

# How to Use the GENESYS 30 Spectrophotometer

## Meet the Spectrophotometer!

Meet the new GENESYS 30! Isn't she pretty? Please read the directions carefully before operating.



## The Keypad

Here are the buttons you will find on the keypad and what they do:

**About the Keypad**

The diagram shows a keypad with the following callouts:

- Home:** go to the home screen (Home icon)
- Autozero:** measure a blank value or baseline scan (0.00 icon)
- Backspace:** remove displayed values for new data entry (X icon)
- Start:** start the measurement specified using the current settings (Green play icon)
- Stop:** stop the current operation (Red stop icon)
- Print:** print the method or results to the on-board printer with a date and time stamp (Printer icon)
- Enter:** accept user-entered values (Enter icon)
- Number pad:** enter numeric values (Numeric keypad)
- Nav keys:** controls navigation on the instrument screen (Directional keys)

**Important features of your software:**

- Press Autozero to record a blank value in Live Display, Fixed, OD600, Analyzer and Quant modes. Record a baseline in Scan mode.
- Press the Home key to return to the home page at any time. If going to the home menu will cause you to lose result data, the software will warn you and give you the opportunity to cancel the action before going to Home.
- When the number in a field is highlighted you can simply start keying in numbers and it will be over-written.
- If there is a line cursor between or next to the value, you need to use to erase digits one by one. Also, if you erase a value completely and then press , the value that was in the cell before you erased it will be restored.
  - In any text or number entry fields causes one character or number to be erased per press.
  - In alerts or dialogs where the user is not entering numeric or text data and there is a **Cancel** button displayed on the screen, pressing on the keypad has the same effect as navigating to **Cancel** and pressing .

## Keypad con't



In addition to starting measurements in data modes, the start button acts as short-cut to load a method when in the Library.

**Note:** If you press the measure button when the blank/baseline is not valid the software plays the unhappy tone through the speaker and flashes the blank indicator three times.



Stop



Print

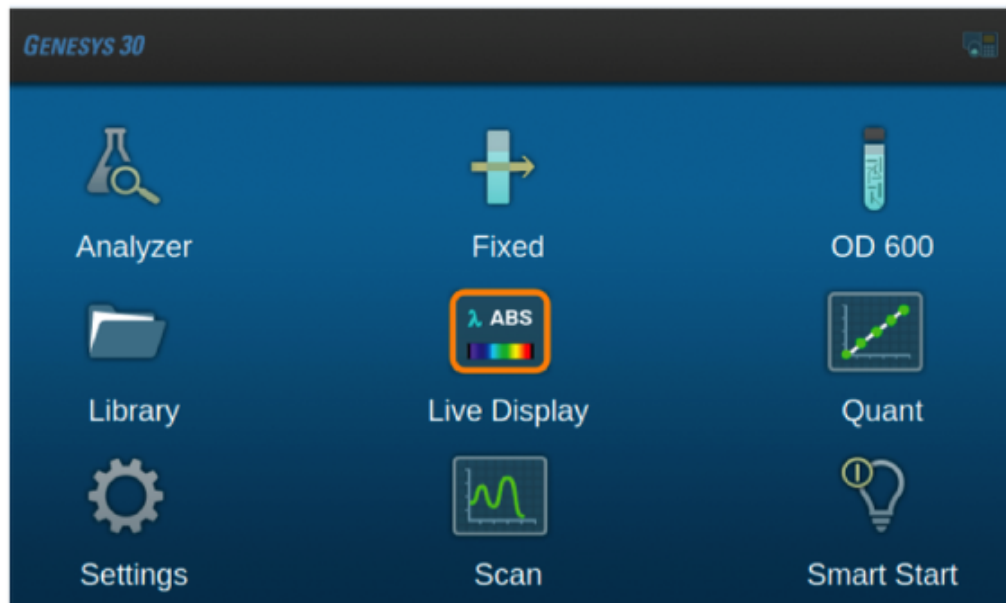



Enter

## The Home Screen

From the HOME SCREEN, you can access many features - we will be using "LIVE DISPLAY" for the experiments in this class.

