

# MULTI-BANDPASS FILTERS

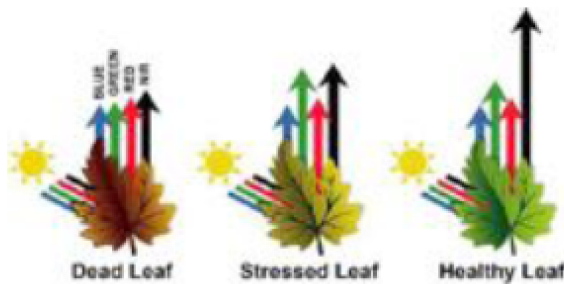
## DUAL BANDPASS / TRIPLE BANDPASS

Commonly used for Normalized Difference Vegetation Index (NDVI) imaging and Enhanced Normalized Difference Vegetation Index (ENDVI) imaging.

- Eliminate the need for dual or tri sensor imaging
- Anti-reflection coated for maximum transmission
- Hard-coated, single-substrate fabrication
- Pass red or blue visible light, while simultaneously passing green and NIR light
- Ideal when working with indices such as CV, NG, and ENDVI used to monitor crop health
- Recommended for installation behind the camera lens, requiring exceptional Surface quality; 10/5 scratch/dig

**APPLICATIONS:** Multi-Bandpass Filters have become popular in NDVI aerial drone inspection, allowing for single sensor imaging and reduced operational payload. NDVI calculation, traditionally achieved through satellite imagery, can now be obtained by utilizing Multi-Bandpass Filters and personal aerial imaging devices.

**CONCEPT:** Plants reflect different wavelengths of light to varying degrees based on their health. A healthy leaf absorbs blue and red light for photosynthesis, while it reflects some green light and strongly reflects near-infrared (NIR) light. Stressed vegetation reflects greater amounts of red, blue and green light while reflecting for NIR light.

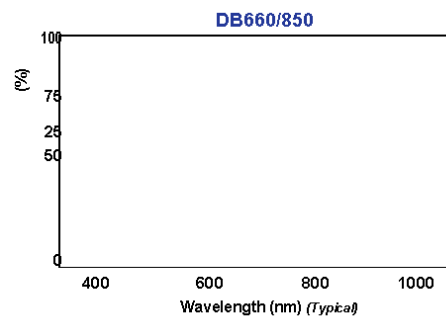
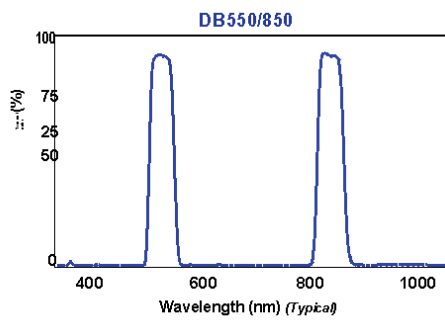
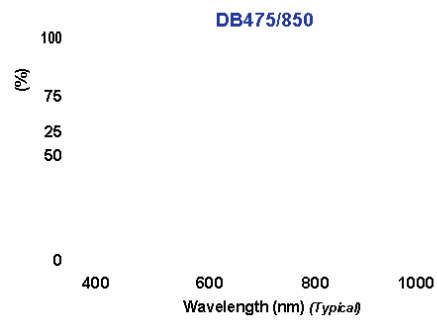
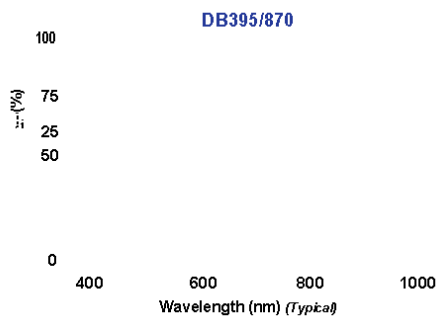


**MOUNT & SIZE OPTIONS:** Multi-Bandpass Filters are offered in various standard threaded mounts custom mounts, sizes cut to fit the front or back of any lens, or the front of the camera sensor. Standard material thicknesses include 0.5mm, 1.1mm and 2.0mm.

