITA Easyshade V handpiece or the base station in water or other liquids.
4. Pay attention to the instructions in section 5.3 for the correct application of a protective cap.
5. Follow the instructions in section 11 on proper cleaning and disinfecting the VITA Easyshade V.
6. Do not expose the instrument to temperatures over 60 °C or under 0 °C.
7. General dental and technical work and safety measures must be observed during use of the VITA Easyshade V.
8. Protective caps are intended for use with a single patient only.
9. Protect the instrument from direct sunlight.
10. Measurements must be taken within a temperature range between 16°C and 40°C.
11. Do not allow the instrument to fall, as there is a danger of breakage and electrical shock.

Important information on electromagnetic compatibility (EMC)

Portable and mobile high-frequency communication devices can impair electrical medical instruments. This product is designed for use in the indicated electromagnetic environment. The user of the product must ensure that the instrument is used exclusively in a suitable environment.

1. Power frequency magnetic fields must not exceed the values characteristic of a typical location in a commercial or clinical environment.

Explanation of the symbols on the instrument:		
Note	Opening the housing may cause damage to the instrument.	
Separate disposal	This instrument and all accessories labeled with this symbol are subject to Directive 2012/19/EU (WEEE) and the applicable national regulations, and may not be disposed of as unsorted municipal waste in the European Union (EU). Return the old instrument to VITA Zahnfabrik.	
CE marking	The VITA Easyshade V complies with the applicable regulations of the European Union (EU). The declaration of conformity can be requested from VITA (Regulatory Affairs Department) at: www.vita-zahnfabrik.com	CE

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2 General product description

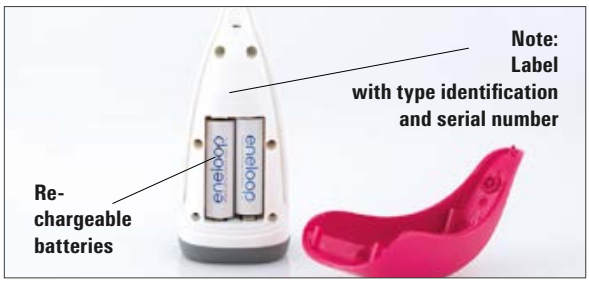
With the VITA Easyshade V, high-precision VITA vEye technology ensures that the digital focus remains squarely on tooth-shade determination and communication. The user-oriented operating concept is rounded off perfectly by a color touch display that is both convenient and intuitive. The durable and long-lasting battery technology with integrated self-discharge protection ensures particularly stable operation when in continuous use. The innovative software concept in combination with the VITA vBrain neural network guarantees exact tooth-shade determination in accordance with the internationally established shade systems VITA classical A1–D4, VITA SYSTEM 3D-MASTER and VITABLOCS, as well as the bleached shades defined by the American Dental Association (ADA).

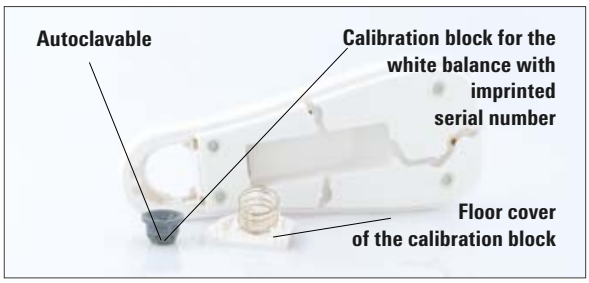
The VITA Assist software with the VITA ShadeAssist module (download from http://www.vita-zahnfabrik.com/vita-assist) helps you with the transmission and documentation of the measured natural tooth shade.

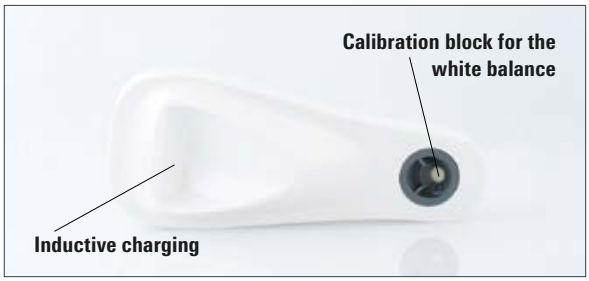
Note:

For the operation of the VITA Assist software with the VITA ShadeAssist module, you will need an operating system from: Operating system: Windows 10

The VITA mobileAssist+ app for smartphones and tablets is available from the Google Play Store (Android) and the App Store (iOS).







3 Scope of delivery and charging the instrument

3.1 Scope of delivery

Product	Piece count	VITA article number
VITA Easyshade V hand piece	1	DEASY5HPV1
VITA Easyshade V charging station	1	DEASY5LSV1
VITA Easyshade V protective caps (18 pcs.)	2	D58000
VITA Easyshade V Operating Manual	1	10180
VITA Easyshade V Quickstart	1	10188
VITA Easyshade V Instrument Warranty Card	1	1626/5D (only for Germany)
USB charging cable	1	D58158
USB 5V power adapter USB power adapter EU USB power adapter USA + TW USB power adapter UK + HK USB power adapter CN USB power adapter AUS	1 1 1 1 1 1	D58159W D58160W D58161W D58162W D58163W D58164W

Check the delivery for completeness and any transport damage.

Note: In the unlikely case that the contents of the package are incomplete or damaged, please contact the VITA Zahnfabrik Service Hotline immediately. Tel. No.: +49 (0)7761 562 222

3.2 Replacement parts and accessories for users

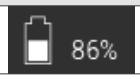
The following replacement parts and accessories can be obtained from VITA:

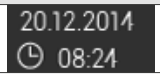
Product	Piece count	VITA article number
Protective caps (9x18 pcs.)	1	D58000S
Sales and shipping packaging	1	ZDEASY5
Operating manual	1	10180
Brief instructions	1	10188
USB charging cable	1	D58158
USB 5V power adapter	1	D58159W
USB power adapter EU	1	D58160W
USB power adapter USA + TW	1	D58161W
USB power adapter UK + HK	1	D58162W
USB power adapter CN	1	D58163W
USB power adapter AUS	1	D58164W

4 Menu navigation

Descriptions of the illustrations in the instructions for use

The instrument is operated using a touch screen. Initiate actions by touching the display.

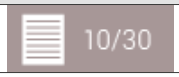
Context-sensitive information	Scroll up	Scroll down	Main menu	Battery status
				

Date and time	User standard	Activate interpolated shades	Deactivate interpolated shades	Scroll left or back
				

Scroll right	Save	Training mode VITA classical A1–D4	Training mode VITA SYSTEM 3D-MASTER	Regulating volume

Bluetooth connection (PC)	Bluetooth connection (mobile device)	Share data

Base shade determination	Averaged shade determination	Shade determination of the tooth area	Tooth shade determination for bleaching treatments	Comparison of a ceramic restoration with the target shade

Determination of the shade of a ceramic crown	List overview of measurements	VITA Easyshade settings	Switch off VITA Easyshade	Delete list
				

Ready symbol for base shade determination	Display of measurement results for the base shade determination	Natural tooth shade	VITABLOCS shade	Bleached shade

Ready symbol for the averaged shade determination	Display of measurement results for averaged shade determination	Ready symbol for tooth area shade determination	Standby after first measurement of tooth area shade determination	Standby after second measurement of tooth area shade determination

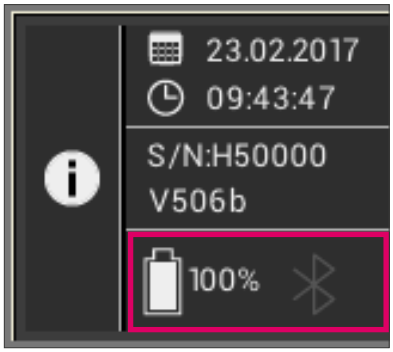
Display of measurement results for tooth area shade determination	Bleaching mode standby symbol	Comparison of a ceramic restoration with the target shade	Determination of the shade of a ceramic crown	Measurement results of the determination of the shade of a ceramic crown

5 First use

5.1 Charging the instrument

You should charge the instrument for at least 12 hours before using it for the first time. To do so, plug the USB charging cable into the bottom of the charging station and connect it to the power adapter provided. Then connect the charging station to the power supply and place the handpiece in the designated position. As soon as the instrument is correctly inserted and supply voltage is present, a red LED will light up on the cover of the handpiece.

⚠ **Important**: Check to make sure that the handpiece and the calibration block in the charging station have the same serial number; if this is not the case, please contact VITA immediately.



5.2 Battery charge status

You can find the current battery status in the information directory in the main menu. The battery symbol shows you the charge status of the battery. If the battery status is low, the battery symbol blinks.

5.3 Putting on the protective caps

Before using on the patient, the instrument needs to be cleaned and disinfected properly. Information on cleaning and disinfecting the VITA Easyshade V can be found in section 11. Use a new VITA Easyshade V protective cap for each patient.

