UseCase.0010 (1.0)

Introduction to Light Path Diagram of VirtualLab

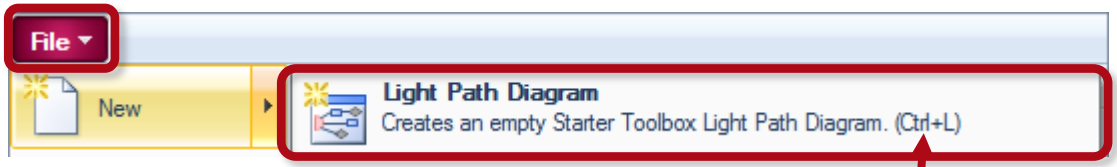
Keywords: LPD, light path view, light path editor, optical setup, system

Description

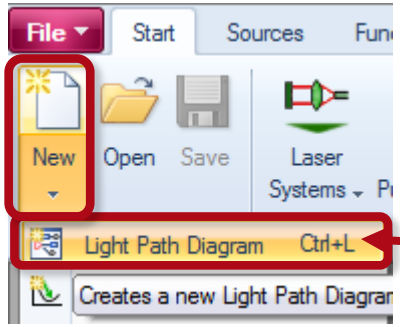
- This use case explains the basic concept of the light path diagram (LPD) in VirtualLab consisting of two separate windows for the setup of optical systems.
- The light path diagram is the tool of VirtualLab to configure optical setups including sources, components and detectors.
- The light path diagram document is separated in two windows:
  - Light path view (add light path elements, access to edit dialogs and to positioning dialogs)
  - Light path editor (specify connections between light path elements and detectors)

