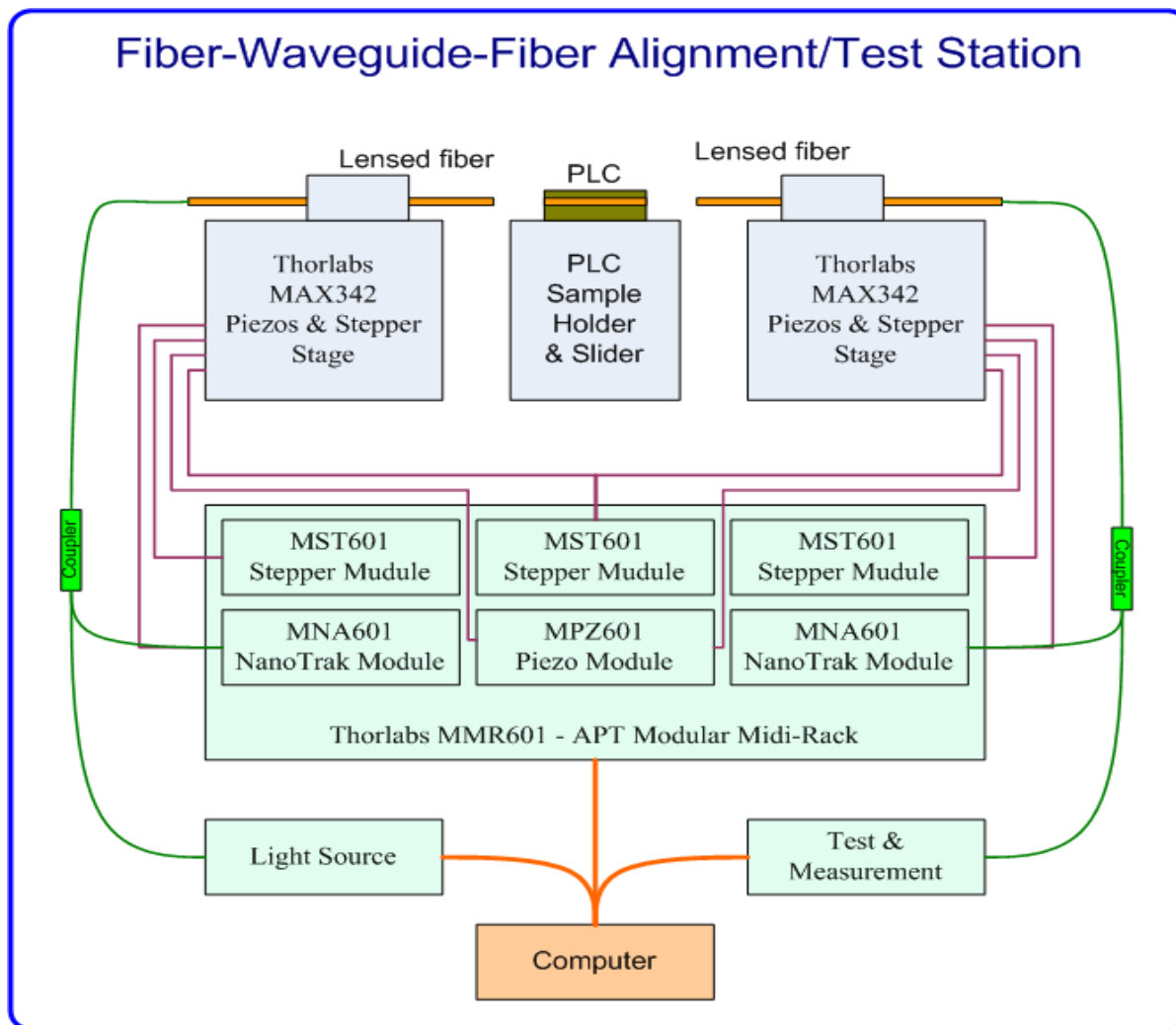


A Fiber-Waveguide-Fiber Alignment & Test Station

W2Laboratories, 2008

Basic Setup



Alignment Speed

First Waveguide
2-3 minutes

Subsequent
30 seconds

Software

Control communication with tester.
Local mode will enable test buttons on Advanced View

Abort any running task.