The protective cap protects the optical elements of the instrument against damage.

You should use a protective cap on the measuring tip during all measurement procedures. These non-sterile covers are intended for single patient use and must be disposed of according to regulations. Pull the protective cap over the measuring tip and make sure that it is completely flat and does not have any dents.

Note: Once the protective cap comes into contact with a patient, make sure that the cap does not touch the calibration block. If this happens, please follow the instructions for cleaning and disinfecting the calibration block in section 11.

5.4 Switching on

Switch the VITA Easyshade V on by activating the measurement button on top of the instrument.

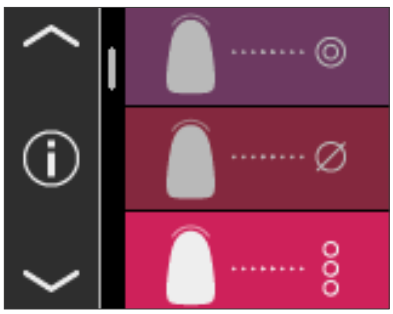
If the VITA Easyshade V is in the charging station when it is switched on, an automatic white balance takes place. After switching on the VITA Easyshade V outside the charging base, automatic white balance is prompted. When this happens, insert the device into the charging base. The white balance starts automatically.

5.5 Automatic white balance

The white balance should only be carried out with a new protective cap.

After turning it on, place the instrument in the charging station so that the tip lies flush on the calibration block.
The VITA Easyshade V recognizes the calibration block and now performs the white balance automatically. The conclusion of the white balance is reported by two short signal tones.

Note: It is important to recalibrate the instrument after placing a protective cap.



Following a successful white balance, the main menu appears and the instrument is ready to use. The last used measuring mode is automatically activated.

If there is only a single signal tone, the white balance could not be correctly performed. In this case, an error message appears on the display. Acknowledge the error message by touching the x-symbol on the display and repeat the white balance.

Note: Do not place the charging station in the vicinity of a strong light source (e.g., sunlight, treatment lamp), as this may lead to a defective white balance.

Note: The VITA Easyshade V is calibrated to the supplied calibration block at delivery and may only be used with this calibration block. If you have more than one VITA Easyshade V, you should ensure that the charging stations are not mixed up, to ensure the accuracy of the measurements. To do this, compare the serial number of the handpiece with the serial number of the calibration block holder.

Recommendation: Use protective caps for application on a patient. If they are used, a new white balance must always be initiated after the cap is attached and before the tooth shade determination on the patient.

Due to changed environmental conditions or after repeated use, it may be necessary to carry out a white balance again for further measurements. Please conduct this as described under section 5.5.

Note: Once the protective cap comes into contact with a patient, you must not allow the cap to touch the calibration block. If this happens, please follow the instructions for cleaning and disinfecting the calibration block in section 11.

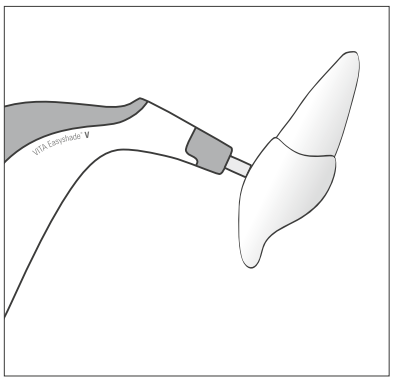
If Error No. 3 is displayed (see left), a white balance must be performed again.

5.6 Correct measuring of tooth shade

You can use the device to measure the shade in the central tooth area ("base shade determination") at several points distributed over the entire tooth ("averaged shade determination"), or in the neck, central and incisal areas ("tooth area shade determination") as described in section 6. You can also use the device for documentation and simple patient communication during bleaching treatments (see section 6.4).

Follow the procedure described here as closely as possible in order to conduct precise measurements with the VITA Easyshade V (for clarification, the measuring tip is shown below without a protective cap):

Have your patient sit in the treatment chair and rest his or her head on a headrest for stabilization in order to achieve an accurate measurement.
In the first step, consider the shade gradient of the tooth to be measured in order to correctly locate the center of the dentin. Then you must place the measuring tip in the area of the enamel surface with the underlying dentin (central to cervical area). Finally, you should take care that the measuring tip lies as flat as possible on the tooth surface.



While holding the measuring tip against the dentin central part of the tooth, press the measurement button. Hold the measuring tip against the tooth until two short consecutive signal tones mark the end of the measurement process. Function: "Automatic triggering of the measurement."

Note: You can press the measurement button before placing the measuring tip on the tooth. The VITA Easyshade V does not trigger the measurement until the instrument is placed on the tooth.

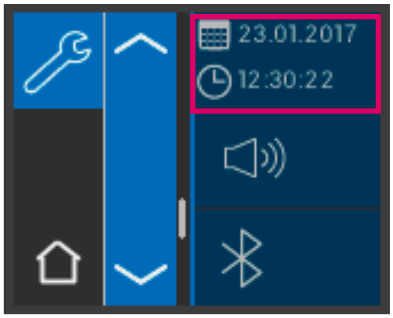
VITA Easyshade V displays the results of the measurement.

If you lift the measuring tip off the tooth before the instrument produces a signal tone, an error message or faulty measurement will be displayed and you will have to perform the measurement again.

Note: Before the shade of a tooth is determined, you should place a protective cap on the measuring tip of the VITA Easyshade V and conduct a white balance. Before a measurement procedure, it is recommended that you completely remove specks from the tooth surface.
It may be necessary to wipe the tooth off with gauze to prevent any sliding. You must position the measuring tip completely on the natural tooth. Take care that you are only working with natural tooth substance. Filling and restoration materials will influence the measurement results.

5.7 Basic settings

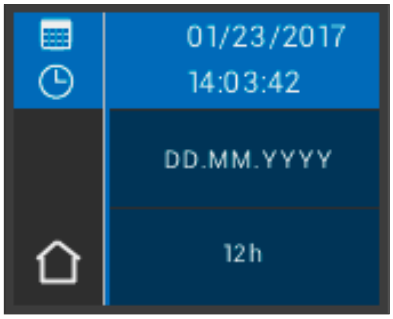
As soon as you have started up the instrument, you can choose the basic settings. Use the arrows to go to the basic settings on the left side of the main menu. Touch the middle button.



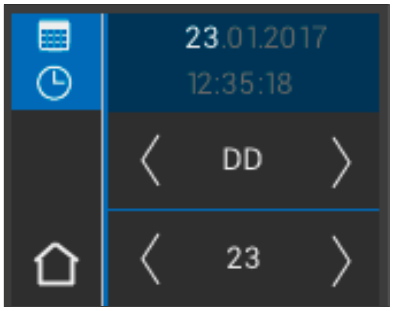
5.7.1 Date and time

By touching the very top button, the date and time can be set.

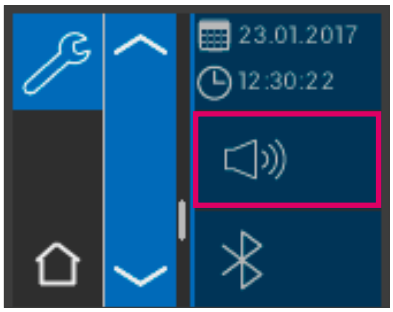
Touching the date and time field switches the instrument to processing mode.



Pressing the date field in Settings allows the user to switch the type of display between DD.MM.YYYY and YYYY.MM.DD, as well as between the 12 and 24 hour display.

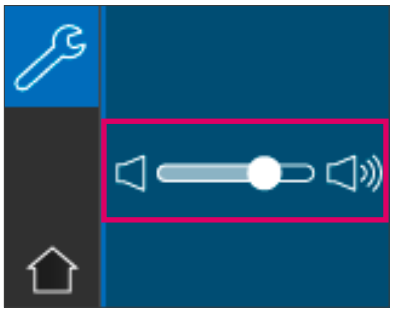


Touch the top button, which displays date and time. Use the arrows to scroll to the right or left in order to set the date and time.

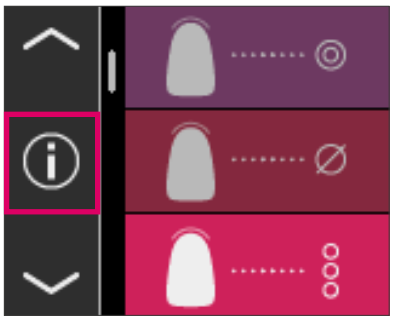


5.7.2 Volume

Use the middle button to adjust the volume.