Generate new Light Path Diagram

Via *File* → *New* menu

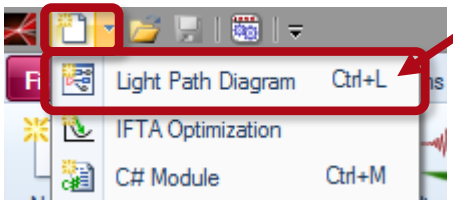


Via *Start Ribbon* menu

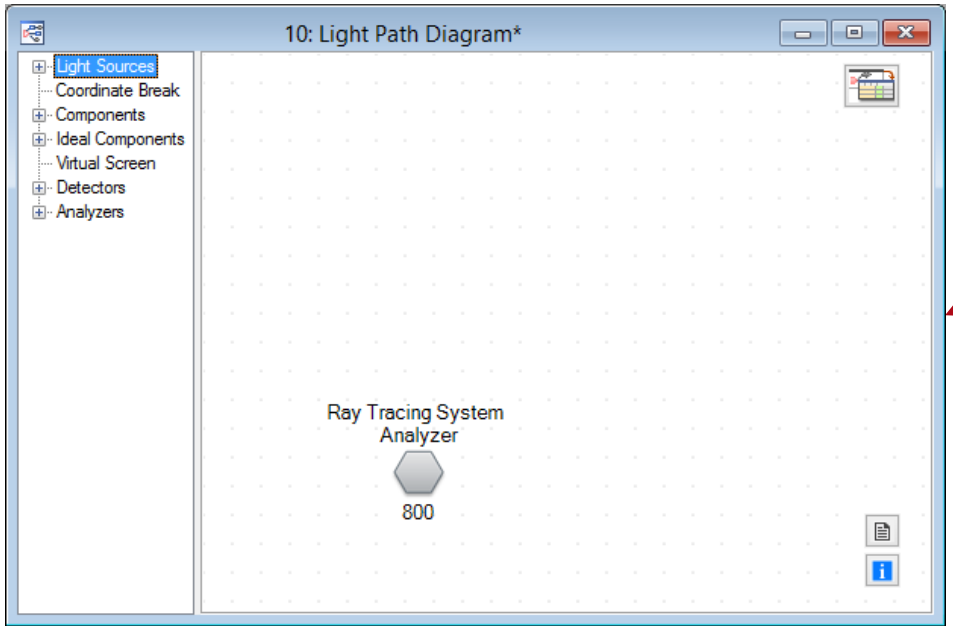


And via Shortcut
Ctrl+L

Via *Quick Access Toolbar*

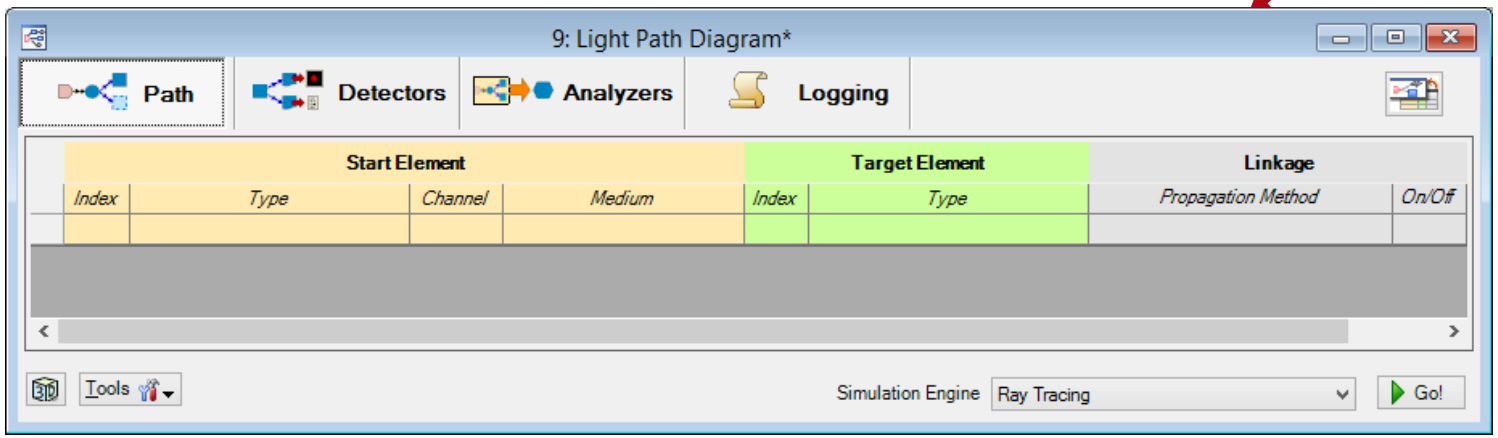


Light Path Diagram



Light path view

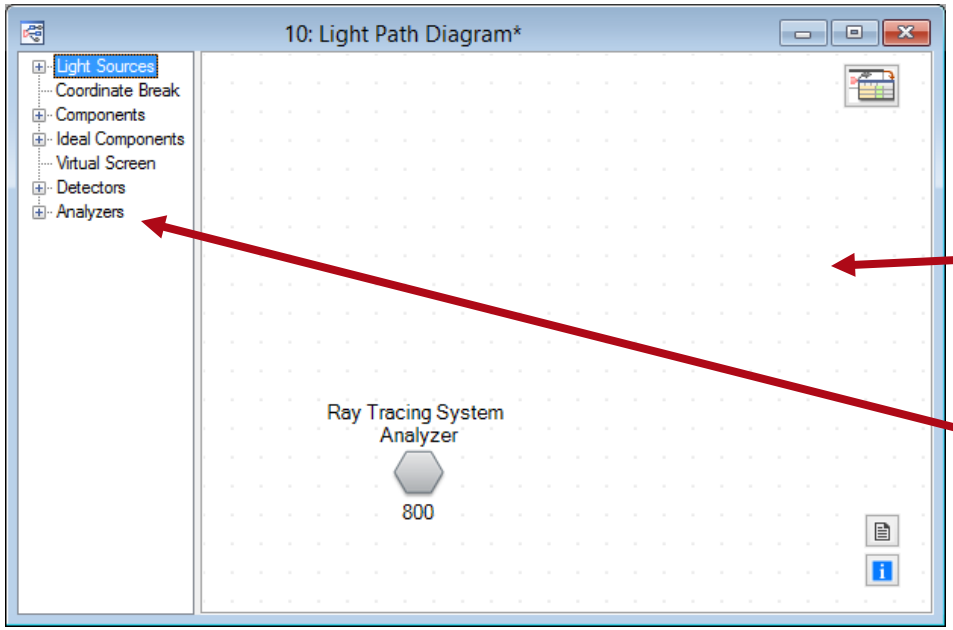
Light path editor



Light Path Diagram

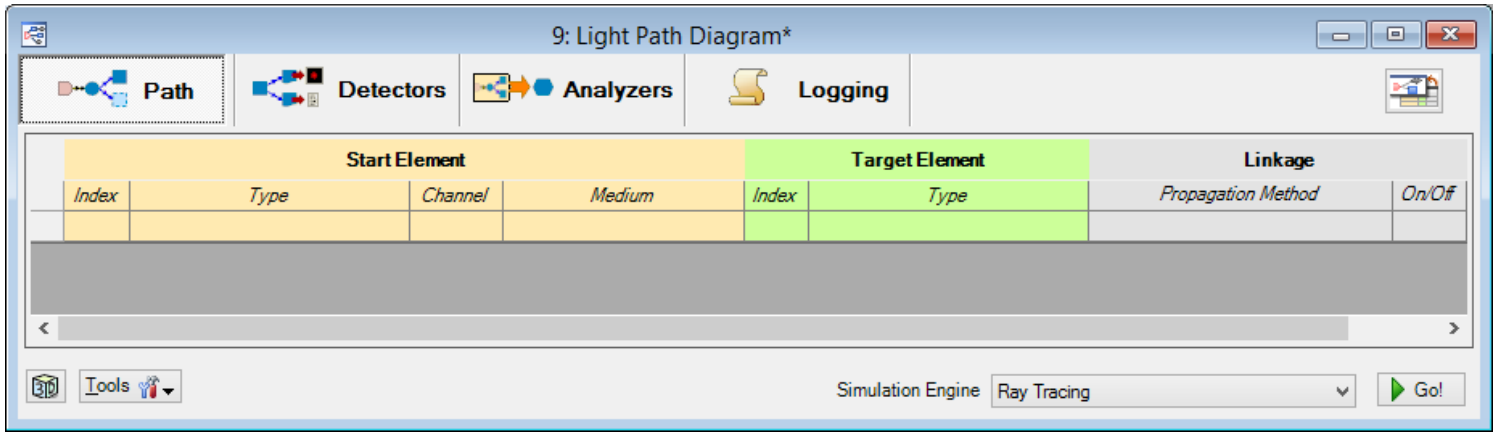
- Light Path View:
  - Allows Selection of Light Sources, Components, Detectors and Analyzers
  - Parameters of Components, Detectors and Analyzers can be modified
- Light Path Editor:
  - Connection of components
  - Connection detectors with different components
  - Allows to run analyzers
  - Modification of Parameters of Light Sources, Components, Detectors and Analyzers
  - Selection and configuration of free space propagation techniques
  - Start/Stop of simulation engines
  - Access to further LPD tools

