



User Guide



Contents

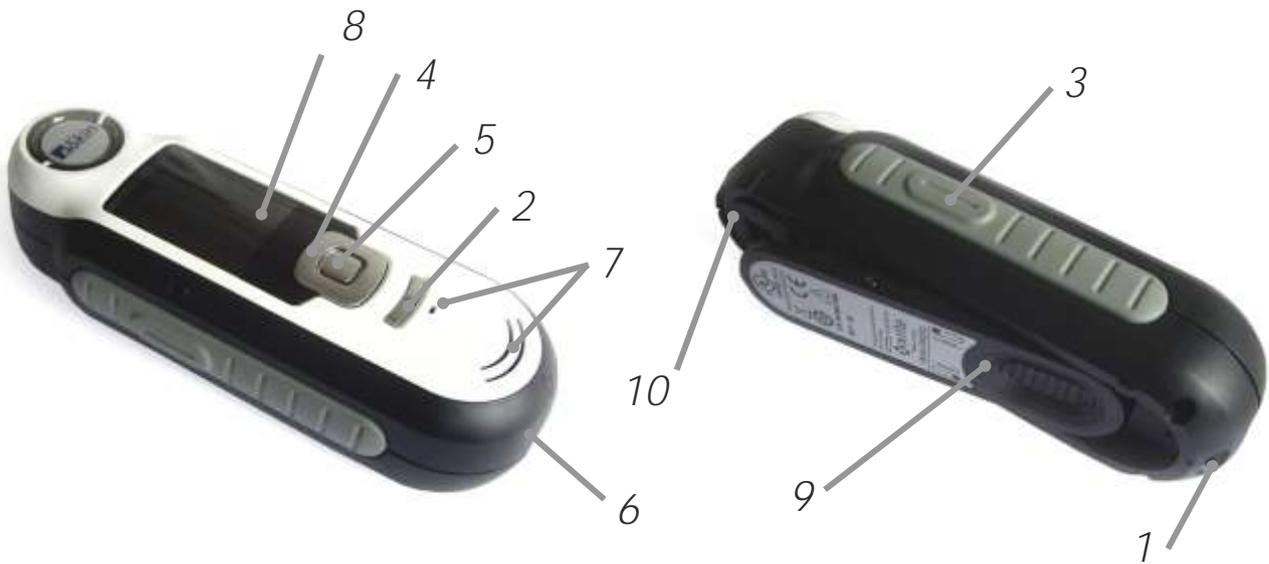
This user guide has been designed to give you all the information you need to start using the e-Skin system, highlighting the functionality we believe to be most relevant to you. For further information please refer to the CAPSURE device manual provided on the enclosed CD.

Description	3
Menu windows	4
Quick start guide	5
Charging	5
Calibration	5
Taking a measurement	6
Recipe	7
Weighing	7
e-Skin Calculator	8-9
Setting the aperture	10
Optimising measurement time	11
Adding patient info to the match	12
Recording a voice tag	12
Entering a text tag	12
Colour Picker – inaccurate colour recipes	13
Finding alternative colours	14
Fan deck browser	14
Colour direction	14
Selection screen	15
Records	16
Recalling a saved record	16
Setting an active colour	16
Deleting all records	16
Troubleshooting	17

Warning:

- For your safety, do not look directly into the measurement optics when the instrument is on.
- No user serviceable parts in this product.
- Do not immerse the instrument in liquid.
- Cold weather may affect the speed of the display and the accuracy of matches.
- Do not expose the instrument to extreme heat; do not leave in the sun.

