



TORONTECH

PORTABLE HYPERSPECTRAL CAMERAS

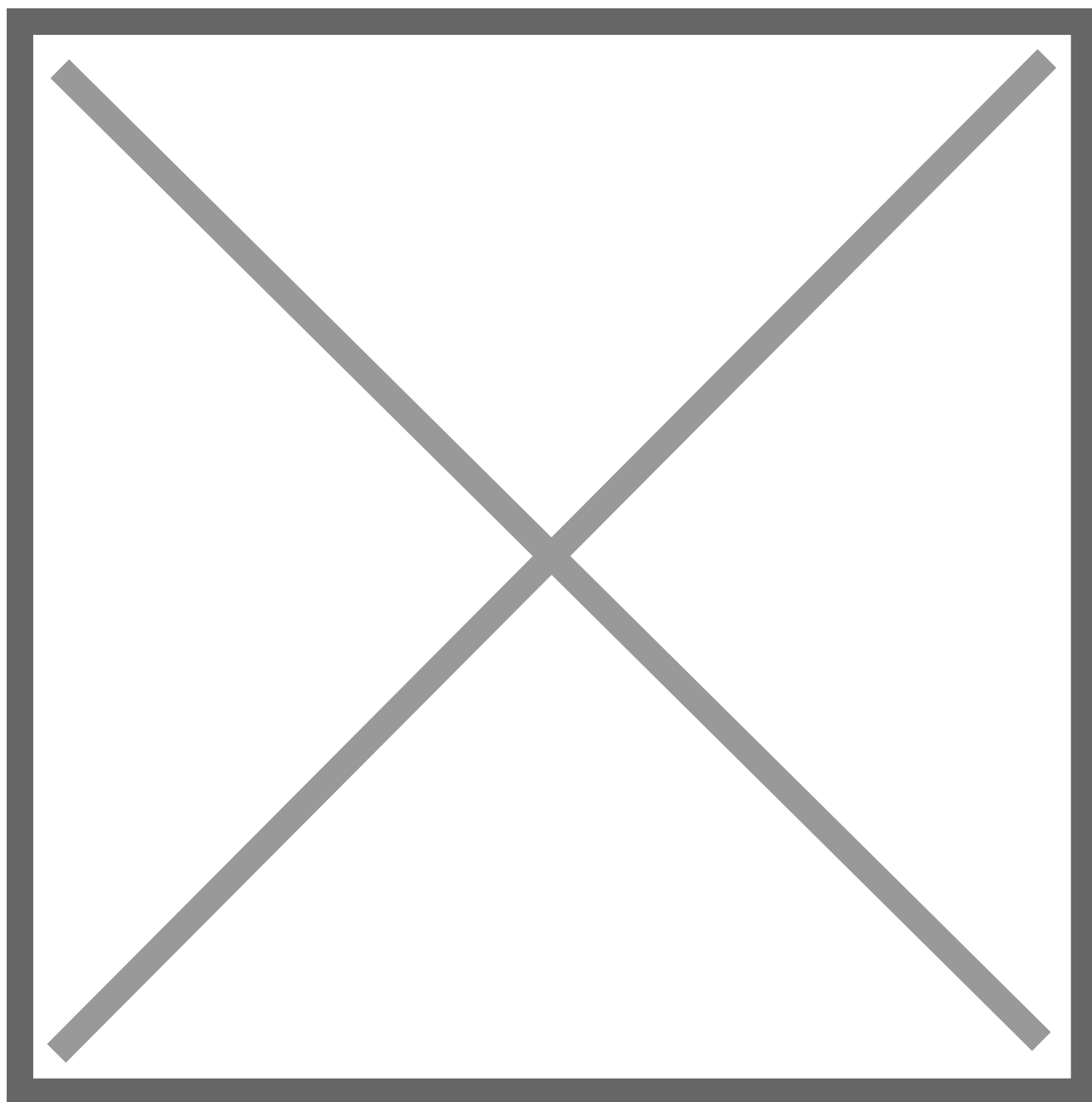


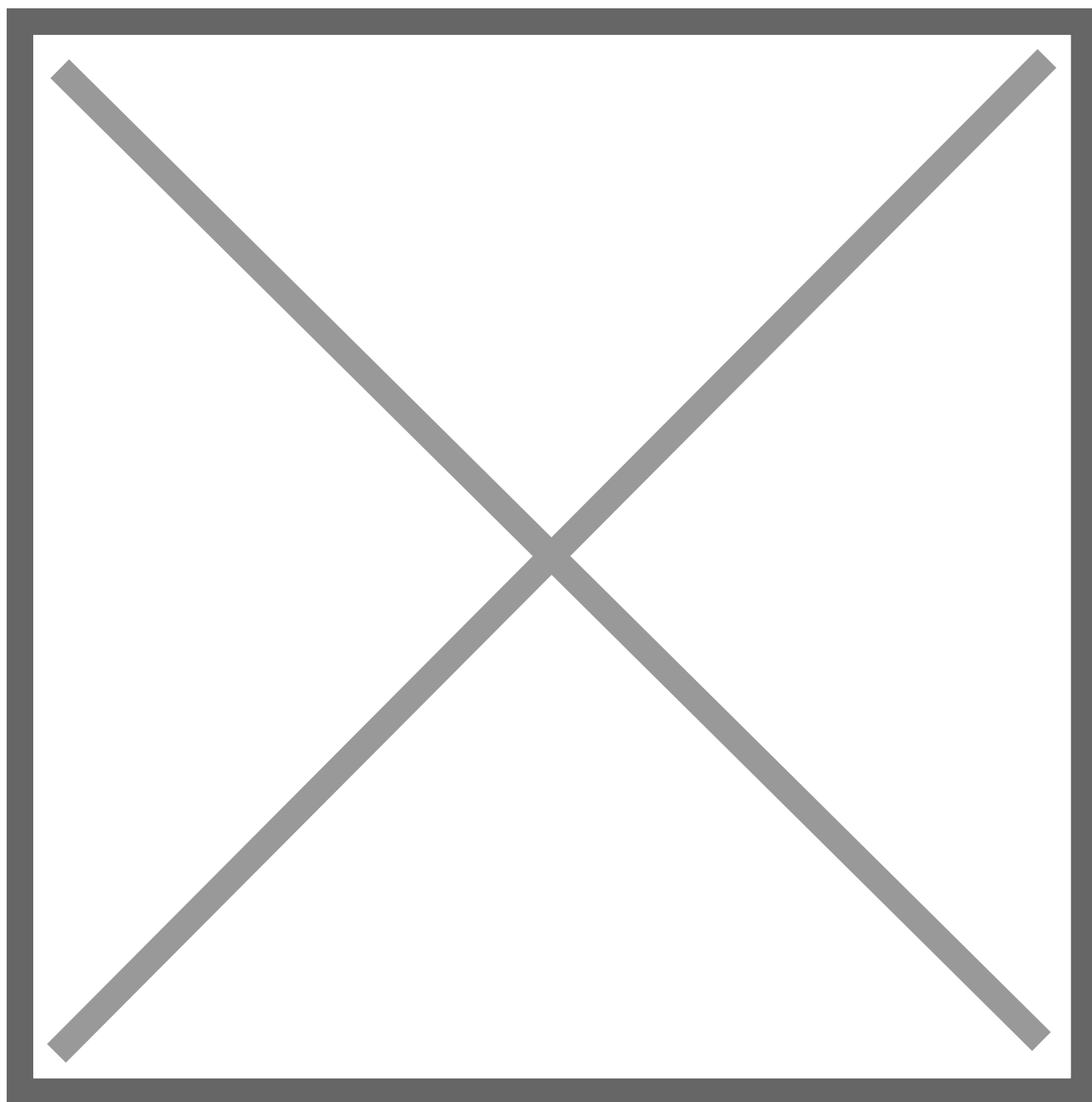