Light Path Diagram – View

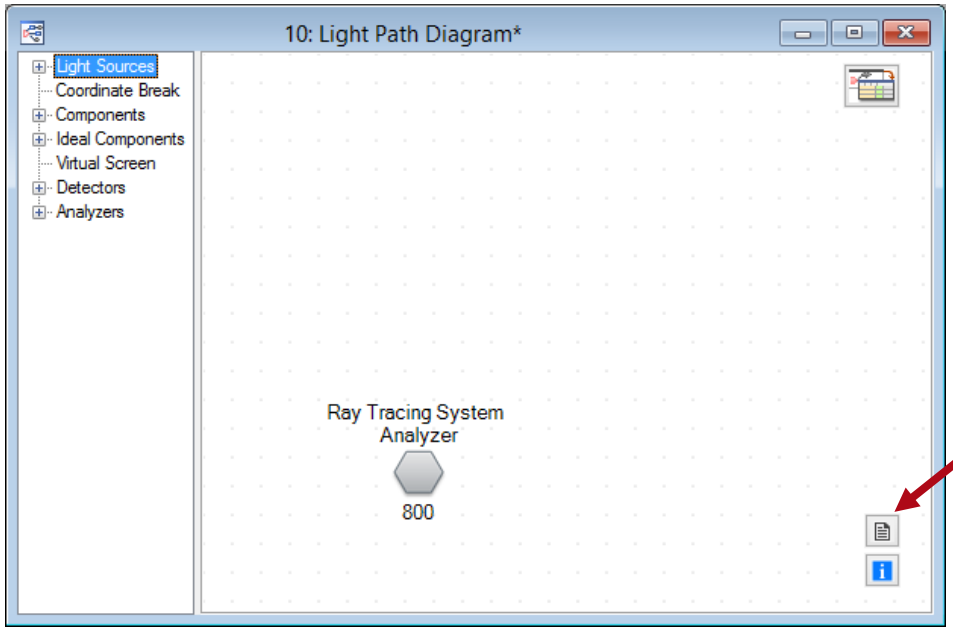


Flow chart of light path

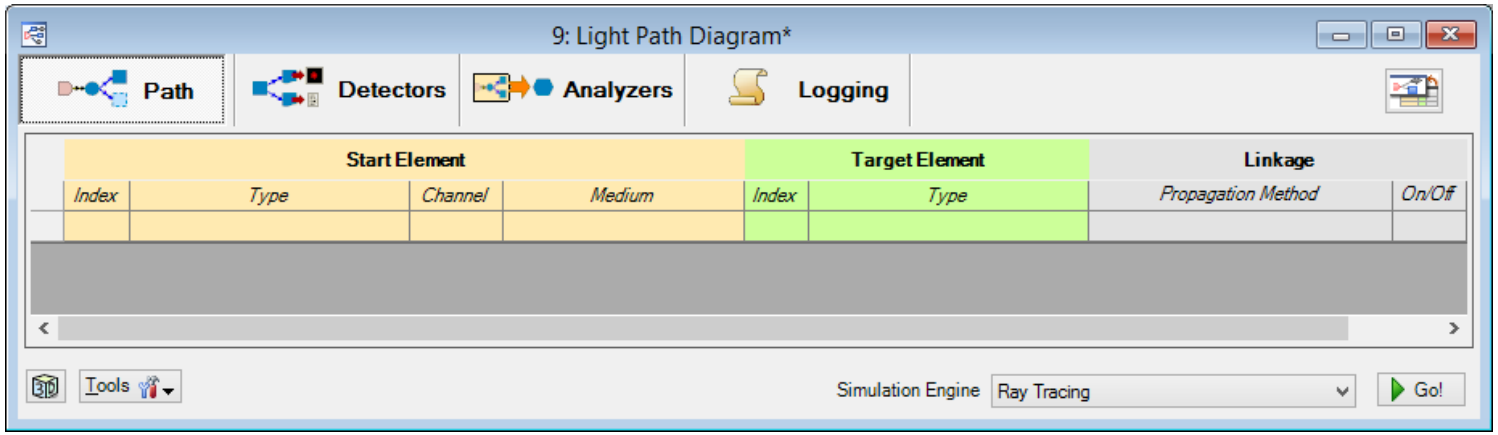
Available light path elements



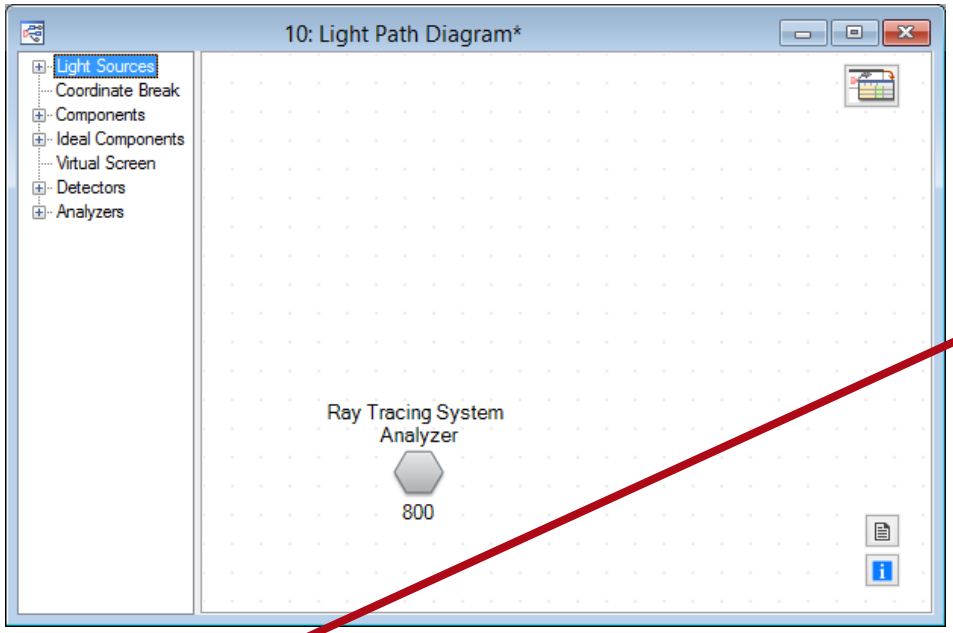
Light Path Diagram – View



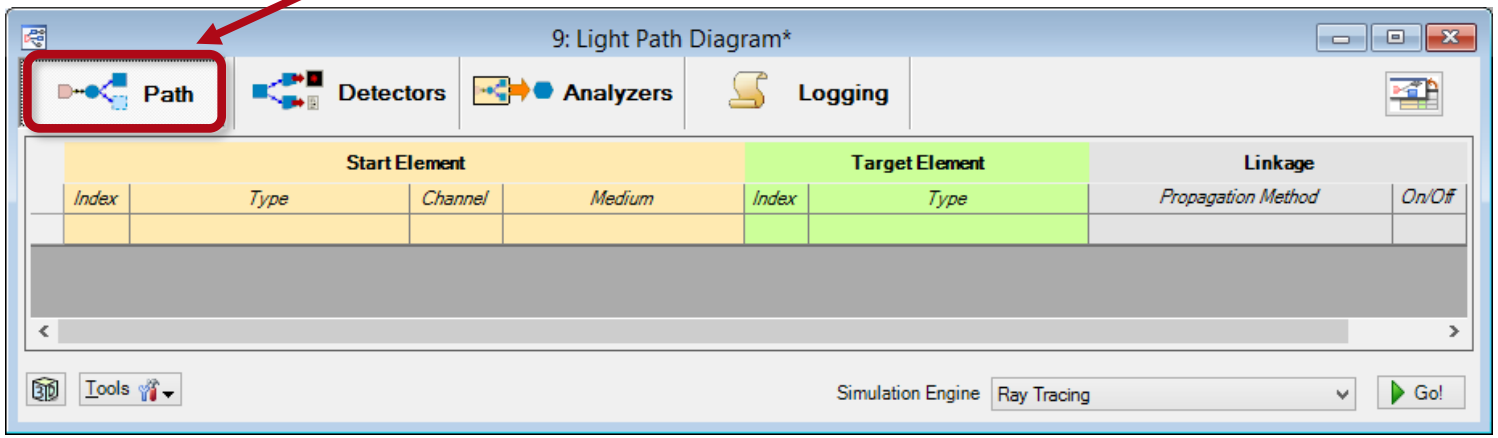
The user can enter arbitrary comment into the light path diagram.