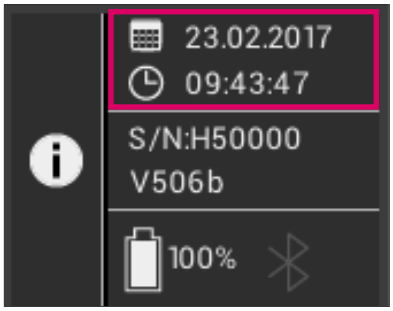


By moving the controller to the right, the volume is increased, and by moving it to the left, the volume is reduced.

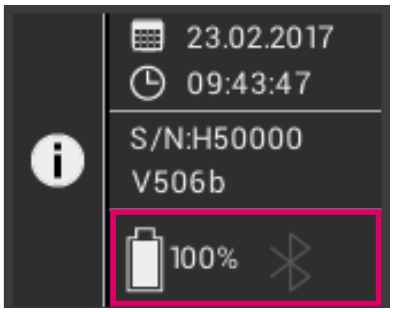


5.7.3 Information on the instrument

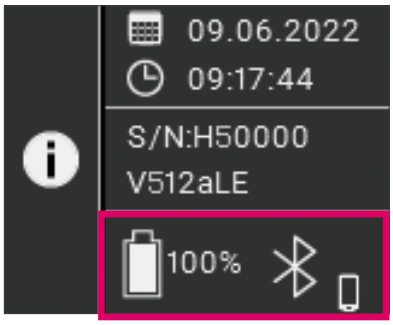
You can display the device information by tapping on the ⓘ icon in the main menu. The date and time, serial number, software version, battery charge status and Bluetooth status are displayed.



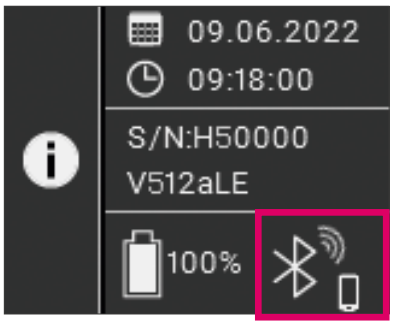
When you tap "Date and Time" in the upper section, you are taken directly to the settings, where you can make changes to the date and time.
The serial number and the software version are displayed in the middle area.



The lower field shows the battery status and Bluetooth status.
If the Bluetooth icon is gray, Bluetooth is disabled.

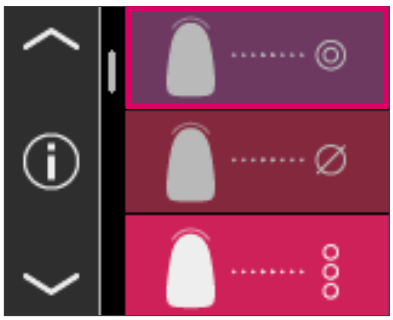


If the Bluetooth icon is white, Bluetooth is activated, but not yet paired with a device. The icon beside the Bluetooth icon indicates the selected connection mode (Windows PC or mobile device). More information on the connection modes is provided in section 9.



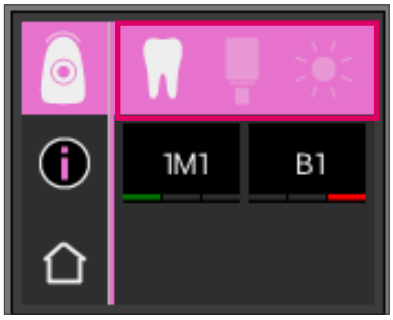
If the VITA Easyshade V is paired with a device, radio waves are displayed on the top right next to the Bluetooth icon. To the right of the Bluetooth icon, you can see if it is paired with a Windows PC or a mobile device. You can tap the Bluetooth icon to go directly to the Bluetooth settings and make changes there. See section 9.

6 Operating modes



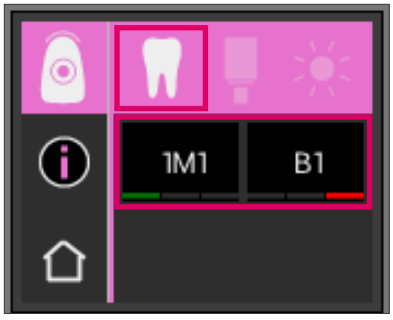
6.1 Base shade determination on a natural tooth

To determine the base shade of a natural tooth, touch the symbol for base shade determination in the main menu. Trigger the measurement by pressing the measurement button and place the measuring tip flush in the central area of the dentin of the tooth. The measurement is performed without further interaction as soon as the instrument is stable on the surface of the tooth. Once the measurement is completed, the VITA Easyshade V produces an acoustic signal.



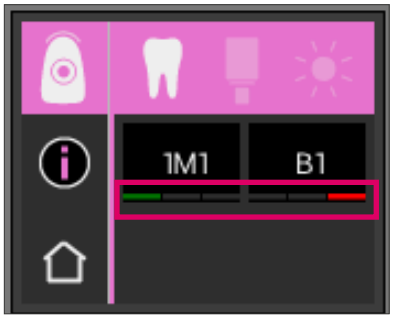
The measurement results are displayed in the VITA SYSTEM 3D-MASTER and VITA classical A1–D4 tooth shade systems and as VITABLOCS shade or bleach index.

Note: If you want to compare the measurement results with your visual impressions, please use standardized daylight lamps with a color temperature of 5500 K or 6500 K and only the current shade guides of VITA Zahnfabrik.



6.1.1 Display of the natural tooth shade

To display the measured tooth shade, select the tooth symbol in the top bar. The measurement result is displayed in the VITA SYSTEM 3D-MASTER and VITA classical A1–D4 tooth shade systems.
All 29 VITA SYSTEM 3D-MASTER and all 16 VITA classical A1–D4 shades can be measured.



6.1.2 Display of shade differences

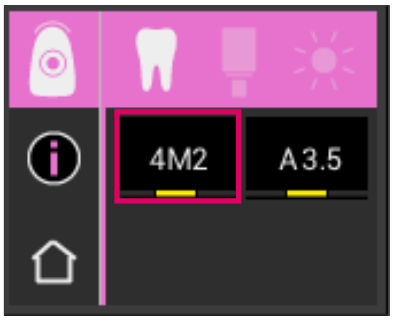
Using a traffic light function, the VITA Easyshade V shows you how close the measured tooth shade is to the next VITA SYSTEM 3D-MASTER or VITA classical A1–D4 shade. The degree of the match is indicated by a green, yellow or red bar.

Green bar means "good": the measured tooth shade does not vary or varies only slightly from the specified VITA SYSTEM 3D-MASTER or VITA classical A1–D4 shade.

Yellow bar means "average": the measured tooth shade has a noticeable, but still acceptable difference from the specified VITA SYSTEM 3D-MASTER or VITA classical A1–D4 shade. In the anterior area, however, this result may not be acceptable.

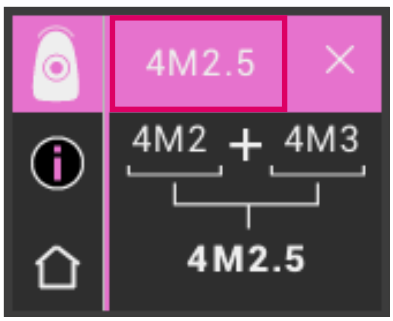
Red bar means "adjust." The measured tooth shade has a clearly noticeable difference from the specified VITA SYSTEM 3D-MASTER or VITA classical A1–D4 shade.

More information on the shade deviations can be found in sections 6.1.3 and 6.1.5.

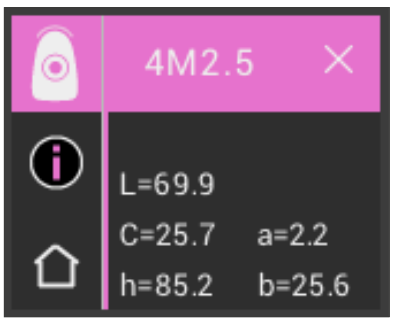


6.1.3 Detailed information - VITA SYSTEM 3D-MASTER shade

To obtain detailed information on the measured VITA SYSTEM 3D-MASTER shade, touch the shade (shade specification on the left) on the display.



This illustration shows how, if necessary, an even more exact adaptation to the measured tooth shade can be achieved with the materials in VITA SYSTEM 3D-MASTER shades. If the measured tooth shade lies between two shades of the VITA SYSTEM 3D-MASTER (yellow bar), a perfect match can be achieved by mixing the materials in both shades. The nearest interpolated shade is displayed in the bottom bar. A 1:1 mixing ratio is sufficient to achieve an esthetically appealing solution. Click again on the shade value in the header to go to the shade coordinates display.



Display of the shade coordinates (LCh or lab values).

