

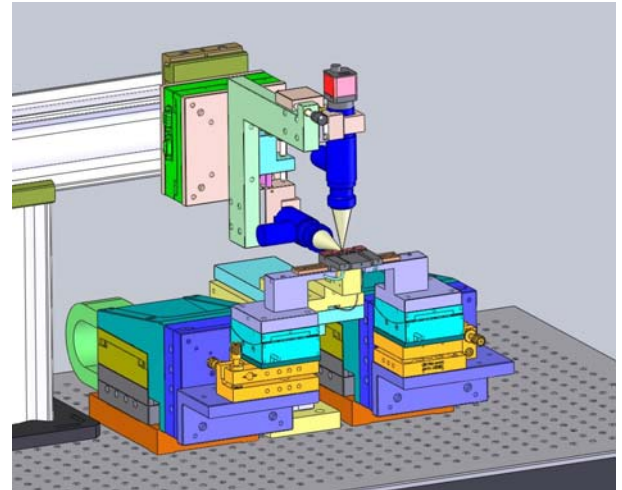
# AUTOALIGN™ SYSTEM

Automatic Alignment System for Photonics Packaging

Your System of choice for FTTx Components Assembly : PLC Splitter, AWG, VOA . . .

## Description

The AutoAlign is a modular system for the alignment, assembly, and metrology of fiber optic components such as planar waveguides, AWGs, and fiber collimators. The AutoAlign can be adapted to increasingly complex assembly and metrology demands as well as growing volume needs by adding easily configurable accessories. The extensive capabilities offered by the AutoAlign are innovatively packaged so that the system is very compact.



### Base Stages on Breadboard

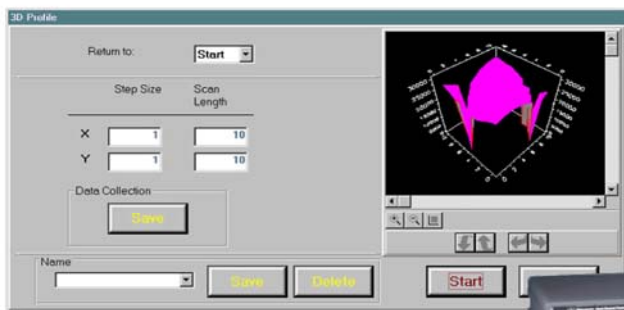
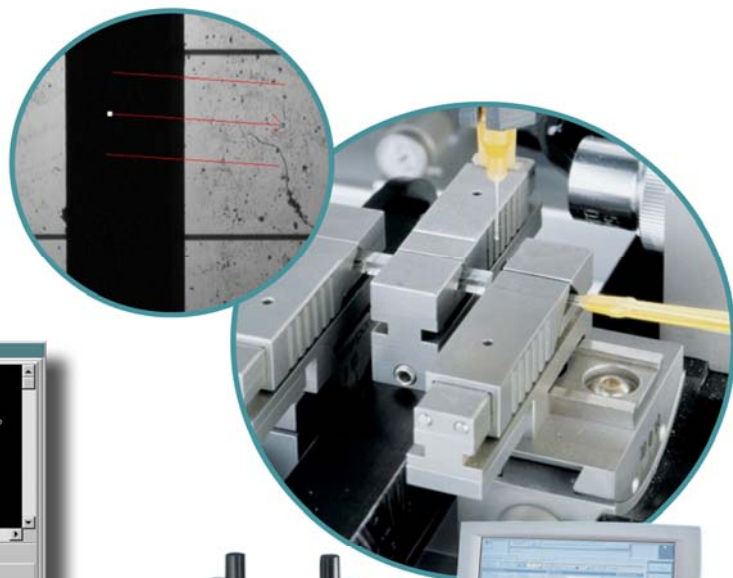
This system employs motion system, vision system, adhesive delivery system, light source, optical detection and highly sophisticated process control software-Integra PCS+ (actual setup may differ)

## Highlights

- + Economical modular system can easy be expanded to leverage your investment
- + Improved rigidity, stability, and system repeatability by low optical axis height of integrated stages
- + Excellent thermal stability for epoxy curing and laser soldering applications
- + Standardized hardware and software modules enable clear upward migration path
- + Small form factor saves expensive clean room or lab space
- + Precision motion system delivers high accuracy and repeatability

## Applications

- + Planar Wave Guide Coupling
- + FTTx Component Packaging
- + Fiber Coupler Coupling
- + Gyroscope Assembly
- + AWG Alignment
- + Active Fiber Alignment