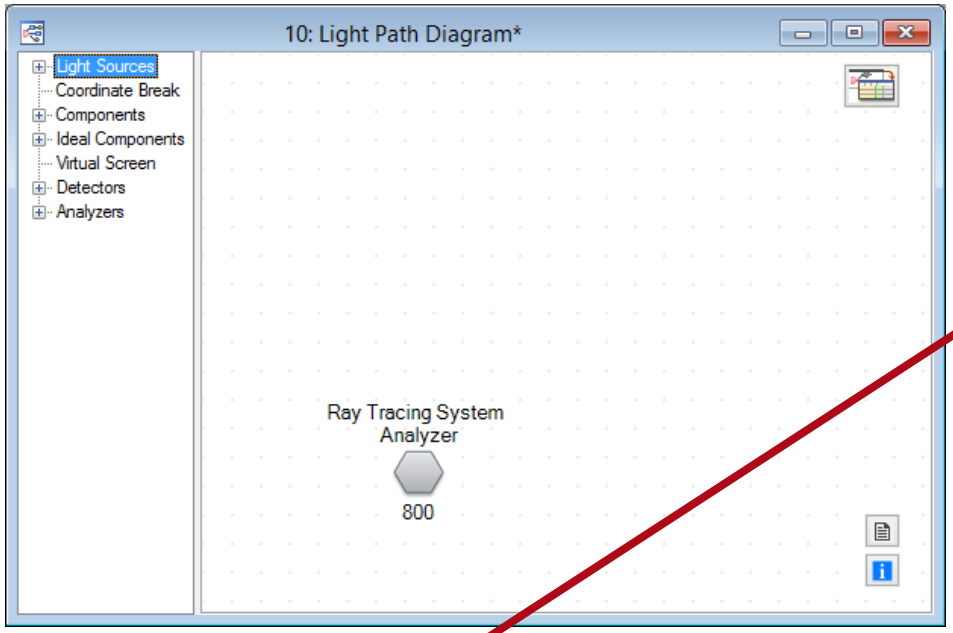
Light Path Diagram



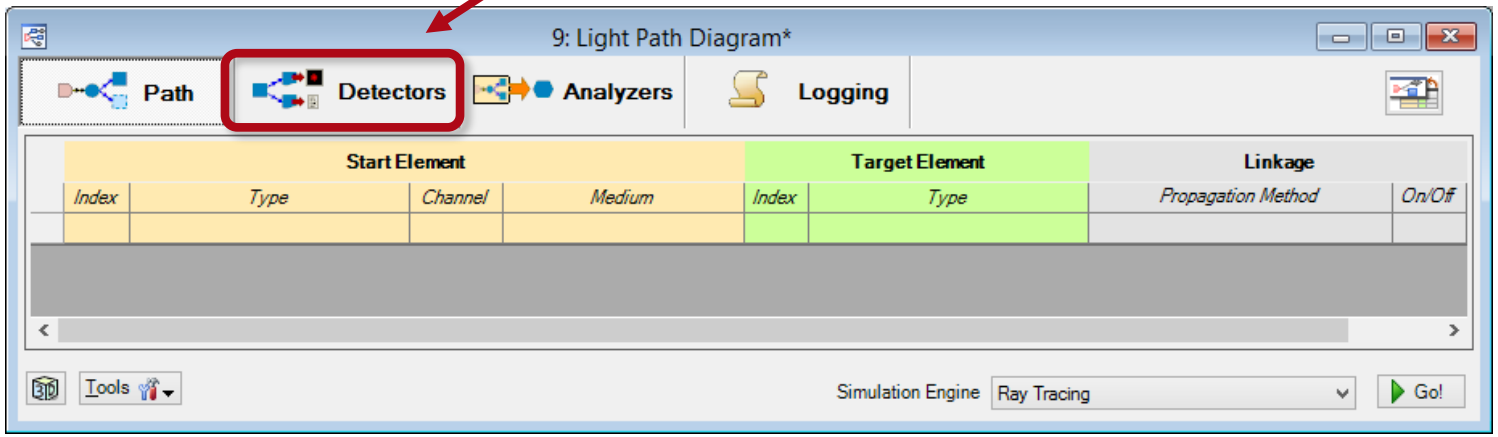
List of light source and components with according connections of their channels



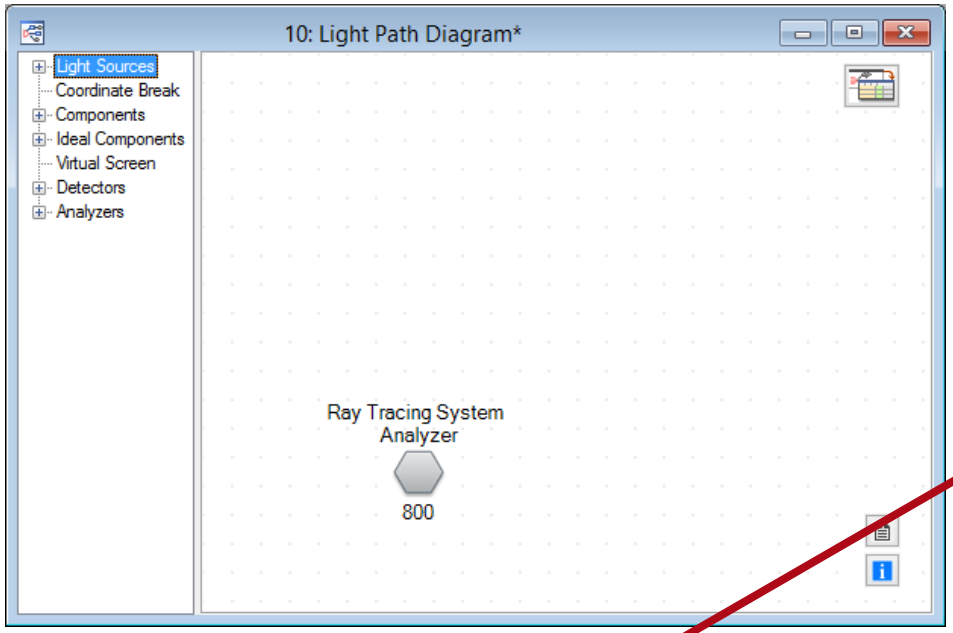
Light Path Diagram



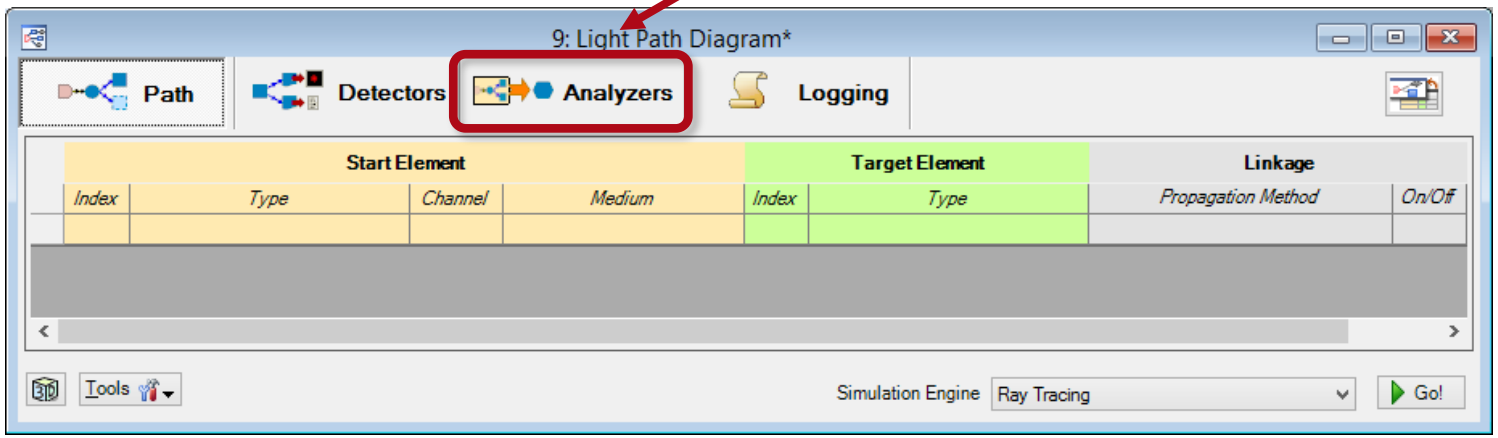
List of detectors and connections to output channels of components and light sources