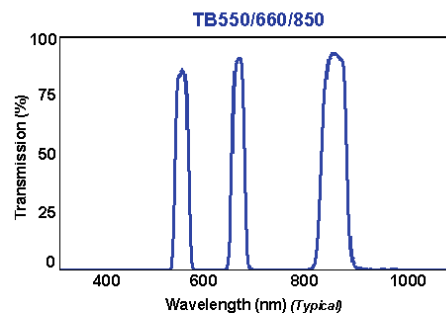
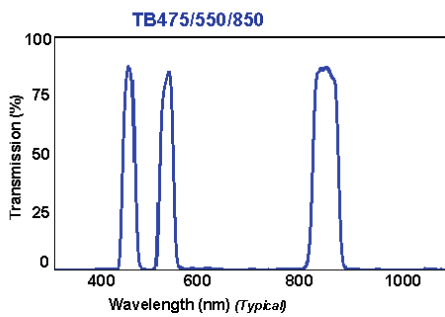
For more information, visit [midopt.com/multi-bandpass](http://midopt.com/multi-bandpass)

# FILTERS & TRANSMISSION CURVES

## DUAL BANDPASS FILTERS



## TRIPLE BANDPASS FILTERS



Multi-Bandpass



# DUAL BANDPASS FILTERS

## FOR DAY AND NIGHT

Dual Bandpass Filters are single filters that work twice as hard. They're ideal for applications using a color camera that require accurate color imaging during the day and infrared imaging at night.

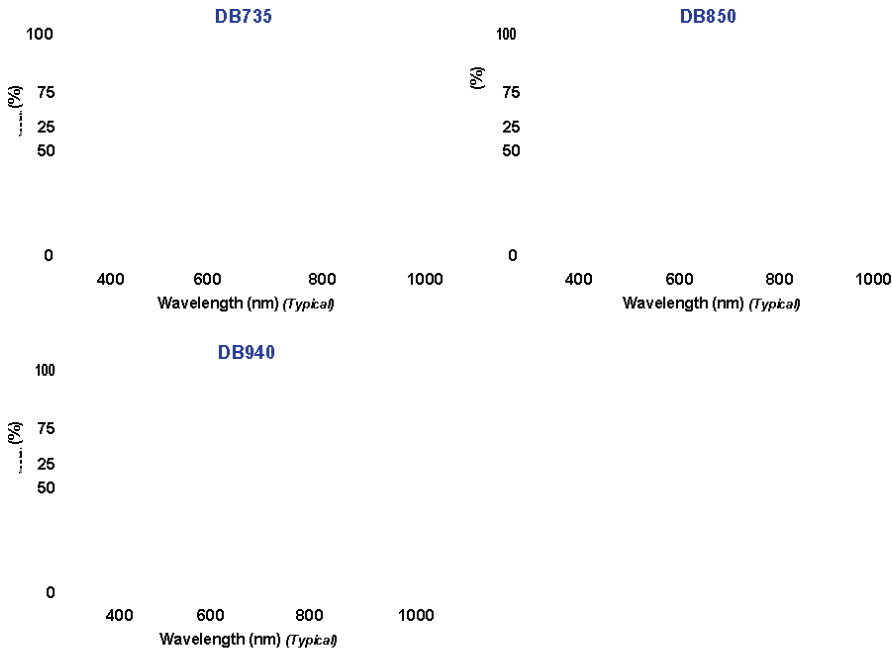
- Pass visible light and a specific portion of the VIS and NIR spectrums
- Ideal for color camera applications that utilize daytime sunlight and NIR illumination at night
- Eliminate the need for dual sensor imaging
- Achieve accurate color rendition by blocking interfering (NIR) wavelengths
- Anti-reflection coated for maximum transmission
- Hard-coated, single-substrate fabrication
- Exceptional surface quality; 40/20 scratch/dig

**APPLICATIONS:** Most commonly used for security and surveillance and Intelligent Transportation Systems (ITS). One Dual Bandpass Filter can completely eliminate the need for a costly switching mechanism or expensive two-camera system.

**MOUNT & SIZE OPTIONS:** Dual Bandpass Filters are in stock, ready to ship, and are available in Threaded Mounts, sizes M13.25 to M82; 25.4@ C-Mounts; Slip Mounts; or Unmounted. Dual Bandpass Filters can be optically cemented behind an M12 lens if preferred. Custom shapes and sizes are also available.

# FILTERS & TRANSMISSION CURVES

## DUAL BANDPASS FILTERS



Dual Bandpass 

SUNLIGHT

No IR	DB850 Dual	DB940 Dual
Blocking Filter	Bandpass Filter	Bandpass Filter

Sunlight contains an almost overwhelming amount of infrared light; however, output in the region around 940nm is not as significant. Using a DB940 Filter takes advantage of this feature, resulting in greatly improved color rendition compared to Visible/850nm Dual Band Filters.