Lab Hyperspectral Imaging System	ATP8010

Description:

The equipment combines technologies of hyperspectral imaging and HD camera, and it can acquire data possessing high spectral resolution and high spatial resolution, as a result of exploring spectral and spatial feature of materials. It can apply to sort out materials of tabaco, pharmaceutical drugs, foods, minerals, criminal document inspection, and true or fake identification etc.

The system consists of many components of hyperspectral camera ATH1030, high accuracy scanning platform, HD camera, and high stability light source, precision camera obscura etc.

The core components are self-developed by Optosky, and they use 1-inch CCD image sensor, with high sensitivity, high spectral resolution, large FOV, and superior imaging performance.

The system can acquire hyperspectral data through precision scanning workbench, and coordinate with self-developed linear light source and dark enviroment can obtain stable standardize hyperspectral data.

It employs 24-mega pixels HD camera, and combine technologies of hyperspectral imaging and HD camera taking, in order to realize perfect spatial resolution and hyperspectral resolution.

Application:

Monitor Agriculture: plant diseases and insect pest, disaster, categories ID etc.

Forestry: Tree categories identification, Phytomass, nutrient elements, forest health etc.

Water Environment: Water quality parameters, water waste spatial distribution and migration analysis
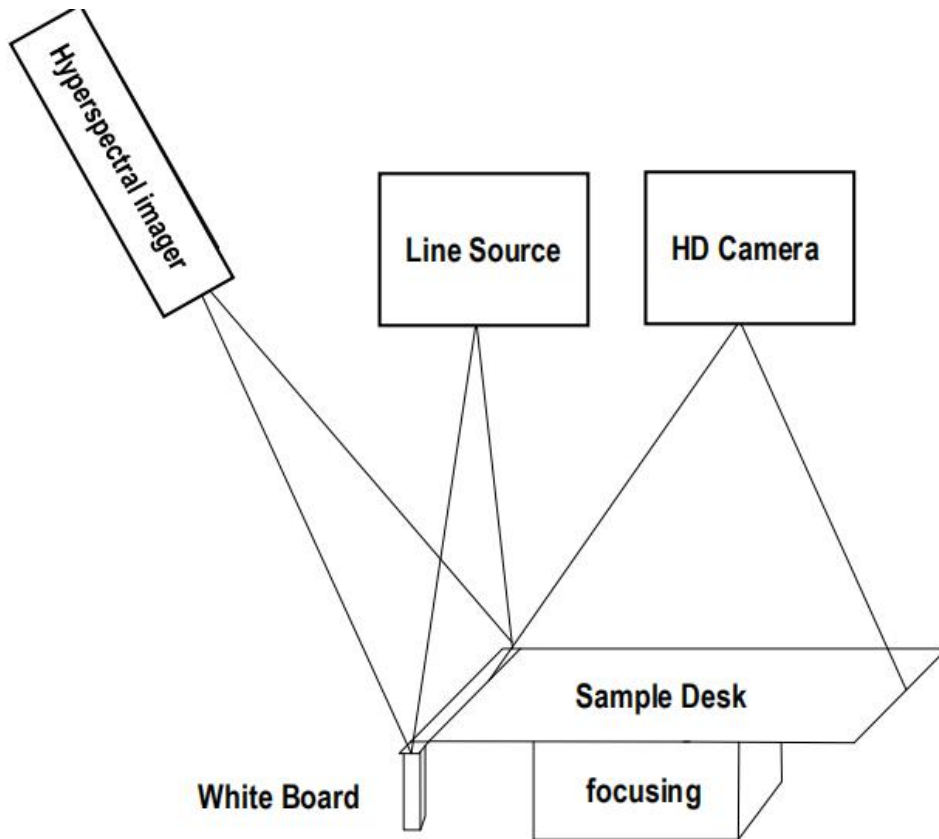
Soil Pollution: heavy metal waste

Minerals: Mineral mapping, ingredients explore, metallogenic prognosis etc.

City geological substances classification and identification

Herbs sorting

Advantage:

Time and Space radiance intensity correction, greatly improve radiance calibration accuracy of time correction plus space correction.

