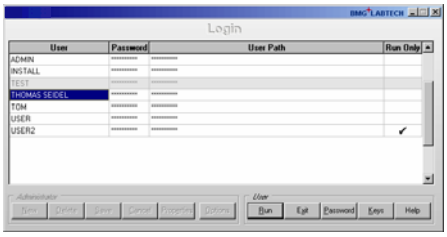
Quick Guide OPTIMA Software

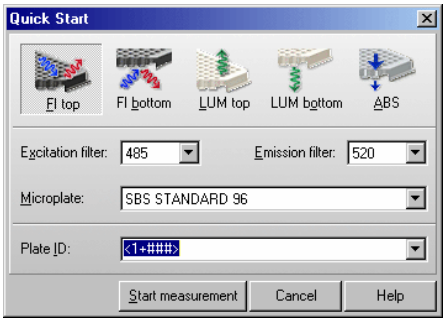
STARTUP



- Turn on the instrument and the computer.
- Start the **OPTIMA Control** software.
- Login with your password or just click '**Run**' to login as "**User**".

To measure a microplate, you can either use the quick start function or you can execute a pre-defined test protocol.

QUICK START



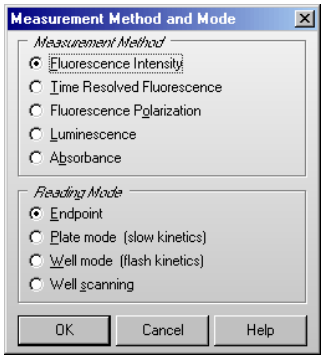
1. To measure a full plate in endpoint mode without defining a test protocol, click the '**Quick Start**' button:

2. Select the measurement method. Choose the **excitation** and **emission filters** and the type of **microplate** that will be used.

3. A plate identifier (**Plate ID**) can also be specified (optional).

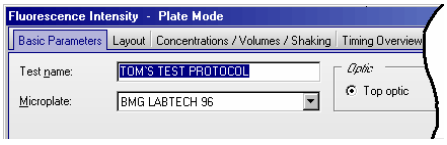
4. **Start** the **measurement**.

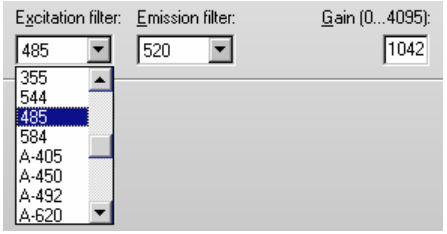
PROTOCOL DEFINITION

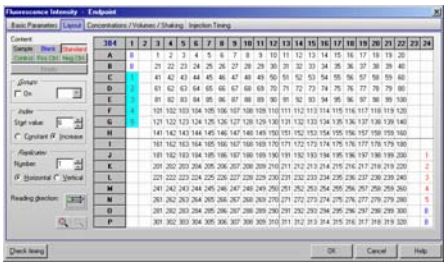


1. To create a new **test protocol** or to edit an existing one:

- Click the '**Test protocols**' button:
- Double click the **protocol name** to edit an existing protocol or click '**New**' to create a new protocol. Choose the *Measurement Method* (FI, FP, TRF, luminescence, absorbance) and choose the *Reading Mode*:
  - **End point** for single readings
  - **Plate mode** for slow kinetics
  - **Well mode** for fast kinetics
  - **Well scanning** for scanning (useful if you use large wells and if the samples are not equally distributed)







2. Inside the protocol definition window:

- Enter a **test protocol name**.
- Choose the **microplate** being used (Greiner, Corning, Nunc, etc.).
- Type in a **positioning delay** (0.2 s for non-cell based assays, or else 0.5 s).
- *Plate Mode:* Type in the **no. of cycles** (how many times the reader will cycle through the plate).
- *Well Mode:* Type in the **no. of intervals** (how many times the reader will read the well).
- Type in the **no. of flashes** to be used per reading (default settings are recommended).
- Choose the **excitation** and **emission filters** to be used.
- Select the '**Layout**' sheet. Enter the position of samples, blanks and standards (if any).
- If standards and/or reagent dispenser(s) are used, type in the values in the '**Concentrations / Volumes / Shaking**' window.
- Click the '**Check timing**' button. This gives you the smallest possible cycle time (*Plate Mode*) or interval time (*Well Mode*). A longer time can be achieved by typing in a higher value in the '**Basic Parameters**' sheet.