Current Waveguide

Open Advanced View

Quit the program

Form1

Remote Local

Current Task

AbortTask

Advanced

State: REMOTE_MODE Clear

Task: IDLE Waveguide #: None Clear

TimeStamp	Message
09/01/08 07:45:23	=> TEST
09/01/08 07:45:23	<= TEST
09/01/08 07:45:36	=> RS
09/01/08 07:45:43	<= DONE
09/01/08 07:45:49	=> ST
09/01/08 07:45:51	<= DONE

Communication Log with tester

TimeStamp	Message
09/01/08 07:41:08	system initialization
09/01/08 07:41:17	system ready
09/01/08 07:45:36	moving to load position
09/01/08 07:45:43	at load position
09/01/08 07:45:49	moving to start position
09/01/08 07:45:51	at start position

Task Log

Current motor position.
Click to enter position to move

Jog step size

Motor Limit

Jog Arrows

Move Stage To

2600.0

Down 4000.0

Jog Distancee

1.0 um

1100.0

1545.0

1731.0

Up

1105.0

2491.0

1100.0

Down 4000.0

Up

1545.0

1731.0

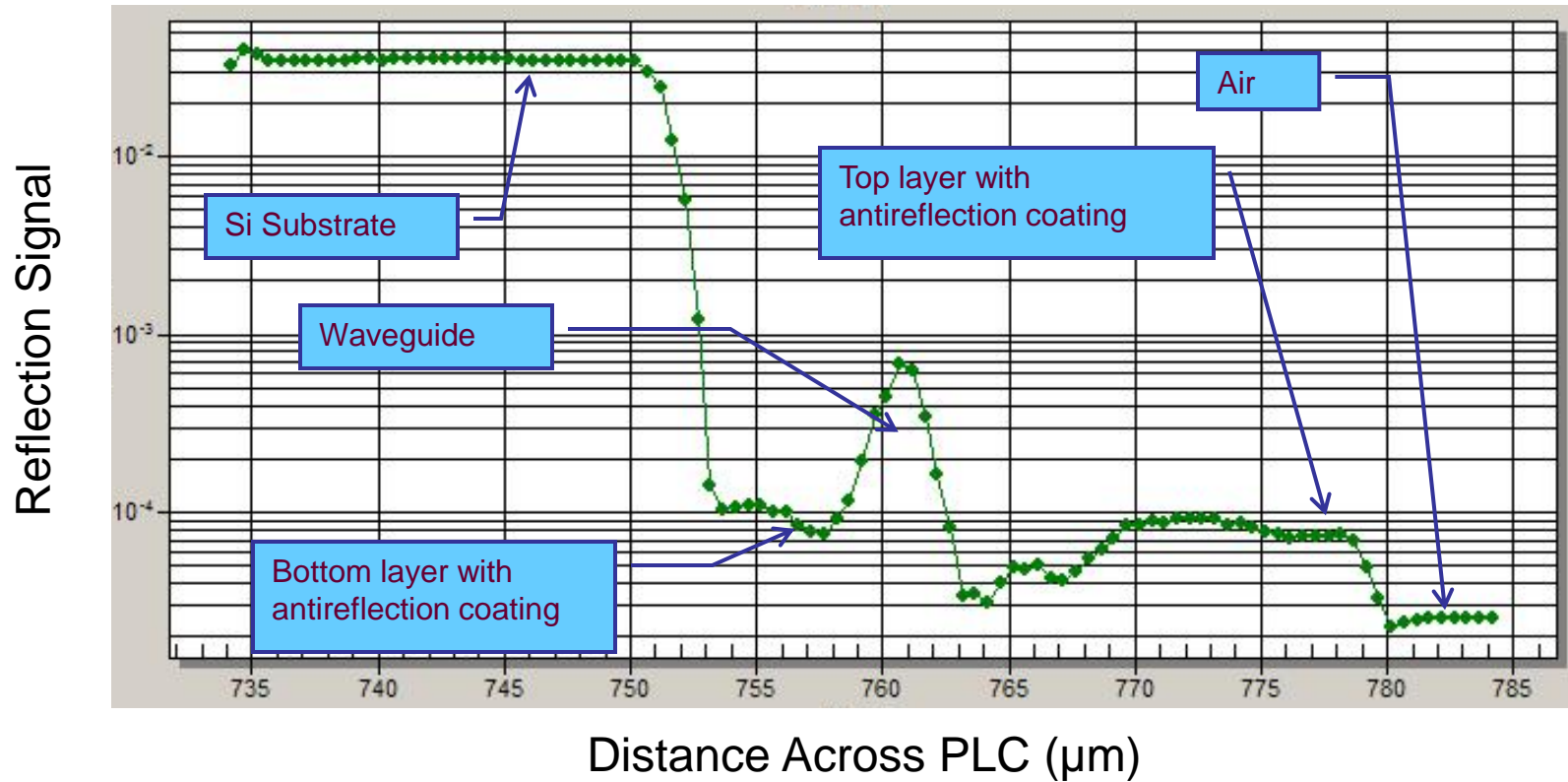
1.50000E-003

NanoTrak display

Signal

Signal range and relative intensity

Fast Search Algorithm



- Scan the beam across the PLC for reflection signal.
- Identify the interface between Si substrate and waveguide layer by the sudden drop of the reflection (> 20 dB).
- Move the beam to the waveguide layer using the design distance between the waveguide and the interface layer.
- Scan the beam along the waveguide layer until the reflection peak is found.