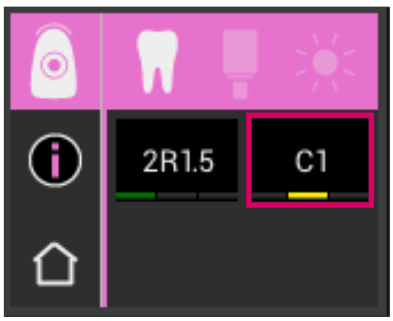
6.1.4 VITA SYSTEM 3D-MASTER® interpolated shades

M-shades										
0M1	0.5M1	**1M1**	1.5M1	**2M1**	2.5M1	**3M1**	3.5M1	**4M1**	4.5M1	**5M1**
0M1.5	0.5M1.5	1M1.5	1.5M1.5	2M1.5	2.5M1.5	3M1.5	3.5M1.5	4M1.5	4.5M1.5	5M1.5
0M2	0.5M2	**1M2**	1.5M2	**2M2**	2.5M2	**3M2**	3.5M2	**4M2**	4.5M2	**5M2**
0M2.5	0.5M2.5		1.5M2.5	2M2.5	2.5M2.5	3M2.5	3.5M2.5	4M2.5	4.5M2.5	5M2.5
0M3				**2M3**	2.5M3	**3M3**	3.5M3	**4M3**	4.5M3	**5M3**

L-shades				
2L1.5	2.5L1.5	**3L1.5**	3.5L1.5	**4L1.5**
2L2	2.5L2	3L2	3.5L2	4L2
2L2.5	2.5L2.5	**3L2.5**	3.5L2.5	**4L2.5**

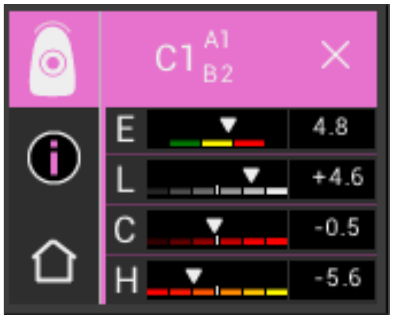
R-shades				
2R1.5	2.5R1.5	**3R1.5**	3.5R1.5	**4R1.5**
2R2	2.5R2	3R2	3.5R2	4R2
2R2.5	2.5R2.5	**3R2.5**	3.5R2.5	**4R2.5**

The 29 VITA SYSTEM 3D-MASTER shades can be found in bold print in the tables above. The tables also show the 52 interpolated shades that can be obtained with an equal mixture of the respective VITA SYSTEM 3D-MASTER materials. VITA Easyshade V measures teeth and restorations in relation to the closest VITA SYSTEM 3D-MASTER interpolated shade.



6.1.5 Detailed information on VITA classical A1–D4 shades

To obtain detailed information on the measured VITA classical A1–D4 shade, touch the shade (shade specification on right) displayed on the screen.



This illustration shows the shade differences between the measured tooth shade and the closest VITA classical A1–D4 shade.
The bars represent the shade deviations graphically.

E (Delta E, overall shade deviation):
Overall shade deviation of the measured tooth from the displayed VITA classical A1–D4 shade.

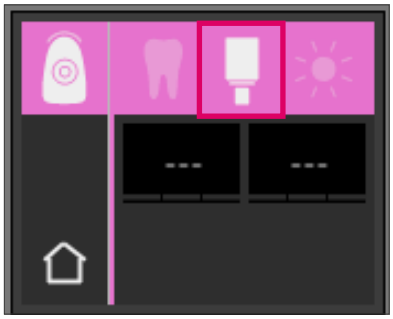
L (Delta L, lightness):
Deviation of lightness of the measured tooth from the displayed VITA classical A1–D4 shade.
The measured tooth is lighter (+) or darker (-) than the VITA classical A1–D4 shade.

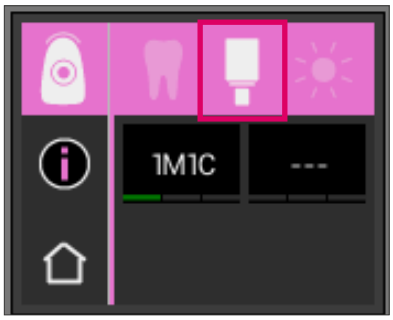
C (Delta C, chroma):
Deviation of chroma of the measured tooth from the displayed VITA classical A1–D4 shade.
The measured tooth has a higher (+) or lower (-) chroma than the VITA classical A1–D4 shade.

H (Delta h, hue):
Deviation of hue of the measured tooth from the displayed VITA classical A1–D4 shade.
The measured tooth is more yellowish (+) or reddish (-) than the VITA classical A1–D4 shade.

The deviation of the tooth shade measured on the tooth from the VITA classical A1–D4 shade to be determined is displayed as a numerical value.

Click again on the shade value in the header to get to the shade coordinates display (LCh or Lab values).





6.1.6 Display of the VITABLOCS shade

The VITABLOCS display provides you with an indication of which VITA CAD / CAM material should be used for a highly accurate reproduction of the shade of the measured tooth. To do this, please select the VITABLOCS symbol in the top bar.

The appropriate VITABLOCS are displayed in VITA classical A1–D4 or VITA SYSTEM 3D-MASTER. If no appropriate VITABLOC is available in the VITA classical A1–D4 shade system, (---) is displayed. In this case, use the specified material in VITA SYSTEM 3D-MASTER.

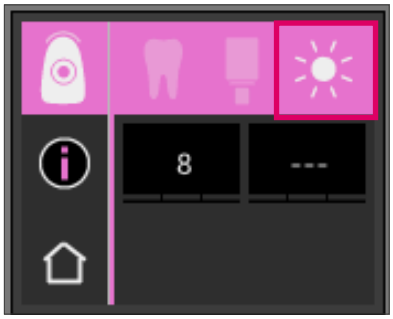
Note:
For the provision and determination of the correct VITABLOCS shade, four initial situations must be differentiated. In principle, measurements on a prepared tooth (stump) do not make sense, as these are frequently too small and usually darker than the unprepared tooth.

1. Vital, non-discolored
   The base shade is determined with the VITA Easyshade V on the unprepared tooth, and the restoration can be prepared without further additional characterization.

2. Vital, discolored
   The base shade is determined with the VITA Easyshade V on the unprepared tooth; however, the restoration must be shaded prior to insertion (VITA AKZENT Plus).

3. Devitalized, non-discolored
   The base shade is determined with the VITA Easyshade V on the unprepared tooth, and the restoration can be prepared without further additional characterization.

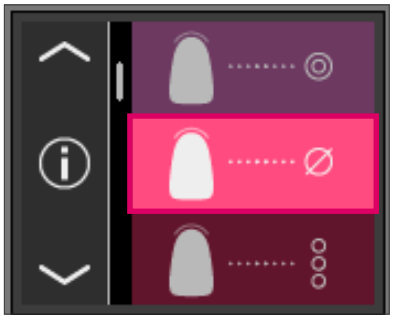
4. Devitalized, discolored
   Measurement of the tooth with the VITA Easyshade V is not usable.
   To determine the appropriate VITABLOCS shade, an adjacent tooth with an acceptable shade must be measured. A devitalized tooth should be bleached internally, if possible, prior to treatment (attempt to achieve the shade of a non-discolored, devitalized tooth).
   The prepared tooth should be shaded like a vital, discolored tooth.



6.1.7 Display of the bleached shade

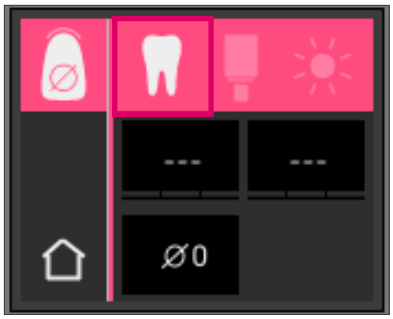
To display the bleached shade, please select the sun symbol in the top bar.

When selecting this display mode, the bleached index is set according to the VITA Bleachedguide 3D-MASTER (VITA Product Number B361) for the measured shade. The bleached index enables a simple check of tooth whitening. For this purpose, the measured bleached index after treatment should be subtracted from the bleached index before treatment. The difference corresponds to the number of the SGU (Shade Guide Units) achieved by the treatment.

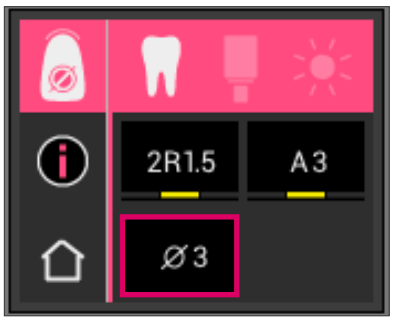


6.2 Averaged shade measurement

This measurement calculates an average base tooth shade from several base shade measurements. In addition to the base tooth shade, you can have the matching shade and the ADA bleached index displayed. To do so, you should perform at least four and a maximum of 30 measurements.



