BODKIN DESIGN & ENGINEERING

APPLICATIONS

- **Standoff Detection**
- **Material Identification**
- **Biological Research**
- **Environmental Monitoring**
- **Geologic Mapping**
- **Medical Imaging**
- **Automatic Target Recognition**
- **Chemical Defense**

MWIR 20
Hyperspectral Imager

Snap-Shot Mode Imaging Spectrometer Produces Data Cubes at Video Rates

Preliminary Specifications

Data Cube	114 X 114 spatial x 20 spectral
Data Rate	Up to 130 cubes/sec
Spectral Range	2 - 5 µm
Spectral Resolution	140 nm/bin (average)
Field of View	7.5 °
Dimensions	5.6" W x 8.0" H x 25.0" L
Weight	26 lbs

Hyperspectral Imaging
*Combining Imaging with Spectral Analysis*

A conventional color image has three colors per pixel, but a hyperspectral image can have **hundreds.** Because every material has a characteristic spectral signature, this information can be used to identify an object by analyzing its *spectra*.

Typical hyperspectral imagers scan a scene over time to build a data-cube. This build time makes these technologies unsuitable for high speed applications.

BD&E's hyperspectral imaging systems use our patented *HyperPixel Array™* (HPA™) technology to combine spectral data with spatial information to create three-dimensional *hyperspectral data-cubes at video rates.* Two dimensions describe the position of a point in space and the third dimension is the spectral signature at that point.

Using no moving parts, this proprietary *HyperPixel Array™* technology creates a data-cube in one **instantaneous** frame, eliminating motion artifacts.

MWIR spectrum from representative pixel

pixel (86,101)

CO_2

unburned hydrocarbon
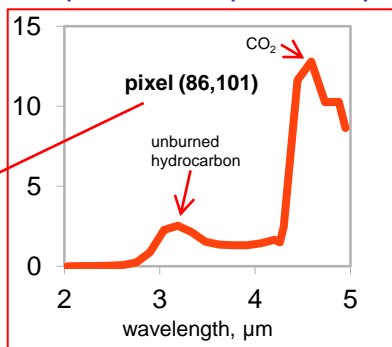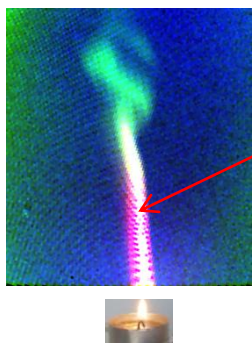
Hyperspectral Image of Hot Candle Gases Captured with MWIR 20

- **Unique Patented Technology**
- **Ideal for moving platforms and transient events**
- **No moving parts**

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