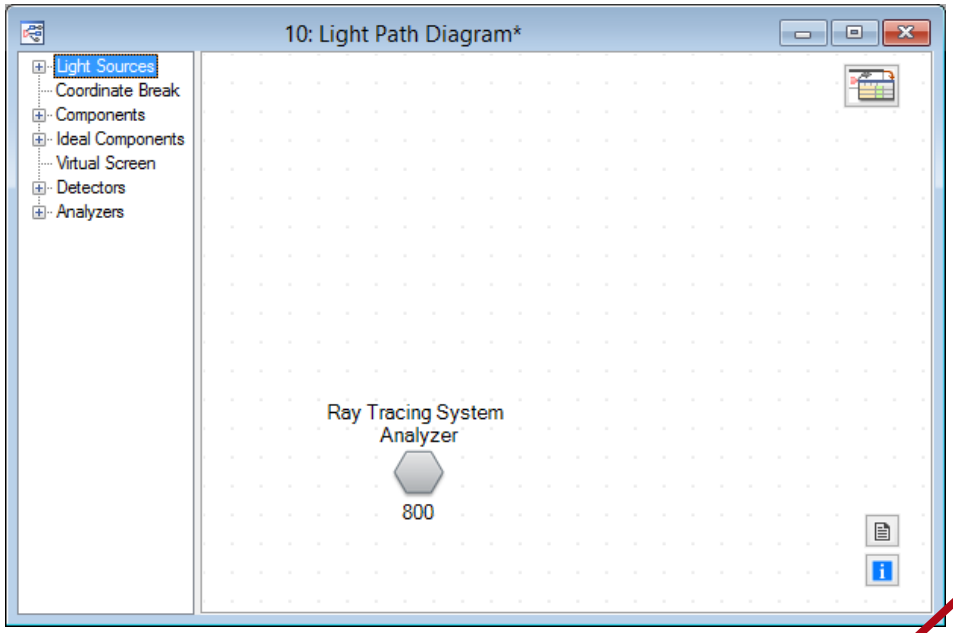
Light Path Diagram



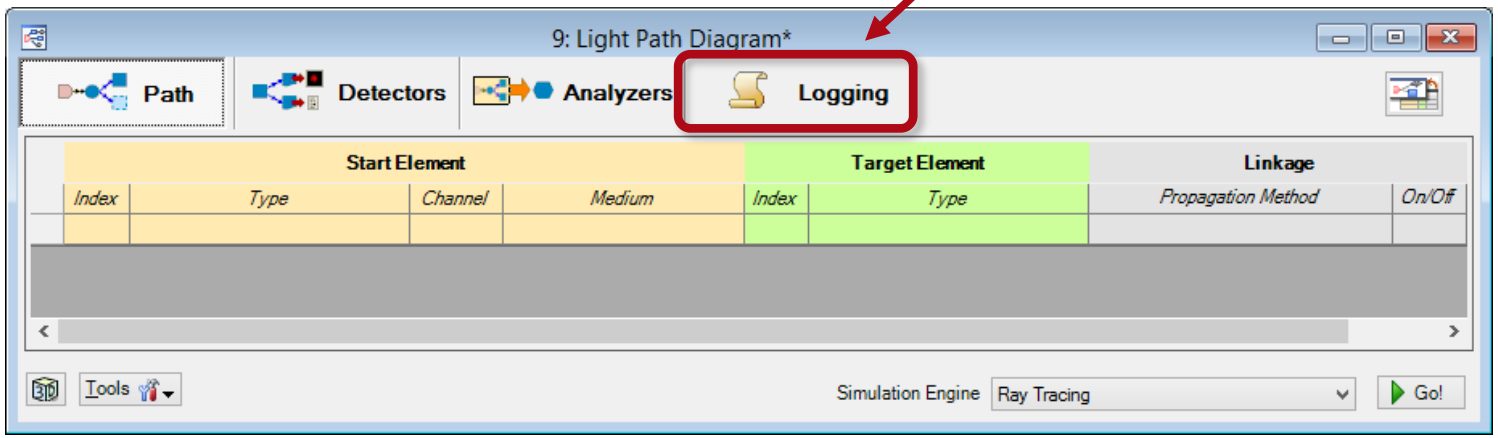
List of analyzers



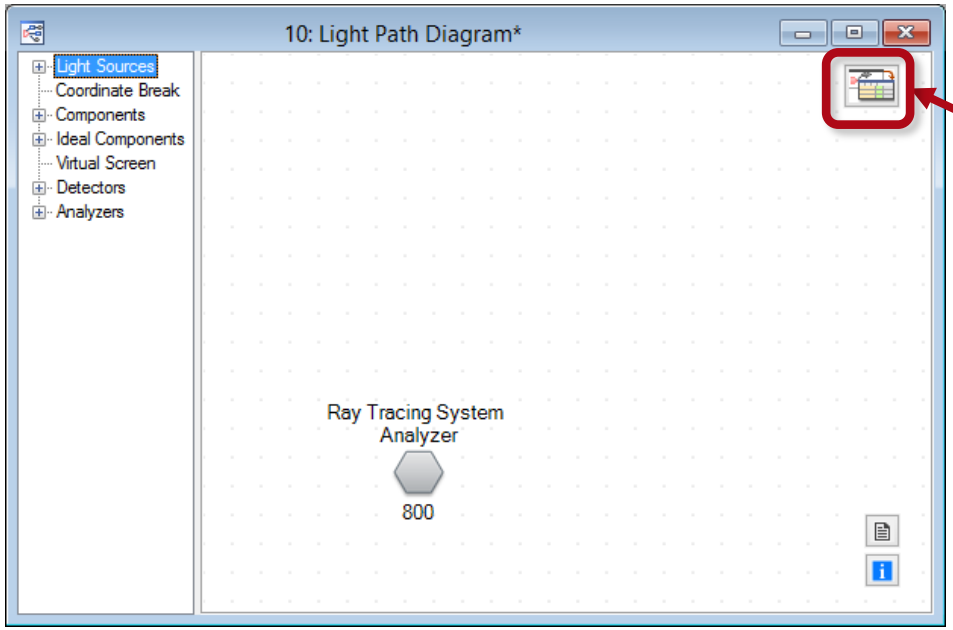
Light Path Diagram



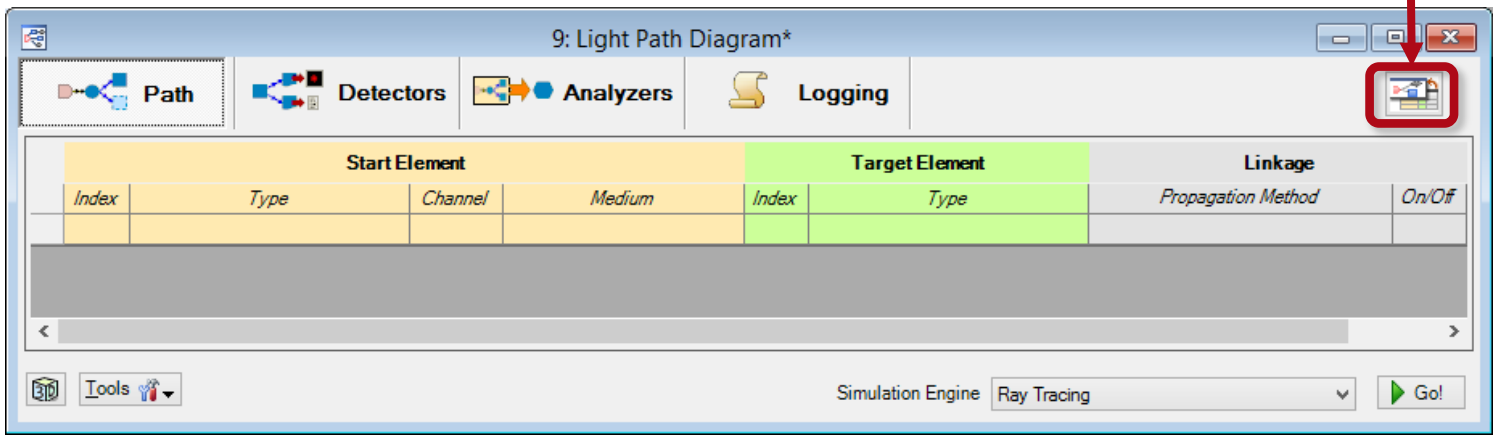
