

Automation and Engineering Services

Wheel Dressing Control System

RAGRSW-WDCS-1000

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Overview

The RAGRSW-WDCS-1000 is a System consisting of a PC, Camera, Telecentric Lens, Telecentric Light Source and Application software for manual vision assisted Grinding Wheel Dressing Machines.

Application Description

The RAGRSW-WDCS-1000 is supplied as a retrofit package to be fitted to manual grinding wheel dressing machines. The machines may have an existing optical profile projector or with older camera and lens systems.

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AES Application Software features-User.

- High speed camera interface to render real time 30 fps grinding images.
- Overlay of the cross hairs, Gridlines, guide lines and guide circles for arcs.
- Change of color of the every Overlay by user.
- International Multi-Language support built-in.

AES Application Software features-User.

- Overlay of grinding wheel profiles from autocad dxf files.
- Selectable entity display of lines or arcs from the dxf file by user dynamically.
- Selectable color for each entity display from the dxf file.
- Dynamic zooming of the display at any point and any factor on the screen.
- User settable zoom factors as per the lens zoom used.

AES Application Software features-Calibration.

- Calibration of zoom factor and lens offset stored as settings files for rapid calibration.
- Camera brightness, contrast, gamma settings, frame rate settings by user.
- Color schemes stored as user settings file for easy recall.
- Last used files and color and zoom settings stored as files for automatic recall on opening of the software.

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Scope of Supply

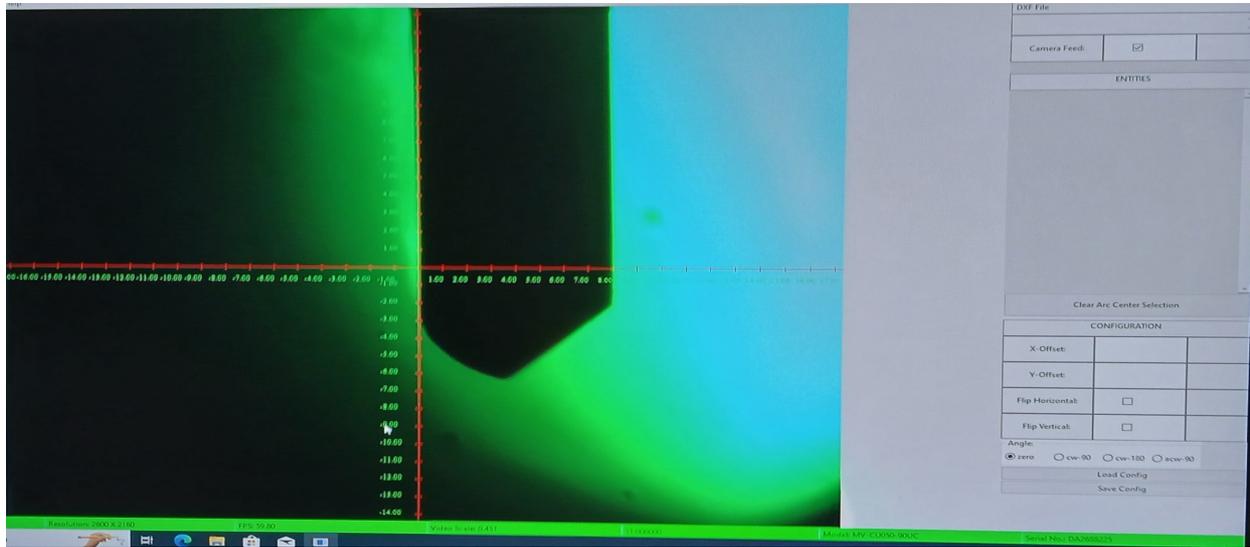
- Camera color 30 fps, 12 Megapixel with USB interface.
- Telecentric Lens with muti or single zoom
- Telecentric Light source with intesity controller.
- Industrial PC with 19 inch touch monitor, keyboard, mouse.
- License for AES make Dressing Vision software.