With averaged shade determination, up to 30 measurements can be performed on a natural tooth. The determined tooth shade is displayed in the VITA SYSTEM 3D-MASTER and VITA classical A1–D4 tooth shade systems.
It is recommended that at least four measurements are taken.
To do this, the measuring tip is shifted slightly on the tooth after each measurement and when a new measurement is taken.

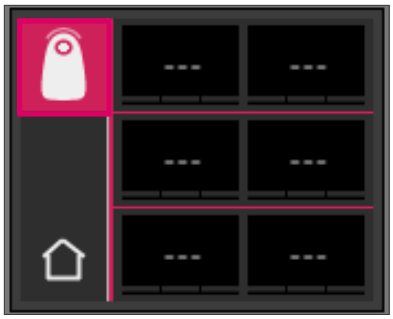


The number of averaged measurements is displayed in the lower part of the screen. The detail display is analogous to the base shade determination.
See sections 6.1.3 and 6.1.5

6.3 Tooth area shade determination

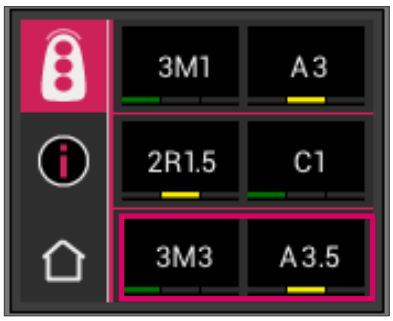
This measurement enables you to determine the shade in the cervical, central and incisal areas of a natural tooth. To do so, touch the symbol for determining tooth area in the main menu.

Measurement process: cervical, central, incisal.



To start (tooth symbol with an empty circle, top left), place the measuring tip in the cervical area of the tooth and press the measurement button. Two short, consecutive signal tones indicate a successful measurement and a filled-in circle appears in the display.

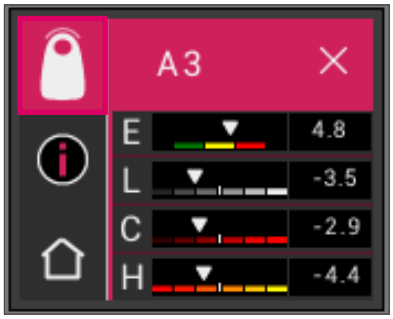
Then measure the central and incisal areas.



Measurement result

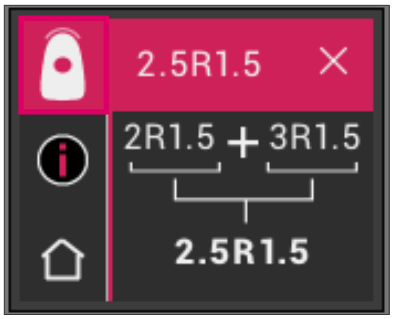
After successfully measuring all areas, the shades are displayed in the VITA SYSTEM 3D-MASTER and VITA classical A1–D4 tooth shade systems.

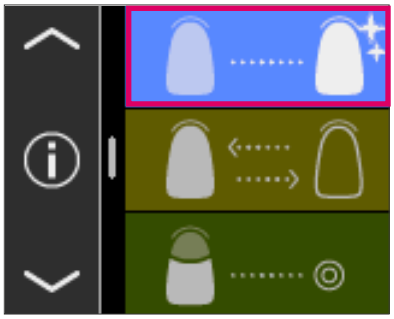
If an error occurs during the measurement, the instrument produces a long signal tone, and an "X" is displayed in the corresponding tooth area. Repeat the measurement of the area until a successful measurement has been performed.



To obtain extended shade information, please touch one of the displayed shade results.

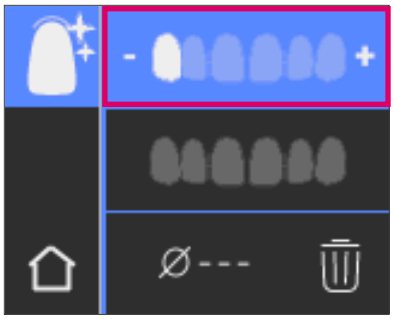
Note: The measurement data from VITA Easyshade V depends on the measurement mode and is only valid for natural teeth. Shade samples can only be measured in the training mode. Measurements on dental restorations should always be performed in the mode "Verifying the shade of a ceramic restoration."



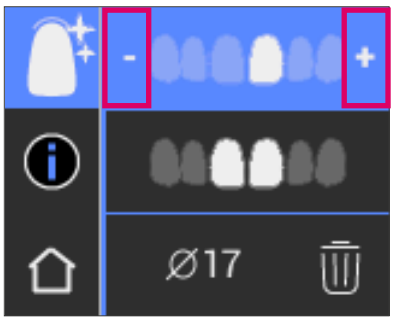


6.4 Shade determination in bleaching mode

The bleaching mode helps you to determine the tooth shade before and after tooth lightening.
The measured values of this display mode are given in the bleached index according to the VITA Bleachedguide 3D-MASTER (VITA Product Number B361).

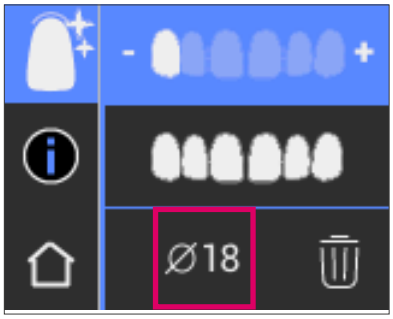


The measurement mode is ready for the measurement of up to six anterior teeth.

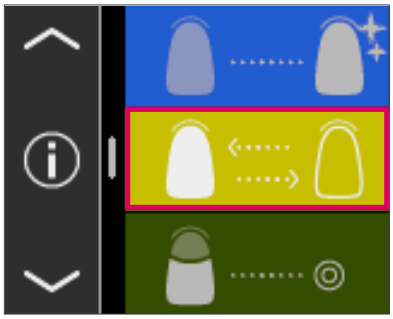


The + and – symbol allows you to go to the position of the tooth that you want to measure.

Measured values can be individually deleted and the measurement repeated.



The result is displayed and stored as a mean value of all measurements.



6.5 Verifying the shade of a ceramic restoration

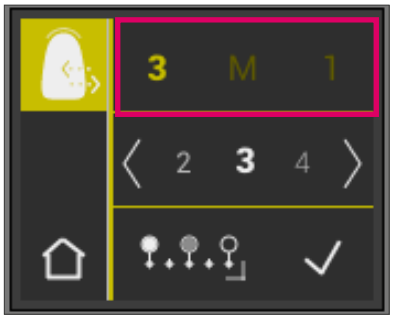
This measurement makes it possible for you to:

- Compare the shade of the ceramic restoration with a tooth shade indicated in the VITA Easyshade V
- Compare the shade of the ceramic restoration with a previously measured tooth shade (user standard)
- Determine the pure shade of a ceramic tooth restoration (user standard)

You can also activate the VITA SYSTEM 3D-MASTER interpolated shades.

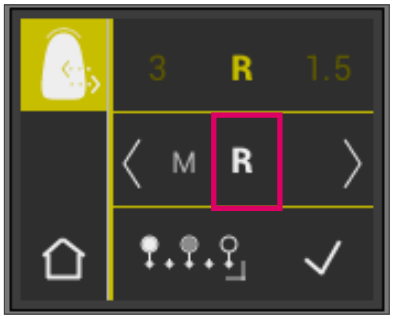
VITA Easyshade V enables dental specialists to check how well the shade of the ceramic restoration matches an indicated shade. This enables you to check the 29 VITA SYSTEM 3D-MASTER shades, the 52 VITA SYSTEM 3D-MASTER interpolated shades, as well as the 16 VITA classical A1–D4 shades. It is also possible to define your own shade standard (user standard) and compare the ceramic restoration with it. In addition, it is possible to determine the approximate shade value of the restoration.

Note: To verify a restoration, the base shade of the restoration is measured in the middle third of the restoration. The ceramic material must have a minimum thickness of 0.8 mm to ensure accuracy of the measurement.



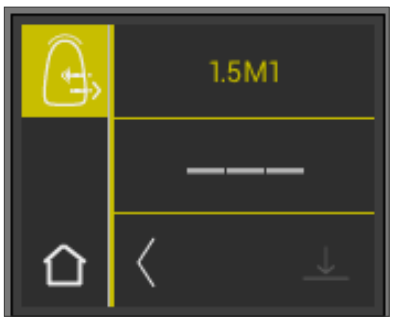
6.5.1 Comparison of the shade with VITA Standard

To check a restoration, please touch the Check Restoration symbol in the main menu. The shade to be checked must be selected before measuring the restoration.