Detailed Logging of Simulation Processes



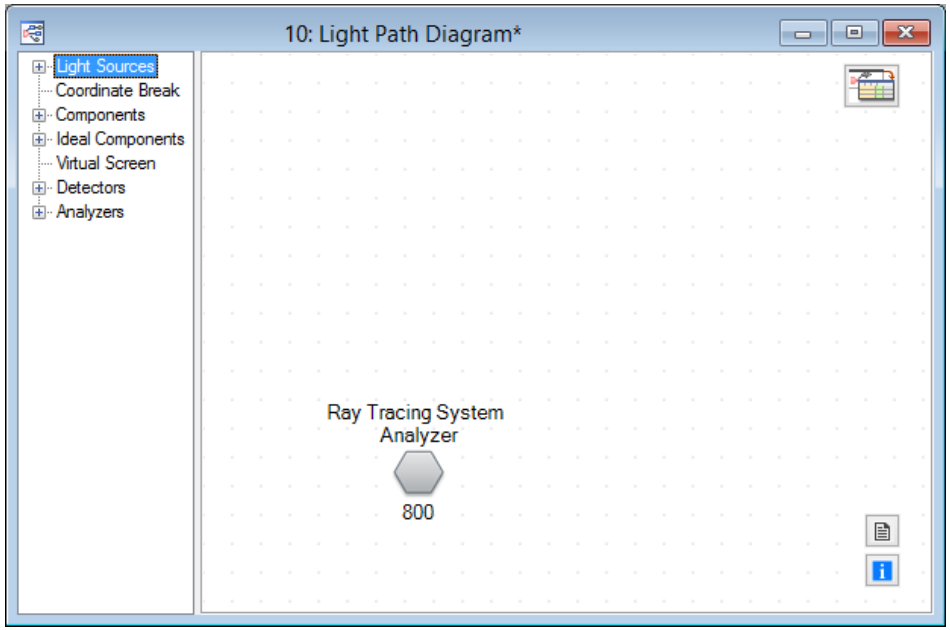
Light Path Diagram



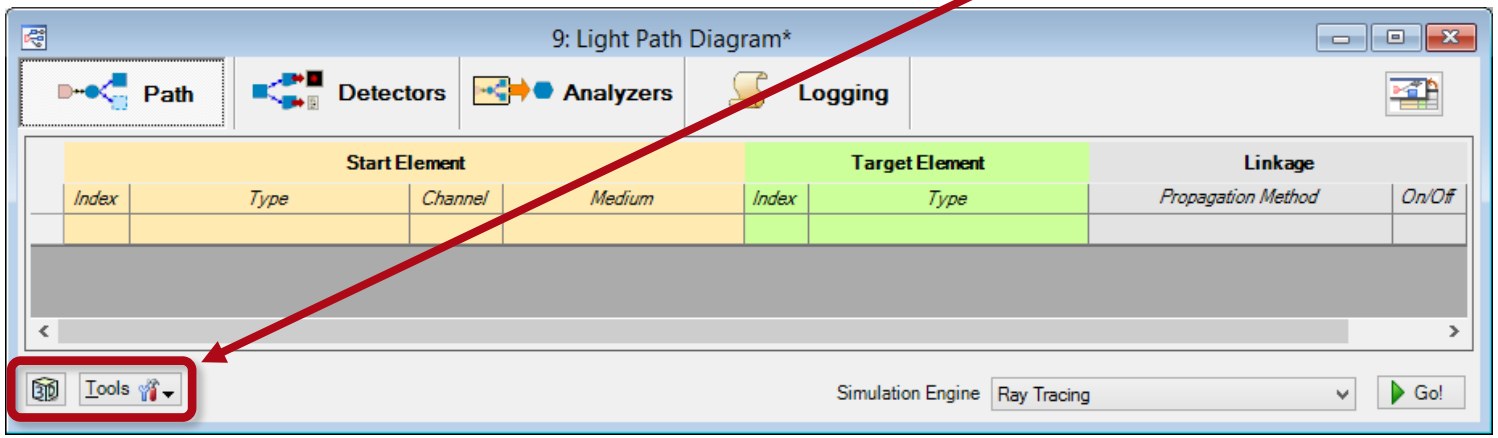
Allows to switch between light path view and light path editor window