Optional Components

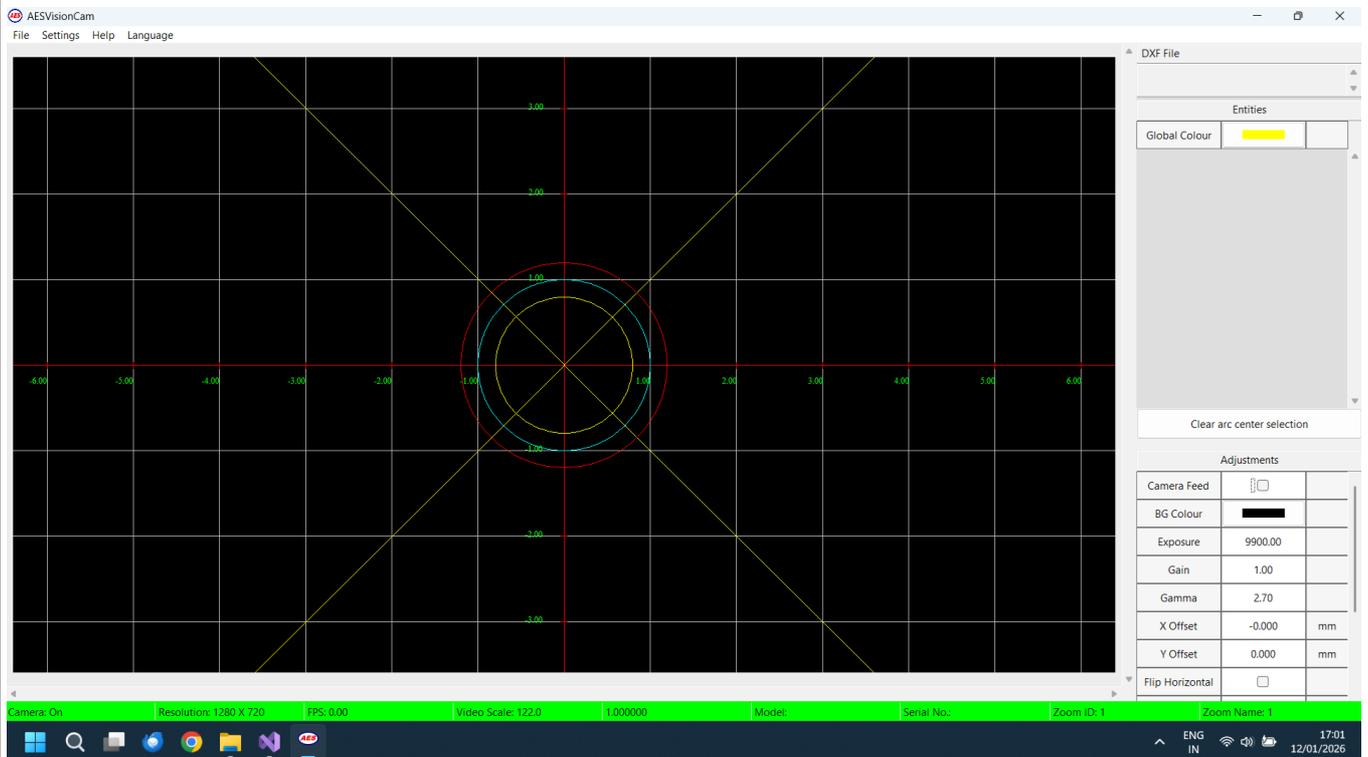
- Complete control panel with UPS and the system.

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Main Screen with Camera feed