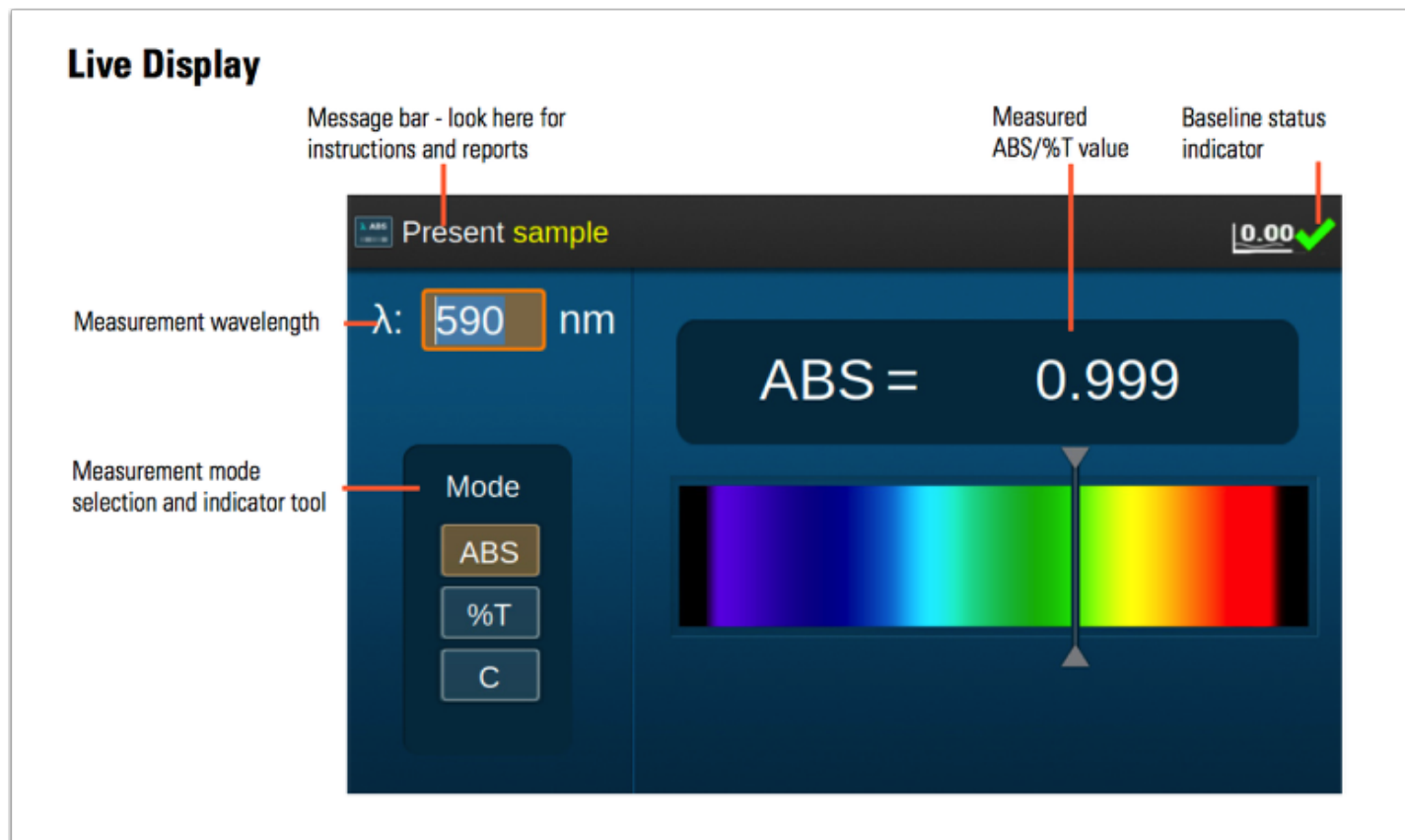
### About the Home Page



**Options are clearly labeled with the name of the measurement modes or functions that they execute. Use the nav keys to select the desired application and press  to start it.**

## Live Display

When you select "LIVE DISPLAY" from the HOME SCREEN, you will be taken here. From this screen, you will adjust the wavelength you want to use, select the mode, blank the spec and take your readings.



## Taking Your Readings

We will be measuring all samples in ABSORBANCE.

1. Select a measurement wavelength (this will be given to you in your lab manual)
2. Select the MODE: ABSORBANCE
3. Wipe the cuvette (or test tube) with your BLANK solution with a kimwipe to remove fingerprints. Holding the cuvette at the top, insert the blank into the cell holder with the clear walls of the cuvette lined up with the light path (arrow) (if not using cylindrical glass test tubes).

*Remember - setting the blank is like hitting the TARE button on a balance! The blank is used to zero readings due to imperfections in the cuvette and for the absorbance of light by the medium or carrier solution.*

3. Place your BLANK CUVETTE in the measurement position, close the lid and press the yellow "AUTOZERO" (blank) button. You will see ABS = 0.000
4. Remove the blank cuvette and place your first sample cuvette in the measurement position and close the lid.
5. Live measurements begin automatically. Record the value(s) as instructed.

TIPS: Cover cuvettes / test tubes with parafilm and invert to mix before placing in the spectrophotometer. Always treat all samples in the same way, taking your reading immediately unless otherwise instructed.