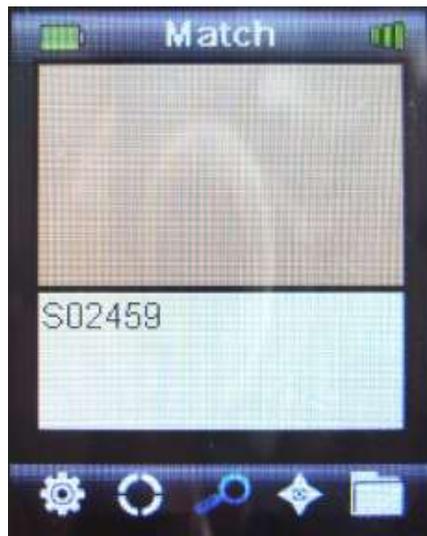
Description



1. **Lanyard loop:** Provides a secure way to carry your e-Skin device.
2. **Power on/off:** Used to turn the instrument on and off.
3. **Measure button:** Two stage button; press lightly to start preview and firmly to measure. Lightly pressing this button always returns you to the Match screen.
4. **Navigation control:** Navigates the on screen menus and function bar in four directions. Pressing on the left side moves the focus to the next available item to the left. Pressing on the right side moves the focus to the next available item to the right. The top and bottom sides perform the same function, only in an up and down direction.
5. **Enter button:** Selects menu items and opens tag menu.
6. **USB connection:** For charging the battery and interface to the software.
7. **Speaker and Microphone:** For recording and playback of voice tags.
8. **Display:** Communicates colour information, instrument status, and options.
9. **White Reference slider:** Positions the calibration tile for measurement or calibration/storage.
10. **Measurement optics:** Area that illuminates and measures the skin colour.

Menu windows

The e-Skin device has been designed to allow easy navigation between functions with the principle of one colour being active at a time. Functions are selected by pressing the left or right sides of the **Navigation control**. The active function is indicated by the highlighted icon on the function bar and the title of the window.



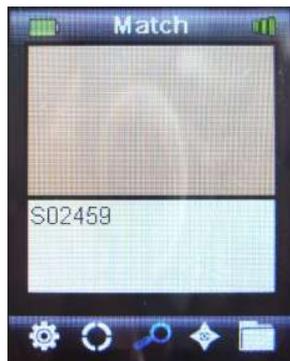
Settings



Configure the instrument



Match



Matched colour and quality indicator



Navigator



Find alternative colours



Records



History of saved records



Colour Picker

For information on the colour Picker screen please refer to page 13.

Quick start guide

Step 1 – Charging

Before using your e-Skin device for the first time it is important that you charge the battery for 6 hours. If these guidelines are not followed, the internal lithium-ion battery may experience a shortened life.

Connect the USB cable to the e-Skin device and your computer's USB port. A battery charging screen momentarily appears.

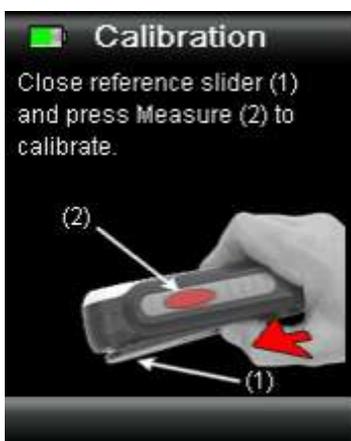


Note: Some computers have low power USB ports which are typically located at the front. It is recommended that the e-Skin device is ONLY connected to high power ports.

Step 2 – Calibration

When your instrument is first turned on, you are asked to perform a calibration. Thereafter, a calibration is required every hour or if a 5°C temperature change has occurred.

Calibration of the instrument ensures optimum colour matching performance. If desired, a calibration can be manually initiated by selecting Calibration from the Settings menu.



- When prompted, move the white reference slider to the closed/calibration position over the optics.
- Press **Measure** to initiate the calibration when the reference slider is positioned. A progress bar appears at the bottom of the display to indicate the calibration status.
- After a successful calibration, you are prompted to reposition the slider back to its storage location.

IMPORTANT: The calibration reference is dramatically affected by smudge marks and dust, and must be kept clean.

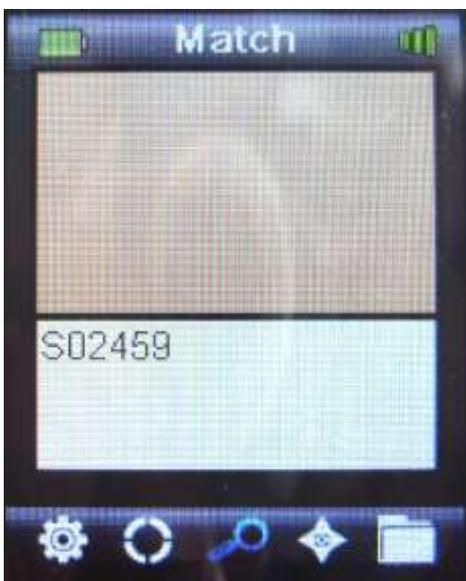
Step 3 – Taking a Measurement

Select the area of skin you wish to measure, place the instrument flat against the patient's skin. Lightly press the **Measure** button to enable an on screen preview of the skin for fine positioning. Hold the instrument steady and press the **Measure** button firmly and release.