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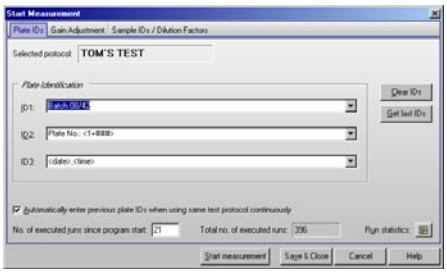
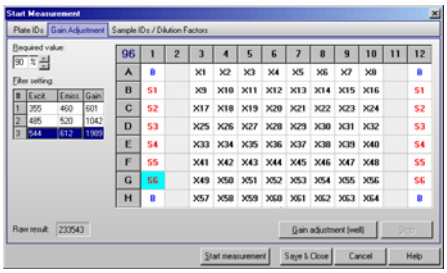
MEASURING *(executing pre-defined protocols)*





1. Click the '**Measure**' button: 

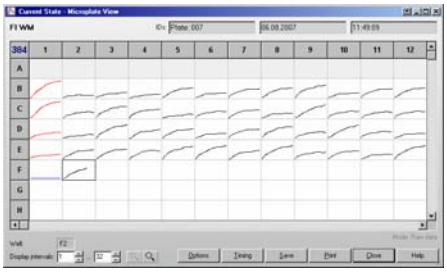
2. It is possible to define up to three plate identifiers in the '**Start Measurement**' sheet.

3. In the '**Gain Adjustment**' sheet, select the well that will have the highest intensity and click the '**Gain adjustment**' button:

- The **required value** should be 90% in endpoint readings (giving highest values around 65000-10% = 58500).
- For kinetic measurements, 10% - 50% could be the required value (this is dependent on the expected increase in the signal).

4. Click the '**Start measurement**' button.

RESULTS

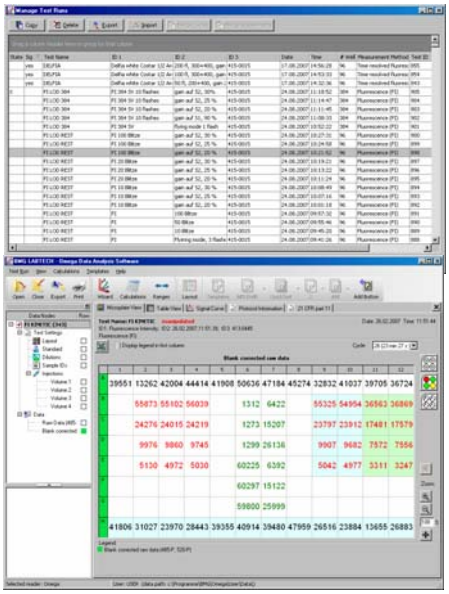


1. To see the measurement results during a reading:

- Click the '**Current State Graphics**' button  .
  Different display options are available, e.g. curve, spectra...

2. To perform data calculations using the **MARS Data Analysis** software:

- Close the '**Current State**' window.
- Click the '**Data Analysis Software**' button: 



3. In the '**Open Test Runs**' window:

- Double click the **test name** of the test run to be analyzed

4. Analyze the measured data:

- Select the data to be displayed in the working area with the navigation tree (Data Node) on the left side of the main window.
- Use the standard calculation wizard to perform a quick curve fit calculation; or use the calculation menus to define what is to be calculated and to be displayed.
- To see a standard curve, open the '**Standard Curve**' page. The calculated unknowns are displayed in the '**Microplate View**' and the '**Table View**'.
- To remove outliers, simply shade them out in the 'Microplate View' using the toggle function (Ctrl –T).
- For kinetic measurements (more than one measured cycle or interval), choose the range(s) of interest (**Calc. Start** and **Stop**) and the data values from these ranges can be evaluated using a kinetic calculation.