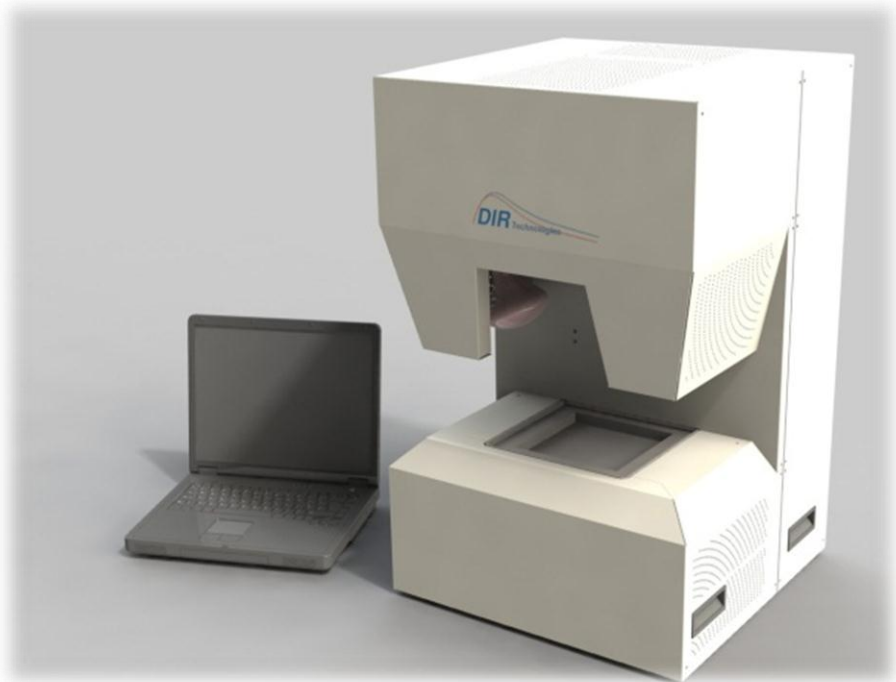




# BLACK EYE

## Drug Authentication System



# BLACK EYE



**Dynamic Infra-Red (DIR) Technologies develops and manufactures thermography-based comprehensive solutions for pharmaceutical authentication and analysis.**

Drug counterfeiting is an increasing, global problem that affects the health of individuals, national economies and Intellectual property rights. Counterfeits are becoming more and more sophisticated, and there is a real need to develop tools that will improve our capability to fight against this plague.

## **Introducing Black Eye**

Black Eye is a complete table-top system that enables rapid and accurate detection of counterfeit pharmaceutical products.

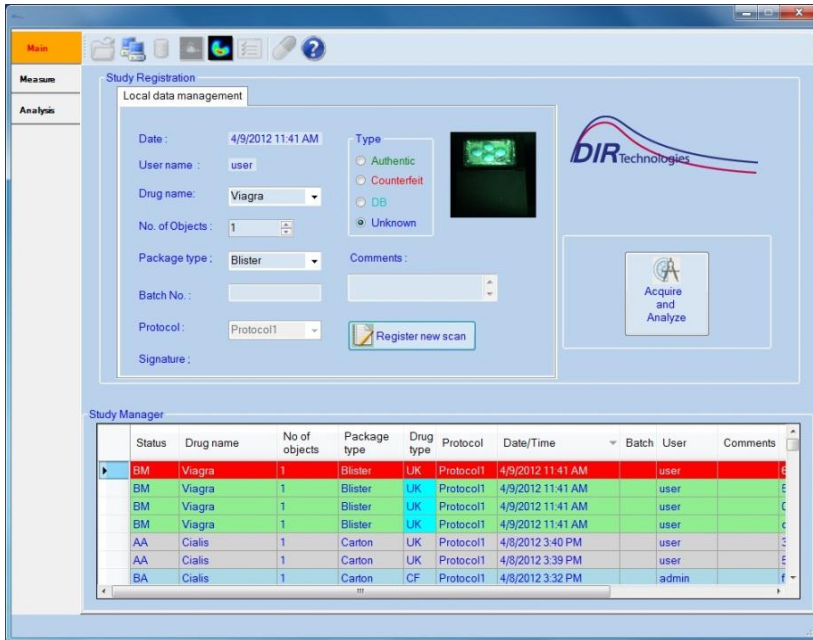
**Black Eye operation is based on the proprietary Dynamic Thermography technology of DIR Technologies. The principle of operation is that Black Eye compares the dynamic thermal signature of an authentic specimen that is recorded in the system library, with the data acquired from the specimen under test.**

Black Eye clearly differentiates authentic specimens from counterfeit ones, without damaging the original tablet, blister or package. Within minutes, multiple samples can be classified as genuine or counterfeit.



Distinguishing genuine VIAGRA<sup>®</sup> blister from fake blister. In the image on the right, it is difficult to differentiate between the two samples. In the image on the left, the genuine and counterfeit samples are classified and displayed in unique colors.

# BLACK EYE



Operation of the Black Eye is simple and straightforward. The GUI (Graphic User Interface) is friendly and self-explained.

## Advantages of Black Eye

- Nondestructive
- Fast and accurate
- Multilevel testing: tablet, capsule, blister, package
- Easy to operate
- True/False output

## Who should use it?

- Customs and main post offices
- Analytical and forensic laboratories
- Drug distributors and warehouses
- Hospitals and clinics
- Security forces

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# BLACK EYE



## Main Specifications

### System Blocks:

Black Eye main system  
Digital Balance  
PC Computer  
Computer monitor

### Main Components:

|                         |                                                                            |
|-------------------------|----------------------------------------------------------------------------|
| IR Detector Type        | InSb, 640 x 480 pixels, 15 $\mu$ m pitch, Stirling Cooled                  |
| IR Detector sensitivity | 20 mK                                                                      |
| IR Spectral range       | 3-5 $\mu$ m                                                                |
| IR Optics               | Ge, f/1.5                                                                  |
| CCD Camera              | Pixeling 778                                                               |
| Black Body              | CI Systems SR800R-7A                                                       |
| Lamps                   | Infrared 100W Sylvania                                                     |
| Digital Balance         | Kern PFB                                                                   |
| Computer                | Dell Optiplex 990                                                          |
| Monitor                 | Samsung Sync Master 2333                                                   |
| Mechanical Jigs         | Pills Jig, Standard or Customized Blister Jig <sup>(1)</sup>               |
| Software                | Black Eye operation and analyze system, with GUI and proprietary protocols |

### Test types:

|                 |                                                                            |
|-----------------|----------------------------------------------------------------------------|
| Pills, Capsules | A minimum of 4 simultaneous pills are required to obtain the best results. |
| Carton Packages | Optional (should be customized on request)                                 |
| Flasks          | Optional (should be customized on request)                                 |

### Requirements:

|                       |                               |
|-----------------------|-------------------------------|
| Connectivity          | Ethernet <sup>(2)</sup>       |
| Power requirements    | 220-240 VAC, 60Hz             |
| Standard Plug type    | European                      |
| Operating environment | Temp. 18-28°C, Humidity < 80% |

### Physical:

|            |                                                                      |
|------------|----------------------------------------------------------------------|
| Dimensions | 46(w) x 46(d) x 73(h)<br>Not including computer, monitor and balance |
| Weight     | 70Kg                                                                 |

(1) User should send the intended blister samples in advance for tooling of the jig at DIR.

(2) Ethernet communication through the internet is required for maintenance of the system and for upgrade of protocols and thermal signatures. User should be responsible for the Internet connection.