An audible "camera-click" sound indicates the start of the measurement. A progress bar appears at the bottom of the display to indicate the measurement status. Colour information appears in the display after the progress bar reaches 100%.

Make sure you keep the instrument in place until the end of the measurement. When measuring rough or curved samples shield the measurement optics to prevent stray light from corrupting the measurement.



When the matching is complete, the reference code of the colour in the instrument's database that best matches your patients skin tone appears in the display.

Note: After a match, the instrument displays 1, 2, or 3 coloured bars in the title row of the display. The bars indicate the quality of the match that was obtained. One "red" bar indicates an ok match, two "yellow" bars indicate a better match, and three "green" bars indicate the best match.

Variables that may affect the accuracy of your colour measurement:

- Hair obstructing the sensors located within the target window.
- The instrument not being flat against the skin.
- Shiny skin, try to dry the skin as best as possible without causing discolouration.
- Instrument not being held steady for the duration of the measurement
- Cold weather, which may cause the display to react slowly and matches to be less accurate.

Step 4 – Recipe

When the measurement is taken, the match screen is displayed. Press down on the **Navigation control** to display additional colour information, press down a second time to display your recipe.

Two recipes are available for each e-Skin shade, with and without flock. The recipe displayed depends on the current fan deck selected. To change between fan decks please refer to page 11. Alternatively recipes with and without flock can be obtained using the e-Skin Calculator, please refer to page 8 for details.

The ingredient amounts are shown as a percentage for easy scaling. Recipes can be automatically scaled using the e-Skin calculator, please refer to page 8.



Match screen displayed after measurement



One click down shows additional colour information



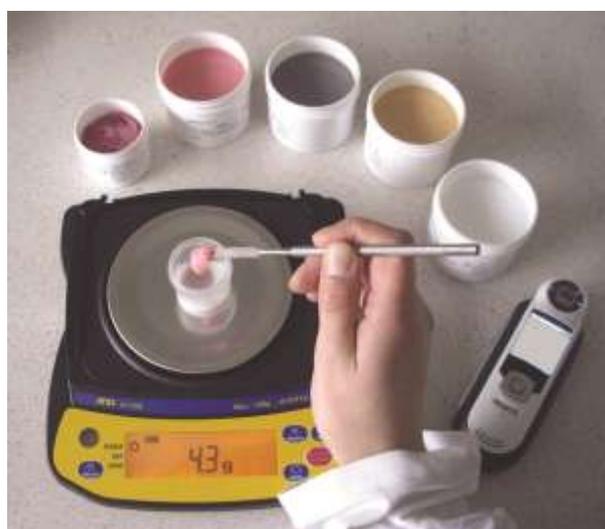
A second click down displays your recipe

Step 5 – Weighing

Ingredients are listed in ascending order to facilitate easier weighing.

Weigh out each ingredient in turn taking care to ensure accurate weighing. Please refer to your balance manual for instructions to ensure correct calibration.

Note: Ensure that the balance is located on a flat, firm surface, that the instrument is level and in a draught free environment.



e-Skin Calculator

The e-Skin calculator is a web service located at www.spectromatch.com and provides the following functionality:

- Scales any e-Skin recipe to your requirements.
- Reformulates the recipe to include or exclude flock.
- Formats the ingredient amounts to match your balance resolution.
- Recommends the minimum batch total for your balance resolution to ensure optimum accuracy.
- Records your current lot numbers for traceability.
- Allows you to attach notes to the recipe
- Prints/saves all recipe information to a .pdf for your records.

Step 1: Login

To use the e-Skin calculator you must first login using your instrument's serial number.

Your instrument serial number can be found on the back of the device starting S/N...

Enter the full 10 digit serial number into the textbox and click 'Login'.

Note: When you first login to the calculator you will be asked to provide contact information to validate the account.



Step 2: Enter your reference code

To use the e-Skin calculator you must first enter the measured reference code displayed on the device. The e-Skin reference codes begin with a 'S' followed by 5 digits.

Note: Care should be taken to ensure accurate transcription.



Step 3: Include flock in recipe

You can choose to include or exclude flock as part of your recipe using the flock drop down menu.

Step 4: Balance resolution

Use the drop down menu to enter your balance resolution, this will show the recipe formatted to match your balance. Your balance resolution is used to calculate the recommended minimum total for this recipe.

