



**ONE SORTER DOES IT ALL**  
**Patented Hyperspectral Technology**

**GREEN EYE**  
**OPTICAL SORTERS®**

**Canadian Patent No. 2.700.962. US Patent Pending**



**GREEN EYE®** identifies all recyclable materials using its patented Artificial Intelligent Hyper Spectral imaging system, which gathers information based on an objects molecular structure, like no other sorter!  
CA 2688805

### GREEN EYE® PLASTICS SORTING

Sorts 1s thru 7s, Engineered Polymers & Bio Plastics, individually or in groups. Sees through shrink wrap labels and identifies barriers. Blocks aluminum, paper and organics.



### GREEN EYE® WOOD SORTING

Sorts clean natural wood from, pressure treated, creosoted and painted wood streams at extremely high yields.



### GREEN EYE® C&D SORTING

Sorts multiple grades of C&D materials including gypsum board, all grades of carpeting, fibers, and plastics.



### GREEN EYE® E-WASTE SORTING

Sorts different grades of printed circuit boards, different grades of ABS plastics including black and leaded glass from non-leaded glass.



### GREEN EYE® GABLE TOP CARTONS

Sorts gable top cartons from other materials, as well as fiber like materials. Also separates through plastic streams.



### GREEN EYE® FIBER SORTING

Sorts up to 8 TPH of mixed paper per unit. Identification of printed from non-printed paper, OCC, box board and wax coated. White from colored and contaminated from clean.



### GREEN EYE® AUTO SHRED

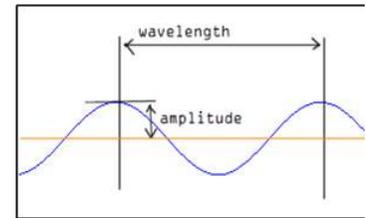
Sorts black plastics from rubber and other contaminants.



# THE SCIENCE BEHIND THE GREEN EYE® ADVANTAGE

## What is Light?

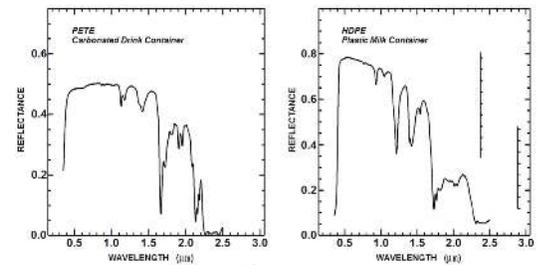
Light is the name for a specific range of electromagnetic radiation. **Fig-1**



**Fig-1**

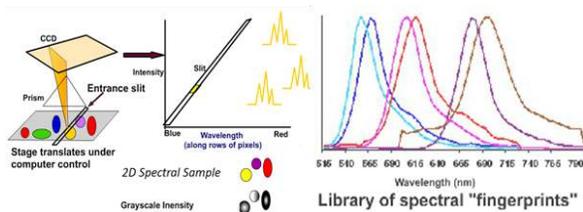
## What is commonly utilized in optical sorting imaging today?

When light reaches an object, some of the light is reflected and some of the light is absorbed. Different materials reflect and absorb light at different wavelengths. The reflected light, minus the absorbed light produces a "Signature" or "Fingerprint" **Fig-2**, which is unique to the chemical makeup of an object. Data is typically collected over a two dimensional plane, often represented by the plotting of the response of interest as a function of wavelength or frequency. Object signatures are then compared to a known database to determine if there is a spectral match.

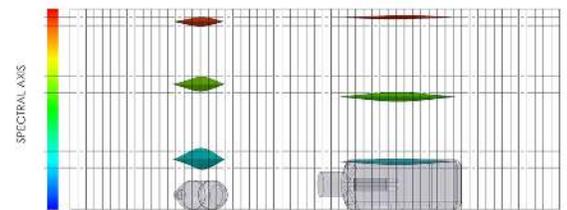


**Fig-2**

## Fig-3



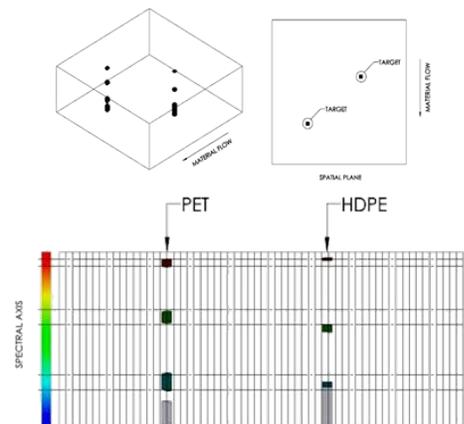
**Fig-3**



**Fig-4**

## What is GREEN EYE® imaging?

Unlike typical sorters, which collect two dimensional data, a **GREEN EYE®** image is considered an image cube **Fig-4**, where the third dimension is represented by a multitude of wavelengths. As a result, the image pixel is actually a column vector representing a number of wave lengths, which contributes to a much wider and discriminatory material signature or fingerprint. Once a commodity sample is scanned, the areas of interest are quantified and a comparison is then made to our database for a possible match. **Fig-5** further illustrates the methodology applied.



**Fig-5**

## What GREEN EYE® Sorting Technology Means to Recyclers

**GREEN EYE®** Optical Sorters collect three dimensional data simultaneously at higher speeds than other optical technologies. Our technological advantage enables real time data collection, higher throughputs and the ability to see through outer Heat Shrink Plastics labels, deep into Barrier Bottles and even identifies Bio Plastics! Nearly any number of material variables can be collected and utilized to accept or reject any combination. Our advanced technology enables unwanted items such as aluminum cans and fiber to be blocked, while colors, including black and white, are easily identified and selected or blocked. Every **GREEN EYE®** is delivered ready to be trained to sort nearly any recyclable commodity.

**GREEN EYE®** is extremely simple to operate and maintain, with as many off-the-shelf parts as possible.



**Green Eye® Test Facility** is prepared to solve your recycling challenges at our Hampstead, NH Research and Development test facility. Imagine the advantage of operating one optical sorter with the flexibility to sort multiple commodities with the ability to evolve with each market challenge in real time. We invite our customers to visit this facility and watch their product being processed prior to commitment.

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