Please contact us for further information:

**ficonTEC Authorised Distributor :-**

Hy-Cad Singapore (HQ) - Mr Bobby Fong, Tel: +65 6288 6123, Email: bobby.fong@hy-cad.com

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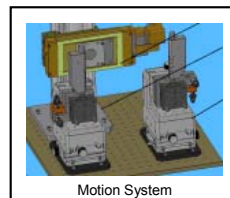
## Specifications

### Translation (X-Y-Z axis)

Component

Travel Range (mm)  
Resolution (µm)  
Bi-directional Repeatability (µm)  
On-axis Accuracy (µm)  
Maximum Speed (mm/s)

ficonteC LR-503 (Rotary Encoder) or  
ficonteC LL-503 (Linear Encoder)  
XYZ: 50mm (all motorized)  
0.1µm XYZ (LR-503) / 0.05µm (LL-503)  
0.1µm (LR-503) / 0.05µm (LL-503)  
1µm (LR-503) / 0.3µm (LL-503)  
50mm/s



Motion System

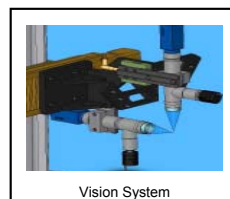
### Rotation (PitchθX-YawθY-RollθZ axis)

Component

Travel Range (deg)

Resolution (arcsec)  
Bi-directional Repeatability (arcsec)  
Maximum Speed (deg/s)

ficonteC RR-87  
+/-5° rotary around optical axis (motorized)  
+/-7.5° rotary alignment θY; θX (manual, automation possible)  
10arcsec  
20arcsec  
1°/sec

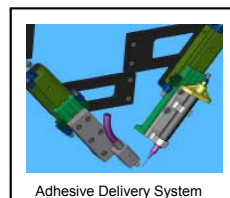


Vision System

### Tooling

Touch Sensor Embedded Universal Fiber Array Holder x2  
Touch Sensor Accuracy (µm)  
Universal 1xN Splitter Holder (suitable for 1x2 to 1x64) x1  
Vacuum AWG Holder X1

Optional  
0.1µm (Optional)  
Standard  
Standard



Adhesive Delivery System

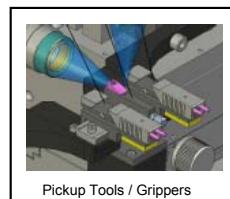
### Vision

Camera Type  
Camera Type (IR for first light)  
Lighting on camera  
External Lighting

Machine Vision

Image Resolution  
Motorized Motion on Gantry (Camera motorized)  
Motorized Motion on Center Post (Center motorized)

CCD Top and Side View with focus adjustment  
Optional  
Optional  
Component bottom side illumination for component distance detection  
Full automatic machine vision through fire wire (display on splitscreen for operator view)  
<2µm/Pixel (depends on Mag.X of lens)  
100mm motorized with 1µm travel (optional)  
100mm motorized travel with 1µm resolution (optional)



Pickup Tools / Grippers

### Test & Measurement

Calibrated ficonteC Power Meter OPM-150 (dual channel with find light functionality)

Wavelength range: 800nm – 1650nm  
Power ranges (full range): 10mW, 1mW, 100µW, 10µW, 1µW  
Connector: FC/PC (different on demand)  
Sampling rate: 1000S/s

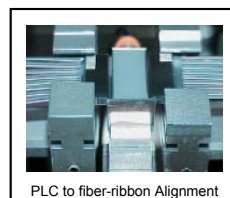


Various Grippers Designs

### Software

R&D Mode for Manual Machine Operation  
Highly Flexible Process Sequencer  
Vision System (standard)  
Vision System (upgraded vision with special alignment features)  
Alignment Routines 2D and 3D on all 6 Axis  
Metrology Function for Component Characterization  
Operator Mode with Load Unload Sequences  
Process Development (Turn Key Process)

Included  
Included  
Included  
Optional  
Included  
Included  
Included  
Optional

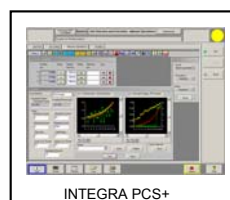


PLC to fiber-ribbon Alignment

### Optional Peripherals

Light Source (1550 or 1310)  
UV Light Delivery Unit  
Adhesive Delivery Unit  
Customize Tooling  
Vibration Isolation

*ficonteC installs state of art technology in  
I/O Controller & Motion Controller*



INTEGRA PCS+

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