Line source design matches field of view can improve light energy efficiency.
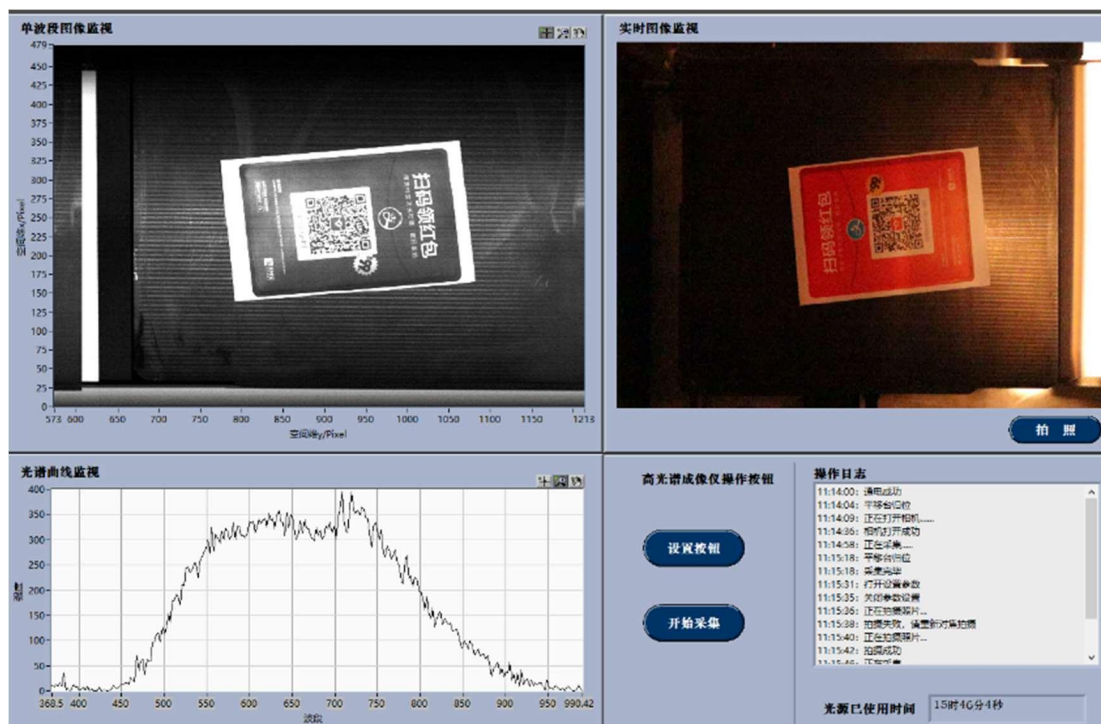
Auxiliary focusing, sample thickness adjusting to rise or descend in order to ensure clear image.

Auto-integration time, exposure time suit to sample reflectance

Auto scan, auto complete data acquisition

Integrated HD camera can improve spatial resolution, which makes easy matching among huge database.

Datasheet

SN	Items	Spec	Remarks
1	Spectral Range	400-1000nm	
2	Spectral Resolution	<2.3nm	30μm
3	Spatial Resolution	<1mm	Customized
4	Spatial Channels	480	4pixels binning
5	Spectral Channels	270	4pixels binning

6	Dynamic Range	12bit	
7	FOV	210mm	Customized
8	Scan Range	0~280mm	Customized
9	Materials Detect Thickness	0~50mm	Customized
10	Reflectance Calibration Board	3%, 50%	Customized
11	VIS Camera Resolution	24-mega pixels	Replaceable
12	MAX Frame Rate	80Hz	
13	Weight of Optical Splitting System	< 1000g	
14	WFOV	31°@f=25mm	
15	IFOV	0.9mrad@f=35mm	
16	Slit Size	30μm	
17	NA of system	F/2.4	

Accessiories List

Standard Accessories:	
1	ATH8010 Hyperspectral Camera
2	USB wire
3	220V power cable
4	Standard board
5	25mm lens
6	PC data acquisition software
Optional Accessories:	
1	Time Reflectance Boards(Reflectance10%/20%/30%/40%/50% customized)
2	Spatial Reflectance Boards(Reflectance10%/20%/30%/40%/50% customized)
3	Lens (Focal Length16mm/25mm/35mm)
4	Controlled PC