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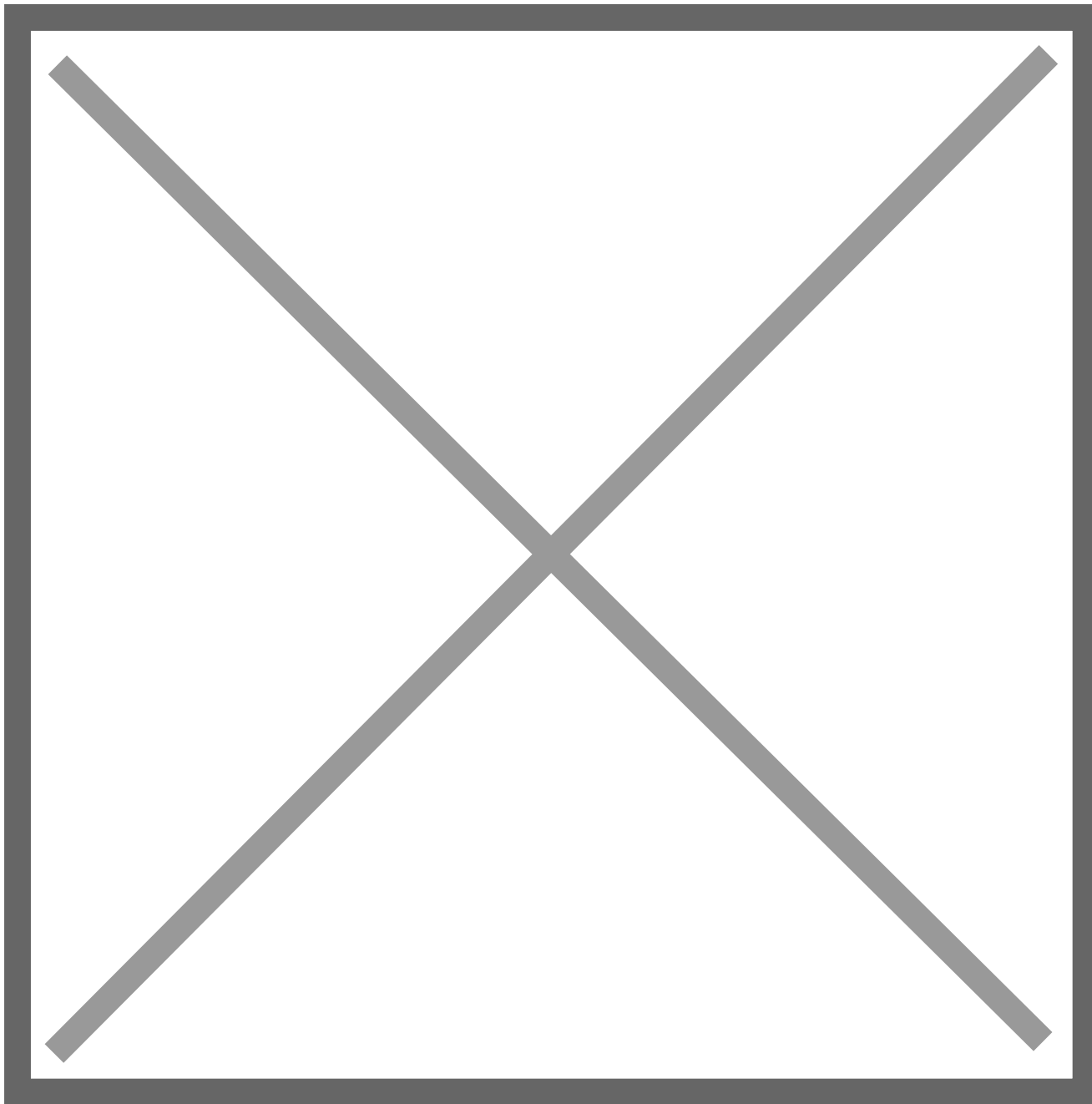