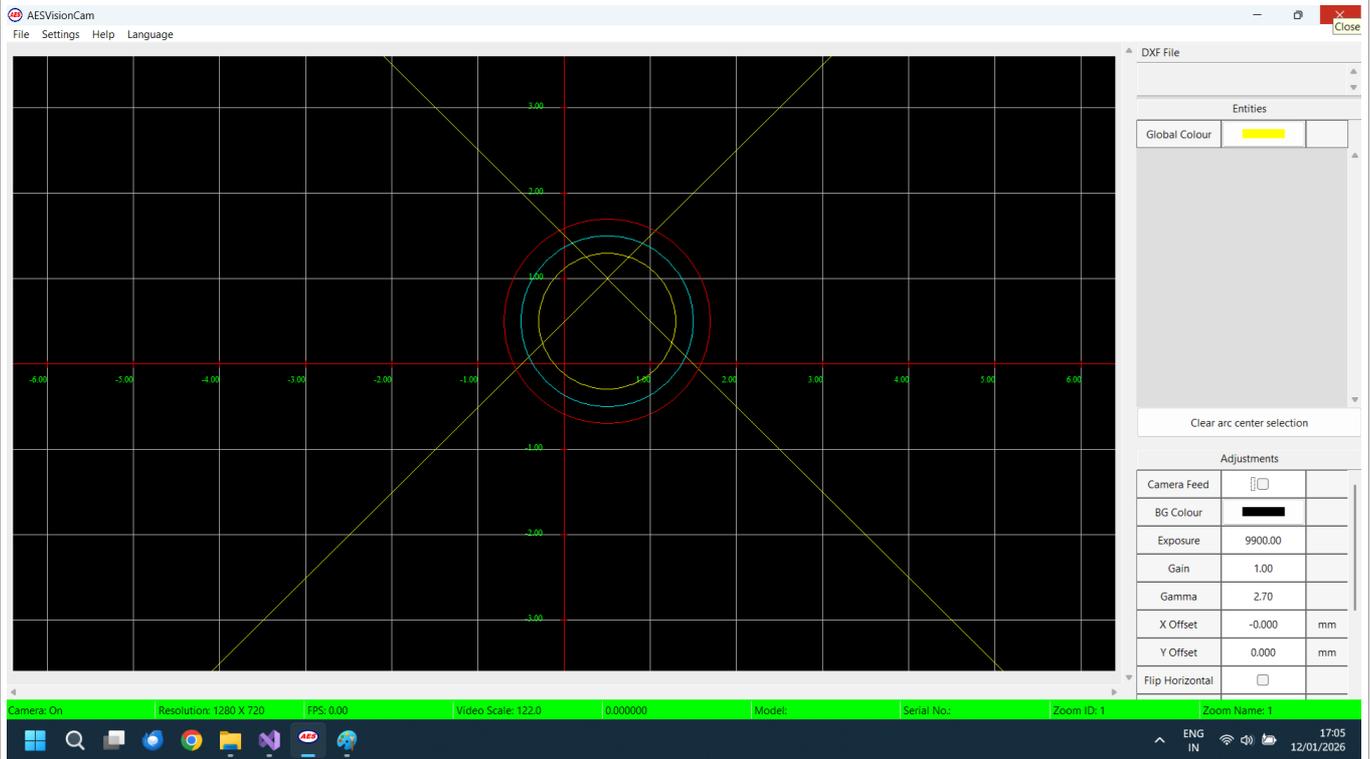


Guide Lines and Circles

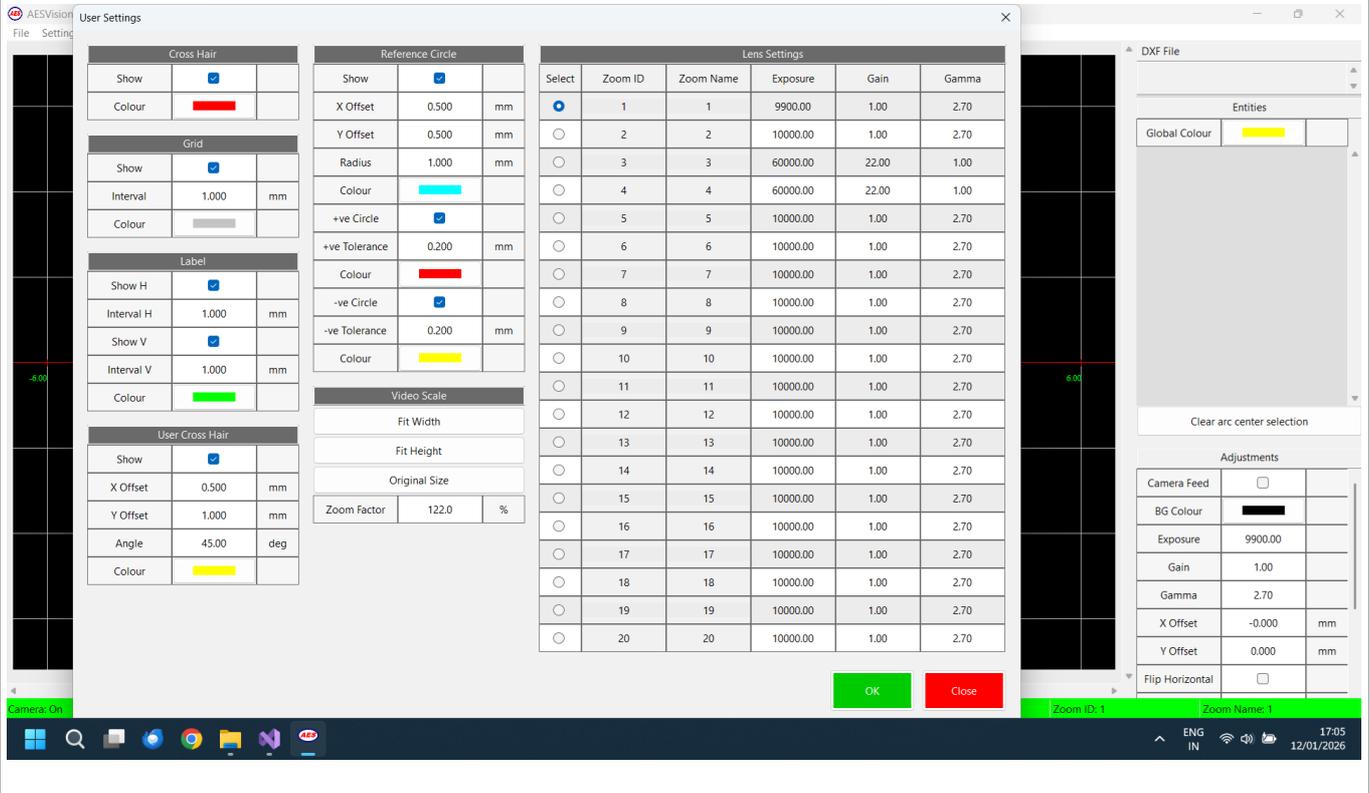


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Guide Lines and Circles with Offset



User Settings



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Zoom Settings

Zoom Settings

Zoom ID	Zoom Name	Pixel/mm	X Offset	Y Offset
1	1	100.00	0.0000	0.0000
2	2	100.00	0.0000	0.0000
3	3	100.00	0.0000	0.0000
4	4	100.00	0.0000	0.0000
5	5	100.00	0.0000	0.0000
6	6	100.00	0.0000	0.0000
7	7	100.00	0.0000	0.0000
8	8	100.00	0.0000	0.0000
9	9	100.00	0.0000	0.0000
10	10	100.00	0.0000	0.0000
11	11	100.00	0.0000	0.0000
12	12	100.00	0.0000	0.0000
13	13	100.00	0.0000	0.0000
14	14	100.00	0.0000	0.0000
15	15	100.00	0.0000	0.0000

File Name: aes-vision-cam-settings.txt

Buttons: Save, Close

Camera: On | Resolution: 1280 X 720 | FPS: 0.00 | Video Scale: 122.0 | 1.000000 | Model: | Serial No.: | Zoom ID: 1 | Zoom Name: 1

Dxf File and User guide lines and circles

DXF File

D:\AES_OPR\PRODUCTS\TRS-Projects
 \ProjectBackups\AES_VISION_CAM-

Entities

Entity Type	Color	Layer	Start X	Start Y	End X	End Y
Arc	Blue		18.79	-20.00		
Arc	Blue		4.70	6.2		0.75
Line	Blue					

Adjustments

X Offset	-0.000	mm
Y Offset	0.000	mm
Flip Horizontal	<input checked="" type="checkbox"/>	
Flip Vertical	<input type="checkbox"/>	
Rotate 0	<input checked="" type="radio"/>	deg
Rotate CW 90	<input type="radio"/>	deg