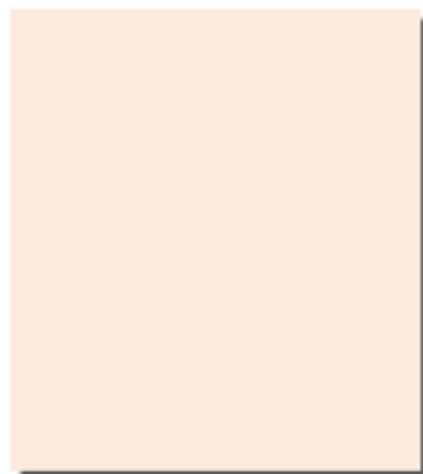
Step 5: Silicone mix ratio

Use the drop down menu to select the mix ratio of your silicone. This will be used to divide up the silicone parts when the recipe is displayed.

Step 6: Find recipe

Click the 'Find recipe' button to display your recipe.

	Weight	Lot No.
Light Dapple	0.7	
Cream	0.8	
Pink	0.93	
Light Grey	2.58	
White	4.99	
Silicone A	90.91	
Silicone B	9.09	



Step 7: Scale recipe

Enter your total batch weight into the textbox and click 'Scale recipe'

Note: If you scale your recipe below the minimum recommended total an accurate colour match can not be guaranteed.

Step 8: Save/Print recipe

Clicking the 'Save to .pdf' button will convert the recipe information, lot numbers and notes to a .pdf file. This is a standard file format that can be printed or saved to your computer.

Note: Lot numbers and notes can be recorded by typing into the relevant textboxes.

Setting the aperture

Three measurement areas are available:

- Small (2 mm aperture)
- Medium (4 mm aperture)
- Automatic/Large (8 mm with automatic multicolour extraction and texture compensation)

As a first choice we recommend using the large aperture. This will give you the best overall skin colour avoiding shifts in the measured colour caused by the natural variation found in skin.

Examples where a smaller aperture may be required include, measuring colour between freckles, moles, or fine positioning on curved or uneven surfaces.

Changing the measurement area can be done in two ways:



1. During measurement.

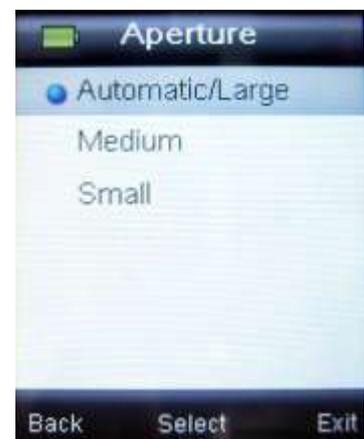
Lightly press and hold the **Measure** button to activate the preview. The area to be measured is indicated in the preview by the circle. Adjust the measurement area by pressing on up or down of the **Navigation control**.

2. From the settings menu

Select the Settings icon in the function bar by pressing the left side of the **Navigation control**.

The 'Aperture' option is used to set the aperture size that the instrument defaults to when a colour match is started.

Select the aperture option from the list by pressing the up and down sides of the **Navigation control**. Press the **Enter** button to select the option and return to the Settings window.



Optimising measurement time

The measurement process consists of two parts; first the actual colour data is captured, second the fan decks are searched for the closest matching colours. An audible “camera-click” sound indicates the start and the end of the measurement process.

The first part of the measurement process will always take around 2 seconds, the time the device takes to then search the selected fan decks can vary greatly depending on the size and number of active fan decks.

Note: Once the first part of the measurement is complete the instrument can be removed from the skin.

The end of the first part of the measurement process is indicated differently depending on the firmware version of your device. For earlier versions the end of the colour measurement will be marked by a noticeable pause when the progress bar reaches around 90 – 95%. For later versions the progress bar will indicate 100%.

In order to optimize the total measurement time you should deactivate all fan decks except the one you intend to use.

Deactivating fan decks

Select the Settings menu from the function bar by pressing the left side of the **Navigation control**.

Select the Fan decks option from the list by pressing the up and down sides of the **Navigation control**.

Press the **Enter** button to activate/deactivate the highlighted fan deck. When a fan deck shows a red circle (deactivated) it will not be searched during the measurement process.

When finished, press the right side of the **Navigation control** (Exit) to return to the Match screen.