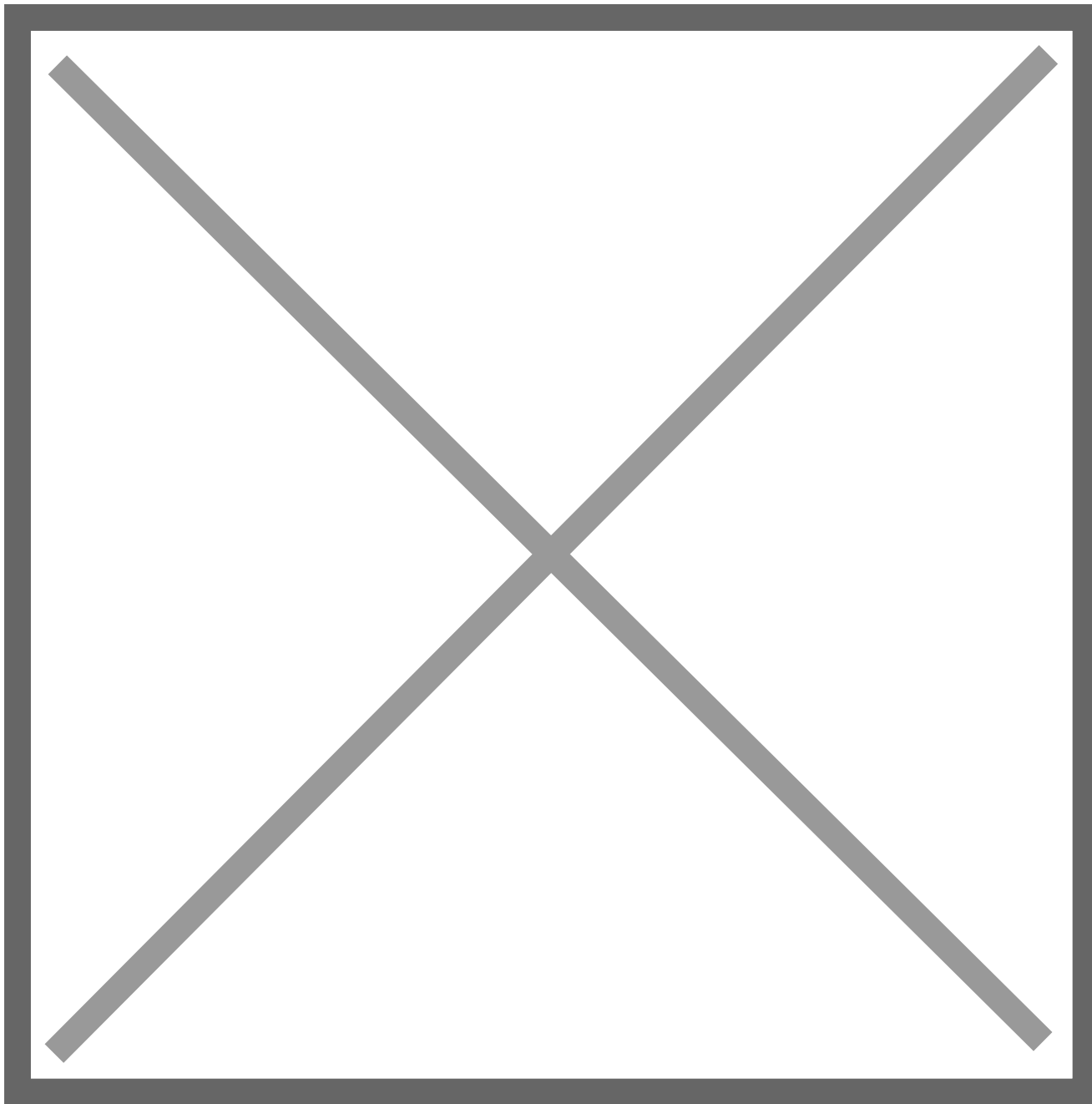
Portable Hyperspectral Cameras is designed for flexibility and precision, these cameras capture hyperspectral image data across a 400-1700nm wavelength range.