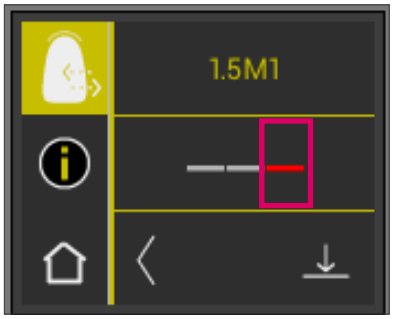


To select a target shade, please choose the first number or letter by touch. After this selection, only numbers and letters can still be selected, which can produce a corresponding VITA SYSTEM 3D-MASTER or VITA classical A1– D4 shade.

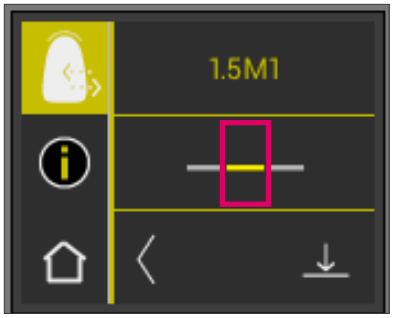
To select interpolated shades, please switch over to the extended mode by using the button.



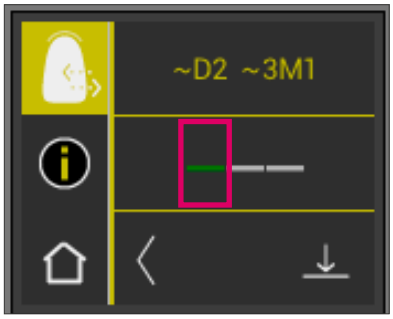
After selecting the target shade, measure the middle third of the restoration. The extent of the match (restoration target shade) is symbolized by red / yellow / green, as shown in the following illustrations.



RED means "Adjust." This means that there is a recognizable difference between the base shade of the restoration and the target shade it was compared to. The restoration must be reworked to achieve an acceptable shade match.

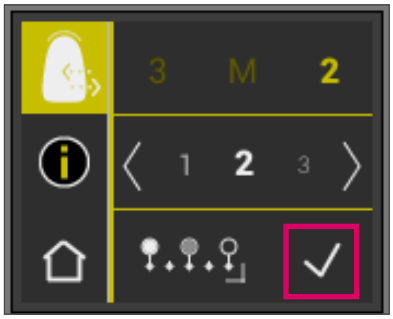


YELLOW means "Average." This means that there is a recognizable but acceptable difference between the base shade of the restoration and the target shade it was compared to. However, this may not be sufficient for an anterior tooth restoration under certain circumstances.



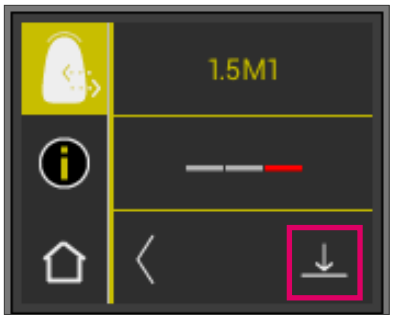
GREEN means "Good." This means that there is little or no difference between the base shade of the restoration and the target shade that it was compared to. To obtain extended shade information, please touch the traffic light symbol in the middle of the display.

You are now in the detailed view.

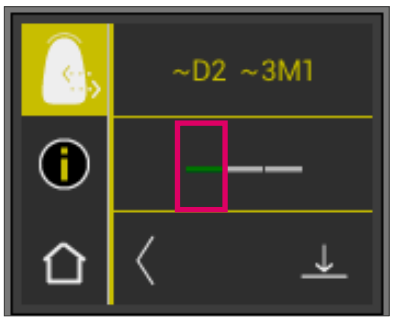


6.5.2 Comparison of the restoration shade with a user standard

To establish a user standard, please touch the Check Restoration symbol in the main menu. Measure the target shade of a ceramic restoration with the actual restoration it should be compared to.

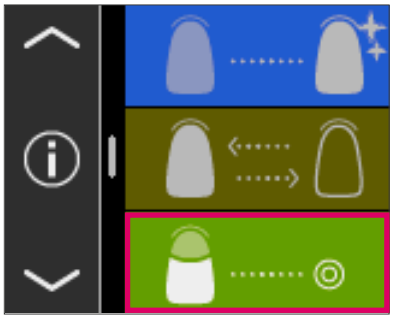


Touch the Save symbol.



The measured shade is now saved and displayed as an approximate VITA classical A1–D4 and VITA SYSTEM 3D-MASTER shade.
All shade deviations are set to zero after saving, and the bar is green.
This shade is now defined as a user standard.

All subsequent shade measurements in this mode (without saving) are compared to the user standard, and the degree of match is displayed in red, yellow or green with the LCh value deviations.
The user standard can be called up at any time as a target shade by activating the User Standard symbol. A new user standard can be defined by repeating the procedure described in the beginning. It is also possible to set the user standard in the measurement memory (measurement result from the mode "Verifying the shade of a ceramic restoration"). The previous user standard is overwritten when you do this.

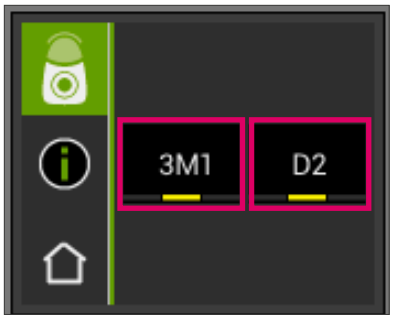


6.6 Determination of the shade of the crown using the same method as the base shade determination

With the crown measurement, you can determine the shade of a ceramic crown. The measurement is performed in the same manner as the base shade measurement of the natural tooth. In this mode, you will also obtain the measurement results in VITA classical A1–D4 and VITA SYSTEM 3D-MASTER. The light indicates the precision of the measured shade in comparison to the standard shade of the respective shade system. We recommend that you use the extended measurement values if the light shows "yellow" or "red."

Press the measurement button and place the measuring tip flush in the center of the crown. The measurement is performed without further interaction as soon as the instrument is stable on the surface. After completing a measurement, the VITA Easyshade V produces an acoustic signal, and the shade of the crown is displayed in the VITA classical A1–D4 and VITA SYSTEM 3D-MASTER tooth shade systems.

Note: The patient's head should be against a headrest during the measuring procedure. Ideally, the measurement is performed in the treatment chair.



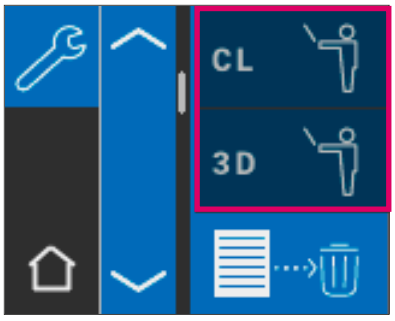
To obtain detailed information on the measured VITA classical A1–D4 shade or VITA SYSTEM 3D-MASTER shades, please touch the respective shade.

In the detail display, you have information on given shade deviations.
A detailed description of the display can be found in sections 6.1.3 and 6.1.5.

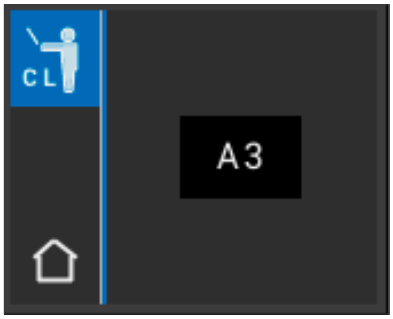
7 Training mode

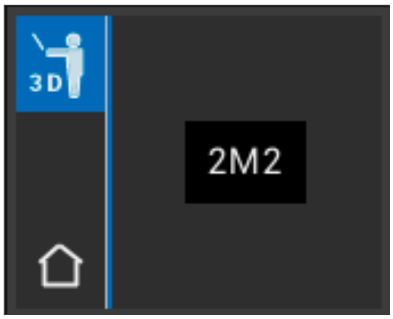
With this function, you can practice the use of the instrument on a VITA shade guide. You can reach training mode via the Settings menu item.

You can use the arrows to scroll to the second page.



You can choose between the training mode for VITA classical A1–D4 shade guides (CL) or VITA SYSTEM 3D-MASTER shade guides (3D).





To measure, place the measuring tip flush with light pressure in the upper third (below the neck of the tooth) of the shade tab. Now press the measurement button. The closest tooth shade is displayed.

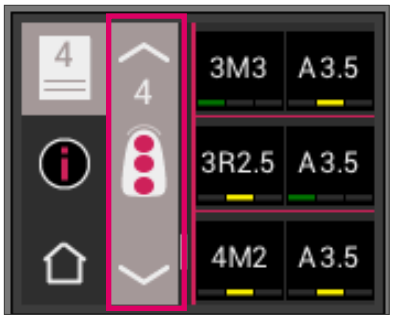
Note: In Training Mode, the 29 shades of the VITA SYSTEM 3D-MASTER and the 16 VITA classical A1–D4 shades are displayed. The measuring of other shade guides or other shade samples leads to deviating results. Due to the small differences in shade colors, and the natural shade variations of the shade samples, it is possible for some shades to display a different "neighboring shade," even if the measurement process is small.

