

# Fixturlaser® Documenter

## Alignment Measurement Database Management Software

### Customer Profile

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*Fixturlaser® AB has been in the alignment business since 1980. The Fixturlaser® Platform products aim at an optimal solution for a quick, easy and precise alignment system. All Fixturlaser® products are designed for the entire process - Measurement, Alignment and Documentation.*

### Our Solution

*The main application, Fixturlaser Documenter would take care of User Interface issues as well as the data transfer. The individual measurements are implemented as separate components using COM technology. The data that is available in the Display Unit is transferred via a serial port. The data consists of information on the alignment/roll details of machinery and is in proprietary format. After data is transferred it is parsed and if required stored into a database.*

### Introduction

The objective of Fixturlaser® Documenter is to enable end-users to obtain measurements from a Fixturlaser Display Unit, classify, document, store and retrieve them. In addition to allowing the user to manage all the measurement information, the Fixturlaser® Documenter enables the end user to view and print customized reports for the data that has been captured.

### Situation

In a typical factory floor, a lot of machinery would be present such as motors, pumps generators etc. These machines have many parts viz. rotating shafts, couplings. There is every possibility that these machine-parts could be misaligned. This very misalignment could have disastrous consequences in terms of heavier power consumption, reduction of the life span of the machinery and unplanned production stoppages. All these could have serious business consequences. The Fixturlaser® Alignment products help you measure misalignment. The Fixturlaser® Documenter works in tandem with the Fixturlaser® Display Unit and provides an easy to use measurement database management software.

### Features

- Serial communication with Fixturlaser Display Units
- Supports the following types of measurements:
  - Shaft Alignment Horizontal Machines
  - Shaft Alignment Vertical Machines
  - Shaft Alignment Cardan Shafts
  - Machine Train Alignment
  - Straightness Measurement
  - Roll Parallelism Measurement
- Drag and Drop for measurement data
- Labeling of measurements
- Zooming of measurement reports.
- Storage and retrieval of measurement data from Microsoft Access databases
- Formatting and printing reports
- Change of reference for some measurement types
- Context-Sensitive Help
- Support of Win95/98 as well as WinNT

### Tools and Technologies

Analysis and Design: Visio 2000  
Development tools and GUI: VC++  
Communication with the Display Unit: RS Serial Port Interface and Win32 API calls

## Methodology

*ESN has a well-defined Software Development Life Cycle (SDLC) model that takes an iterative approach in executing a project. Each build or milestone would have incremental functionality. Builds / milestones are scheduled so that obtaining specific requirements related to the build / milestone, revision of project documents, planning, thorough testing and bug fixing are carried out incrementally.*

*This approach mitigates risks in Project implementation and also reduces the amount of rework that might be necessary due to any change-requests that might arise during the course of the project.*

## Benefits

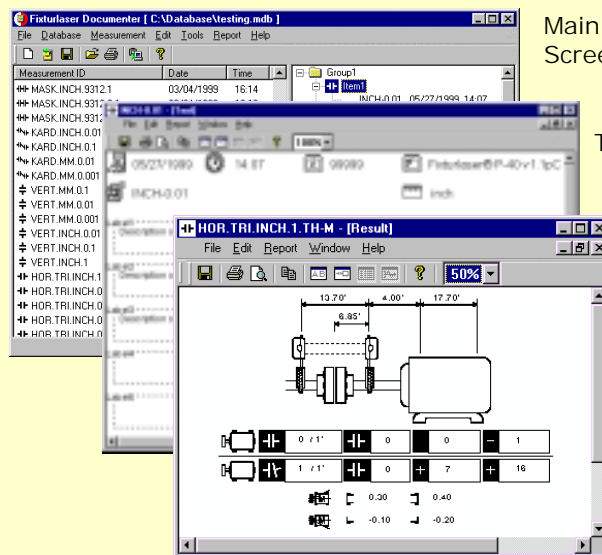
- *User friendly and easy to use software*
- *Uses MS Access -- an industry standard database for small applications*
- *Developed using COM technology and is therefore easy to maintain and upgrade*
- *Integrates well with the alignment tools it is supposed to work with*

Database Support: ODBC API Functions. Data storage in the MS Access Format

COM technology (through ATL) was used to implement components to support various types of measurements. The main application Fixturlaser® Documenter would essentially be the client and communicate with these measurements to load the measurement data from the database, generate the various report windows and during the change of reference alter the reports. For this purpose, two interfaces were used, one for invoking the component, saving the data, and the second one for generating the corresponding reports.

## Our Process

- User connects a Display Unit to the machine running the Fixturlaser® Documenter.
- The user can read the data from the DU using the software.
- The data obtained is displayed in the Memory window
- The user can then organize the data and put it as groups in the Database window
- The user can view and(or) print the reports for any measurement by double clicking a measurement in the database window and then annotate the report with information about the measurements
- The data from the Database window can also be saved to an external database for subsequent use



Main Application Screen

Text window

Result Window

## Conclusion

Fixturlaser® Documenter has brought about a number of enhancements in terms of User-Friendliness, Visualization of the Measurement, and Measurement Storage in the MS Access format over earlier software that was being used for this purpose.