Key features include high spectral resolution (2.5nm FWHM), spatial resolution up to 1920x1920, and up to 1200 spectral channels. The 5-inch touchscreen display (1280x720 resolution) ensures easy operation and data analysis anytime, anywhere.









APPLICATIONS

The Torontech Portable Hyperspectral Camera transforms field-based analysis by capturing detailed spectral data across the 400-1700nm range. This technology moves advanced material analysis from the laboratory to the field, enabling real-time, non-destructive identification and characterization of materials based on their unique spectral signatures. It is an essential tool for rapid decision-making where immediate, on-site data is critical.

This portable analytical capability is vital for professionals in:

- **Precision Agriculture:** For in-field assessment of crop health, enabling early detection of stress from disease, water, or nutrient deficiencies, and optimizing the targeted application of resources.
- **Geology & Mineral Exploration:** To perform on-site mineral identification and soil mapping directly at the outcrop or from core samples, accelerating exploration cycles and guiding survey strategies.
- **Environmental Monitoring:** For rapid field surveys to assess vegetation health, detect soil and water contaminants, and monitor ecosystem changes with a level of detail invisible to the naked eye.
- **Art & Heritage Conservation:** To conduct non-invasive, on-location analysis of pigments, inks, and substrates on historical artifacts, aiding in authentication, conservation, and the discovery of hidden details.

FEATURES

Working mode	High precision imaging measurement mode PC control mode Line scan mode
User adjustment	Users can flexibly set and adjust the exposure time, merge method, ROI area
Data format	Data format compatible with multiple formats (including envi)

Data export	USB Type-C is available
Working hours	100 measurements can be made on a single charge

TECHNICAL SPECIFICATIONS

Model number	FS-1Q-VIS	FS-1Q-VISNIR	FS-1Q-SWIR
Spectroscopic method	Transmission grating spectroscopy		
Image resolution	1920 * 1920		1280*1280
Dynamic range	12 bits		
Imaging speed	5s		
Spectral channel number	500	1200	1024
Spectral range	400-700nm	400-1000nm	900-1700nm
Optical harmonic resolution	2.5 nm		6nm
Slit width	25 um		
Transmission efficiency	≥60%		
Stray light level	≤0.5%		
Pixel size	5.86um* 5.86um		5um* 5um
Detector type	CMOS		InGaAs
Standard lens focal length	25 mm		
Minimum working distance	100mm		
Field Angle	25°		17°

Minimum exposure time	21us	1us
Maximum exposure time	10s	
Signal-to-noise ratio	600/1	
Data interface	USB3.0	
Camera lens interface	C	
Attachment	USB3.0 transmission line	
Auxiliary imaging function	The auxiliary view camera monitors the shooting area	



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