Rotate CCW 90	<input type="radio"/>	deg
Rotate 180	<input type="radio"/>	deg

Camera: On | Resolution: 1280 X 720 | FPS: 0.00 | Video Scale: 200.0 | 1.000000 | Model: | Serial No.: | Zoom ID: 1 | Zoom Name: 1

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Dxf File

The screenshot shows the AESVisionCam software interface. The main window displays a coordinate grid with a blue arc and a red line. The right sidebar contains 'Entities' and 'Adjustments' panels. The bottom status bar shows camera settings like Resolution: 1280 X 720, FPS: 0.00, and Video Scale: 200.0.

Global Colour			
Arc	<input checked="" type="checkbox"/>	(2.04,-0)	2.00
Arc	<input checked="" type="checkbox"/>	(2.75,-0)	2.75
Line	<input type="checkbox"/>		

X Offset	-0.000	mm
Y Offset	0.000	mm
Flip Horizontal	<input type="checkbox"/>	
Flip Vertical	<input type="checkbox"/>	
Rotate 0	<input checked="" type="radio"/>	deg
Rotate CW 90	<input type="radio"/>	deg
Rotate CCW 90	<input type="radio"/>	deg
Rotate 180	<input type="radio"/>	deg

View Adjustments

X Offset	-0.000	mm
Y Offset	0.000	mm
Flip Horizontal	<input type="checkbox"/>	
Flip Vertical	<input type="checkbox"/>	
Rotate 0	<input checked="" type="radio"/>	deg
Rotate CW 90	<input type="radio"/>	deg
Rotate CCW 90	<input type="radio"/>	deg
Rotate 180	<input type="radio"/>	deg

Zoom Name: 1

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End of section