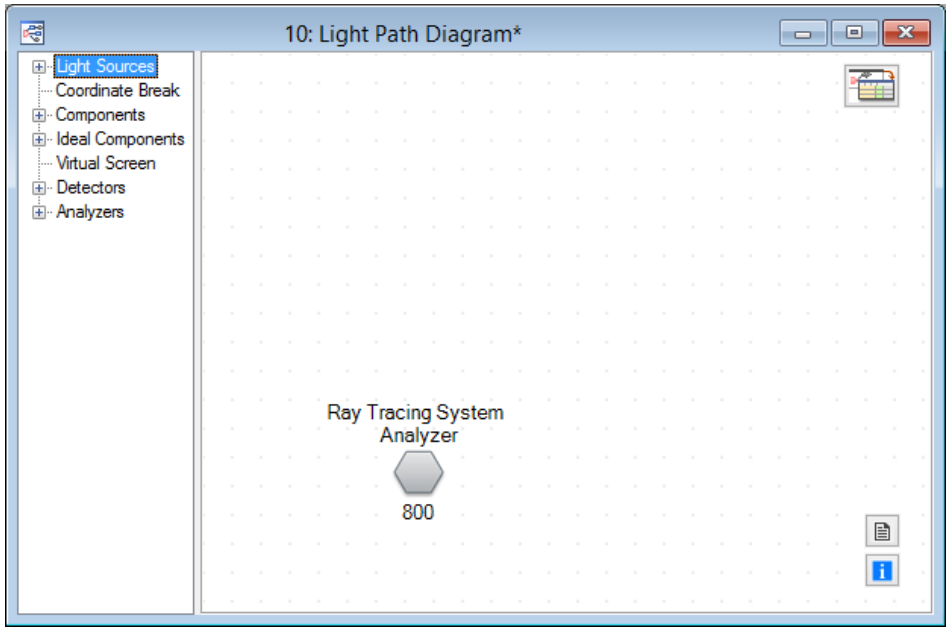
Light Path Diagram



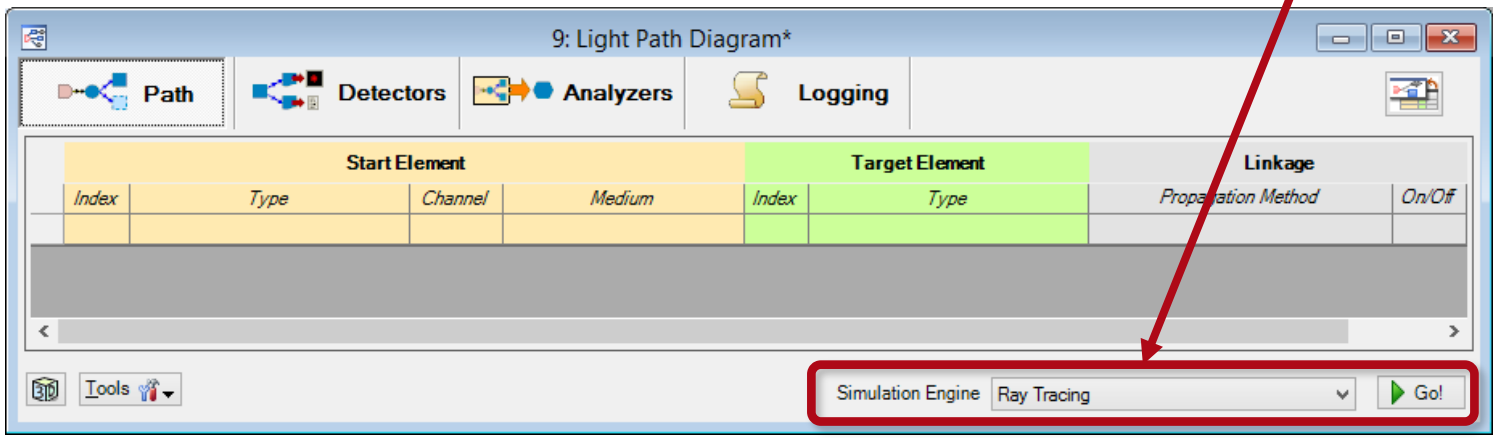
Tools to manipulate the light path diagram (3D view, catalog support, simulation settings, simulation report)



Light Path Diagram



Select the propagation engine and trigger to perform the simulation



Summary

- The light path diagram (LPD) document is used for the specification of the optical system within VirtualLab.
- It is a user-friendly interface for the setup of light sources, components and detectors and analyzers and for the configuration of the desired simulation.
- Several tools for modification of the light path diagram can be accessed via the ribbon or the tools button on the bottom of the light path editor.