8 Measurement memory

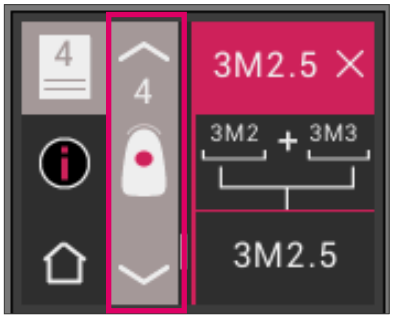
The instrument has a memory in which 30 successful measurements are recorded in the order in which they were determined. Each set of tooth area measurements is saved as one result. Measurements in bleaching mode each occupy two memory locations. In addition to the measurements, the data and the time of the measurement are saved so that the saved measurements can also be easily assigned to a patient at a later time.

8.1 Retrieving measurements

The measurement memory display can be found in the main menu.
All measurement values are saved in the memory in ascending order from 1 to 30. If a number of 30 save measurement values is reached, the oldest measure value number one, is deleted for any additional measurement.
The measurement values two to 30 are shifted to the positions one to 29 and the new value is saved as number 30,

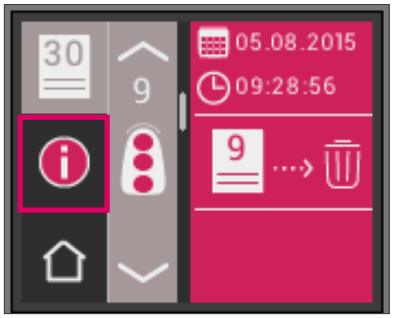


If the measurement memory already contains measurements, it is possible to navigate within the recorded data by touching the Arrow symbol.



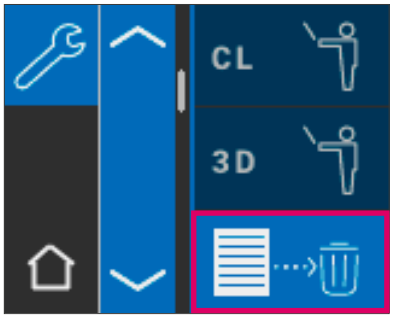
After selecting the VITA classical A1–D4 or VITA SYSTEM 3D-MASTER shade specification, you will return to the detail display (Fig. shows details of the VITA SYSTEM 3D-MASTER shade specification) as described in 6.1.3 and 6.1.5.

8.2 Deleting measurements



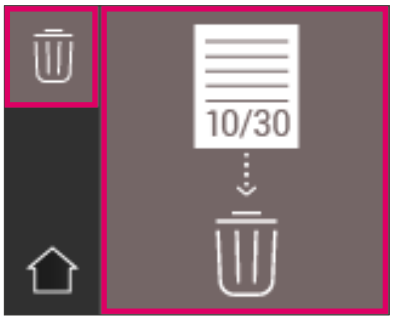
Single deletions

To delete single measurements from the measurement memory, please select the corresponding measurement in the measurement memory and touch the Info symbol. Then touch the Recycle Bin symbol.



Deleting all records

To delete all saved measurements, please select the Recycle Bin icon in the settings and delete all saved measurements permanently.



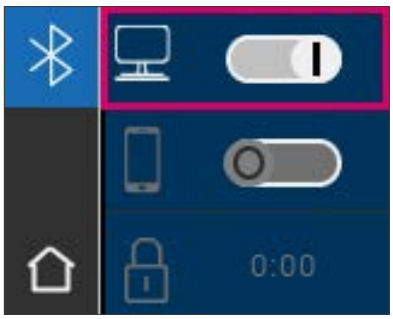
9 Data transfer via Bluetooth

9.1 Bluetooth pairing with Windows PCs / VITA Assist

Check whether your PC has a built-in Bluetooth module. If so, use the built-in module. If not, use the USB Bluetooth device that comes with the VITA Easyshade V.

No intervention on the part of the user is required when installing the supplied USB Bluetooth device. Insert the device into an available USB port. Windows will automatically install the necessary drivers. Windows will search the database during the installation process. This process may take several minutes and should not be interrupted or skipped.

If using the supplied Bluetooth device:
Go to "System settings," → "Devices and printers." The USB device is now displayed in the Devices area. If an exclamation mark appears next to the entry, the Bluetooth module has not been installed correctly. In this case you will need to remove the entry, remove the Bluetooth module from the USB socket and reinsert it.

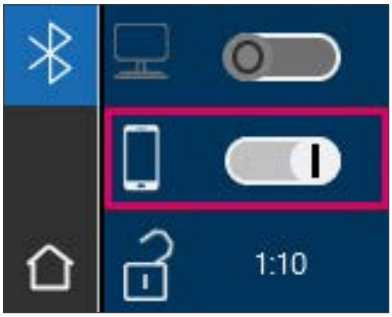


Go to the Bluetooth settings. Move the upper Bluetooth slider for a Windows PC to the right to activate Bluetooth. The padlock icon is unlocked automatically, making VITA Easyshade V visible for two minutes. If the padlock (icon) is locked, you can touch it to make VITA Easyshade V visible again.

Go to the "Assist" tab in the VITA Assist Software and select "Options." Go to "Easyshade" in the options and ensure that "Activate Bluetooth" is checked. Click "Yes" to search for available Easyshades nearby. Select your Easyshade and choose "Select" and then "Save." Perform a measurement with the VITA Easyshade V. If you want to transmit the results, create a finding and click "Connect."

The measurement results are automatically transmitted if automatic importing of VITA Easyshade V measurements is activated (Assist → Options → Easyshade → Activate automatic import by default). If this function is not activated, you can transfer the results via Bluetooth by touching the share icon. The results can be transferred from all measurement modes and from the measurement memory by touching the corresponding icon at the top left. Restoration mode results cannot be transmitted. The VITA Easyshade V must be connected to the computer to transmit data to Windows and Android devices. Once a measurement has been successfully completed, an existing Bluetooth connection is shown via the share icon.

9.2 Bluetooth connection with mobile devices / VITA mobileAssist+ app



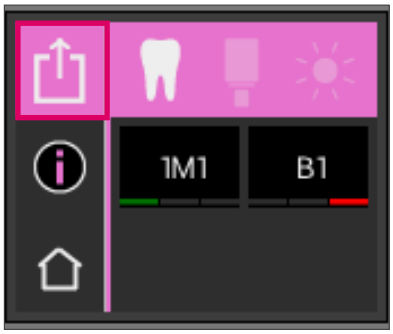
Install the VITA mobileAssist+ app (available free of charge from the App Store or Google Play Store).
Go to the Bluetooth settings of your VITA Easyshade V. Move the middle slider for mobile devices to the right to activate Bluetooth. The padlock (icon) will be unlocked automatically and VITA Easyshade V will be visible for two minutes. If the padlock (icon) is locked, you can touch it to make VITA Easyshade V visible again.

Go to Settings → Bluetooth on your mobile device. Make sure Bluetooth is enabled.

Start the VITA mobileAssist+ App on your mobile device and touch the VITA Easyshade V icon at the bottom of the screen.
Select the active VITA Easyshade V device. You can distinguish between devices using the serial number on the underside of the charging station.

App Store QR Code

Play Store QR Code

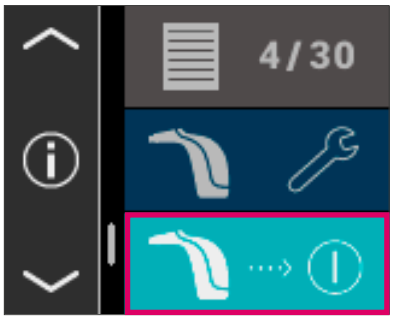


Perform a measurement with the VITA Easyshade V. To transmit the results, touch the measurement results icon at the top left. The results can be transmitted from all measurement modes and from the measurement memory by touching the corresponding icon at the top left. Restoration mode results cannot be transmitted.

The VITA Easyshade V must be connected to the device to transmit data. Once a measurement has been successfully completed, an existing Bluetooth connection is shown via the share icon.

For iOS devices, the connection is automatically established before transmission from the VITA Easyshade V, and then disconnected again afterwards.
A wave always appears to the right of the measurement mode icon if your VITA Easyshade V was last paired with your iOS device.

Note: VITA Easyshade V can be paired with various devices via Bluetooth. VITA Easyshade V always tries to connect to the last device it was paired with or connected to. To reconnect VITA Easyshade V to a device that has already been used, tap the VITA Easyshade V icon in the lower area of the start screen in the VITA mobilAssist app to access the list of known VITA Easyshade V devices. There you can select the required device.