Adding patient info to the match

A voice or text tag can be saved with each colour match, this is useful to identify a measurement with a patient/colour from the records window.

e-Skin can store a maximum of 100 measurements which are stored in date and time order. When the limit of 100 records is reached the oldest record is automatically deleted.

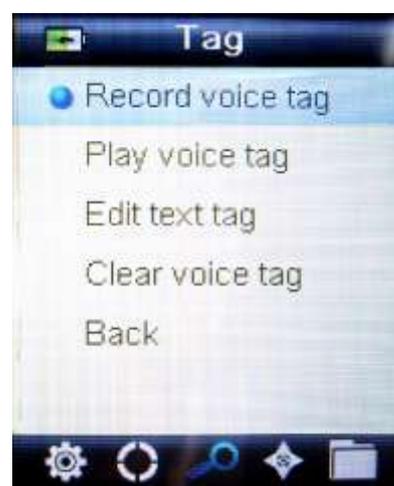
To record a voice or text tag you must start from the Match window, press the **Enter** button to display the Tag window.

Recording a voice tag

To record a voice tag for the active colour, select Record voice tag from the list and press and hold the **Enter** button down.

Speak into the microphone located below the power button. You have a maximum of 30 seconds recording time per record. When finished, release the **Enter** button.

Exit the Tag window by selecting Back from the list and pressing the **Enter** button.



Entering a text tag

To add a text tag for the active colour, select Edit text tag from the list and press **Enter**.

Add your note with the virtual keyboard using the **Navigation control** and **Enter** button. When finished, highlight OK on the virtual keyboard and press the **Enter** button.

Exit the Tag window by selecting Back from the list and pressing the **Enter** button.



Colour Picker – inaccurate colour recipes

The Colour Picker function is designed to automatically detect multiple colours present in a sample. For example, this could be used for measuring textiles where numerous colours may be found.

Occasionally the colour picker is triggered when measuring skin, this is generally caused by the textured surface of skin confusing the optics into thinking there are multiple colour areas. The colour picker is more likely to be triggered when measuring darker and or shiny skin.

Note: In all likelihood using any of the individual colours suggested will lead to the resulting pigment recipe being considerably off-shade.

Unfortunately there is no way to deactivate the colour picker function (a request with the manufacturer has been made).

Cancelling the Colour Picker

It is only possible to cancel the colour picker screen after it has been activated.



From left to right:

1. After a measurement is taken the initial colour displayed in the Match window is the average colour across the measurement area.
2. The device detects a sample containing more than one colour, the Colour Picker icon in the function bar begins rotating and an audible tone is heard then automatically advances to the Colour Picker screen.
3. Individual colours are selected by pressing the up or down sides of the **Navigation control**. The selected colour is highlighted around the circle.
4. Pressing the right side of the **Navigation control** will take you back to the Match screen selecting the colour that is the average of the entire measurement area.

Finding alternative colours

The Navigator function enables you to find alternative colours for the current colour match. Select the Navigator icon in the function bar by pressing on the right side of the **Navigation control**.

Select the method you wish to use to locate an alternative colour by pressing on the up or down sides the **Navigation control**. Press the **Enter** button after the method is selected.

Refer to Selection Screen later in this section for a detailed description on using each of the following screens.

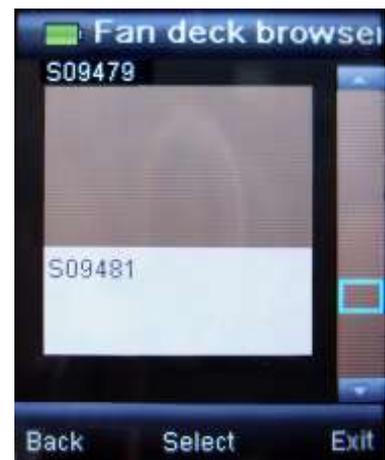


Fan deck browser

Allows you to search through a fan deck visually to find a colour. This is useful when swapping between recipes that include or exclude flock.

Select the fan deck you wish to use (e-Skin or e-Skin - Flock) by pressing on the up or down sides the **Navigation control**.

