Elite Robotics Corp
Smart Robotics for Smart Work

On Target 3D Camera

Description

3D measurement and feed back has never been so easy to implement. The fully self contained camera and processing requires only a simple RS232 interface and no specialized software to operate. All it takes is for the host computer to send a simple command and the camera responds with the XYZ location of the target.

Optional upgrades are available for reporting XYZ, roll, pitch and yaw.

There are no special cards to add to your PC, nothing more than a text format RS-232 I/O port, no DLL's to install.

The system uses a patented 3D fiducial method to activate and locate specific targets in the field of view. Multiple targets can be tracked and uniquely isolated by internal algorithms to prevent object clutter from degrading accuracy.

Fiducials are miniature in size and easily mounted to the target device. Each fiducial can be uniquely identified by the camera. This allows using the camera to tell when any specific fixture or item is in the field of view and its spatial position.

The system can simultaneously track and report the position of multiple fiducials or it can focus on a specific one and provide the fastest update rate on its position.

Standard Features

- Resolution of 0.002" at 24" target range (50um at 61cm) in high res mode
- Accuracy of 0.020" at 24" target range (500um at 61cm)
- 30 samples per second max update rate
- 50° Field of View
- Straightforward RS-232 interface, no special drivers required

Applications

- Closed loop control of robots
- Feedback and control of automation
- Use of "floating" fixtures with 3D vision guided "pick and place"
- Spatial position monitoring

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The standard system comes with 3D camera, cables, power supply, 3 translational fiducials and test software (tested on Win XP and Win 7).

Customizations are available to optimize the camera for different field of view vs range vs accuracy optimizations.

Parameter	Value	Units	Notes
Resolution	0.002 (51)	Inches (um)	Slow scan, 1 sample per second
Accuracy	0.020 (508)	Inches (um)	1 sigma, 30 samples per second
Max Sample rate	30	Hz	
Field of View	50	Degrees	Full angle, for the standard option
Typical Range, typical	36	Inches	Dependent upon background interference, for the standard option
Interface	RS-232		115KBaud, 8 bit, 1 S/S ASCII text commands and responses Selectable between metric and imperial units
Weight,	3 (1.4)	Lbs (kg)	
Power dissipation, typical	10	Watts, rms	

All values are nominal. Specifications subject to change without notice. Graphs and charts are for reference only.