10 Switching the device off

You can switch the device off by pressing the ON/OFF button. To turn the device on again, press the measurement button on the top of the device. The white balance must be carried out again with the calibration block in the charging station.

11 Cleaning and disinfecting

The surface of the VITA Easyshade V can be disinfected. We recommend commercial disinfectant wipes. These can be obtained from most dental dealers. Please follow the respective manufacturer's instructions for use.

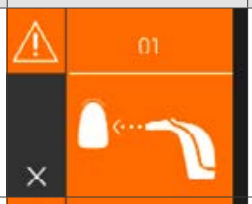
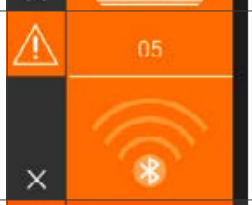
If products containing iodine or phenylphenol or isopropyl alcohol are used to clean or disinfect the VITA Easyshade V, permanent discoloration and/or cracks may occur, which are not covered by the warranty. Disinfectants containing phenol, compounds with phenylphenol groups or methyl ethyl ketone will damage the surface of the instrument.

Note: General dental and dental-technical working and safety measures must be observed while using the VITA Easyshade V.

The white balance should only be performed with a new protective cap.
If the calibration block is contaminated, the block must be removed with the holder from the charging station and sterilized in a steam autoclave, according to the instructions of the manufacturer of the sterilization agent. Do not use a "heat only" autoclave.

12 Appendix

12.1 Error message

Error No.	Symbol	Meaning
01		No measurement object was recognized. Please repeat the measurement procedure.
02		The shade is outside of the measurement range.
03		Please perform a white balance.
05		The Bluetooth data transmission is defective.
06		The battery level is low.

Error No.	Symbol	Meaning
07		Device temperature too low during measurement (< 16°C). Permissible operating temperature: min. 16°C, max. 45°C.
08		Device temperature too high during measurement (> 45°C). Permissible operating temperature: min. 16°C, max. 45°C.
09		Measurement is uncertain.
10		Measurement is blurred. The measurement result is invalid.
11		Calibration uncertain. Please repeat calibration.
100		Hardware is defective
143		Sensor is defective
145		Controller is defective

12.2 Troubleshooting

Error	Procedure
VITA Easyshade V cannot be switched on	Please charge the battery.
No white balance of the VITA Easyshade V is possible, or it repeatedly requests to perform another white balance.	Ensure that the measuring tip is resting properly on the calibration block and is not lifted before the signal tone, indicating the end of the white balance. Place the measuring tip again as requested.
After switching on, no measurement with VITA Easyshade V is possible.	With the VITA Easyshade V, a white balance must first be performed after the device is switched on. Only after this task is completed, can measurements be performed in the desired measurement mode.
A measurement is performed and VITA Easyshade V displays "-- -" instead of a VITA classical A1–D4 shade or a VITA SYSTEM 3D-MASTER shade.	The shade lies outside of the range of known tooth shades. The measuring tip was not correctly positioned or was moved or removed during the measurement. Conduct another measurement and position the measuring tip correctly.
In the tests with shade samples, imprecise shades are constantly displayed.	Make sure that the VITA Easyshade V is in Training Mode. Ensure that the calibration block and the measuring tip are clean. Conduct another white balance. Use only approved protective caps for VITA Easyshade V. Repeat the measurement and make sure that the measuring tip touches the surface in the middle of the shade sample at an angle of 90° and that the measuring tip does not move during the measurement. Check that the correct calibration block for the VITA Easyshade V has been installed by comparing the serial numbers. Make sure that only VITA Linearguide or VITA Toothguide 3D-MASTER and VITA classical A1–D4 shade samples are used.
Measurement button flashes during charging	Battery is not or not yet correctly inserted.

12.3 Technical data

Length / Width / Height:	20.5 cm / 8.5 cm / 10.5 cm
Weight:	Approx. 420 g (without USB cable and power adapter)
Battery:	2 pc. eneloop, BK-3MCCE, Ni-MH, 1.2 V, min. 1900 mAh, HR6, AA
Electrical connection:	100V-240V, 50-60Hz Power consumption max. 5W
Temperature range for use:	16°C to 40°C
Bluetooth:	Range approx. 10 m with a clear line of sight Transmission frequency 2402MHz to 2480MHz FHSS/GFSK modulation, 79 channels 1 MHz intervals 128 bit encryption
Indication range:	Approved for indoor use only. The instrument is not suitable for use with a flammable narcotic agent with air or nitrous oxide.

12.4 Glossary

Spectrophotometer
An instrument for measuring color, which measures the spectral distribution of light and converts it into color value (tristimulus value) or an internationally recognized numerical value.

VITA SYSTEM 3D-MASTER shades
Refers to the 29 shade sample teeth, including three bleached shade samples of the lightness group 0 and the 52 interpolated shades of the VITA SYSTEM 3D-MASTER.

VITA classical A1–D4 shades
Refers to the 16 original VITA classical A1–D4 shades of the VITA classical A1–D4 shade guide.

Lightness (L)
The luminance of a shade. Lightness or darkness of a shade in relation to a series of gray tones ranging from white (L = 100) to black (L = 0).

Chroma (C)
The intensity (purity) of a shade. The difference between the shade and a gray tone with the same lightness, measured as the distance from the neutral axis. In many cases, also indicated as purity of the shade.

Hue (h)
What we commonly call color (red, yellow, green, blue or other colors). Corresponds to the wavelength of light. In the L*C*h* system, it is described as an angle ranging from 0° to 360°. Angles from 0° to 90° are red, orange and yellow tones; angles from 90° to 180° are yellow, yellow-green and green tones; angles from 180° to 270° are green, cyan and blue tones; angles from 270° to 360° are blue, violet and magenta tones, which transition again to red at 360° (as with 0°).

Interpolated shades
Mixing two or more shades of VITA SYSTEM 3D-MASTER ceramic materials in order to obtain an intermediate shade. In this way, 2M2 can be mixed with 2M3, for example, to obtain the shade 2M2.5.

CIEL*a*b*
A three-coordinate representation (tristimulus) of colors in the color space, defined by the International Commission on Illumination CIE (Commission Internationale d'Eclairage). More information on color theory is available at www.vita-zahnfabrik.com

12.5 Patents and trademarks

VITA Easyshade® V is protected by one or more of the following US patents (6,040,902; 6,233,047; 6,239,868; 6,249,348; 6,264,470; 6,307,629; 6,381,017; 6,417,917; 6,449,041; 6,490,038; 6,519,037; 6,538,726; 6,570,654; 6,888,634; 6,903,813; 6,950,189; 7,069,186; 7,110,096; 7,113,283; 7,116,408; 7,139,068; 7,298,483; 7,301,636; 7,528,956; 7,477,364; 7,477,391) and others patents in the United States and other countries.

VITA Easyshade®, VITA classical A1–D4® and VITA SYSTEM 3D-MASTER® are registered trademarks of VITA Zahnfabrik.

Windows® is a registered trademark of Microsoft Corporation.

Other trademarks mentioned in this document are the property of the respective company.

12.6 Warranty

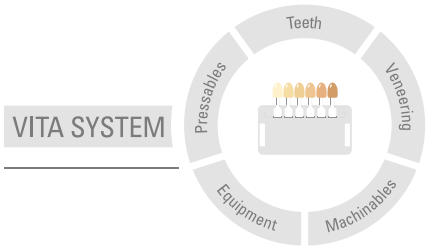
The warranty claims of the first buyer of the VITA Easyshade® V spectrophotometer arise from the General Terms and Conditions of VITA and the regulations of the law.

The General Terms and Conditions of VITA can be seen at www.vita-zahnfabrik.com.

Technical support or service for the VITA Easyshade® V can be obtained from VITA at +49 (0)7761 562 222.

If service is required, you will receive a return of goods number with additional instructions. We recommend that you keep the original packaging in case of service/warranty fulfillment, including accessories.

With the unique VITA SYSTEM 3D-MASTER®, all natural tooth shades are systematically determined and perfectly reproduced.



Please note: Our products must be used in accordance with the instructions for use. We accept no liability for any damage 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. We cannot accept any liability if the product is used in conjunction with materials and equipment from other manufacturers that are not compatible or not authorized for use with our product and this results in damage. The VITA Modulbox is not necessarily a component of the product. Date of issue of this information: 2023-10

After the publication of this information for use any previous versions become obsolete. The current version can be found at www.vita-zahnfabrik.com

VITA Zahnfabrik has been certified and the following products bear the mark CE 0124:
VITABLOCS®

VITA Easyshade® V bears the CE mark in accordance with the EU guidelines 2014/35/EU, 2014/30/EU and 2011/65/EU.

VITA Easyshade® V · VITA classical A1–D4® · VITA SYSTEM 3D-MASTER® · VITABLOCS®

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