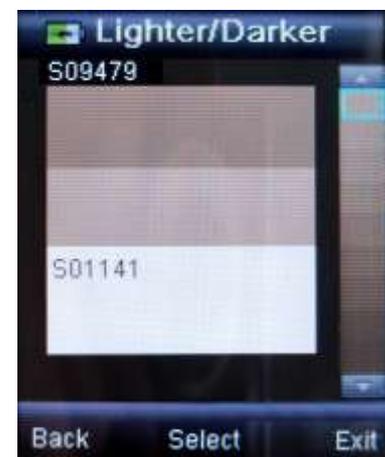
Press the **Enter** button to select the fan deck and enter the Fan deck browser screen.



Colour direction

Lighter/Darker + Yellower/Bluer + Redder/Greener – Displays a range of colours across all active fan decks moving in each of the colour directions.

This may be useful if it is not possible to measure the exact area required but a similar colour is accessible.



Selection screen

Each alternative colour method utilises the identical selection screen to choose a colour.

Scroll through the available colours using the up and down sides of the **Navigation control**. For each colour a visual comparison is given against the active colour and the alternative.

To make the alternative colour the active colour, press the **Enter** button. All colours set as active are saved to the Records.



To exit without activating an alternate colour, press on the left side of the **Navigation control** (Back) to return to the Navigator screen, or press the right side of the **Navigation control** (Exit) to go to the Match screen.

Records

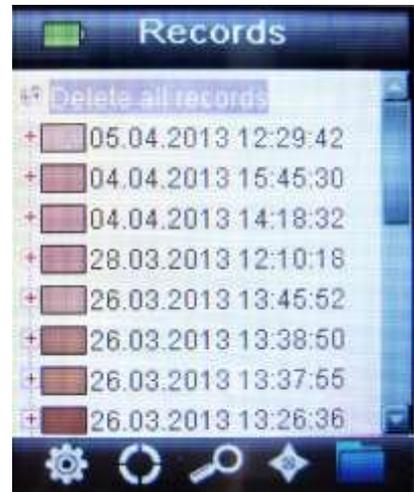
The Records function enables you to retrieve a stored match from the instruments database, delete an individual record, or delete all stored records.

Recalling a saved record

Select the Records icon in the function bar by pressing on the right side of the **Navigation control**.

Scroll through the measurement records by pressing the up and down sides of the **Navigation control**.

You can view more details for the selected record by pressing the **Enter** button to expand the record.

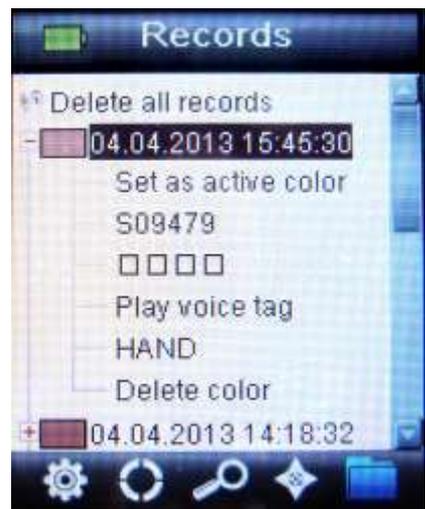


Setting an active colour

This recalls all information for the saved colour and allows editing of tags and viewing of alternative colours.

Once expanded you can:

- Play associated voice tag used to identify the saved colour (if a recording is present).
- Display associated text tag used to identify the saved colour (if a text tag is present).
- Delete colour used to delete the selected colour.



Deleting all records

This option allows you to delete all stored records on the instrument.

Press the up and down sides of the **Navigation control** to highlight Delete all records.

Press the **Enter** button. You are asked to confirm that you want to delete all.

Highlight Yes on the screen and press the **Enter** button. All records are now deleted from the instrument.

Troubleshooting

Symptom	Action
Will not turn on	Press and hold the Power button. Charge battery / plug in to USB port.
Instrument not responding	Hold down on/off button 10 seconds to turn off then restart.
Instrument will not switch off	Remove the USB connection. Hold down on/off button 10 seconds to turn off then restart
Too much ambient light detected	Make sure you keep the instrument on the sample until the end of the measurement. Shield the sample to keep light from entering the optics during a measurement on very rough or curved samples. On transparent samples try to prevent light from entering the samples from sides or back. Place sample on a white background.
Instrument requests a "Recalibrate"	Recalibrate the instrument using the Calibrate function in the Settings menu.
"Reference slider not closed!" continually displays after calibrating more than once.	You will need to perform seven calibration procedures in a row. This will set a new reference point and correct the problem.
I can't hear the voice recording	Increase the volume in the Settings menu. Make sure you hold down the Enter button during recording.