

## Canon EF Lens to Micro Four Thirds T Speed Booster ULTRA 0.71x

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## GH5, XL or ULTRA?

In a nutshell, we recommend **XL for full frame lenses** and **ULTRA for DX/APS-C lenses**. For the long story, read the 'limitations' column.

Features and Benefits	Limitations
<p>Optical</p> <ul style="list-style-type: none"><li>• Increase maximum aperture by 1 stop</li><li>• Increase MTF of any lens attached</li><li>• Makes lens 0.71x wider</li><li>• Patented 5-element/4-group optical design incorporating ultra-high index tantalum-based optical glass by Caldwell Photographic in the USA</li><li>• Supports 16:9 video with DX lenses.</li></ul> <p>Electronic</p> <ul style="list-style-type: none"><li>• Autofocus</li><li>• Can be powered either by camera body or by third-party external 5V power source (not included)</li><li>• Iris/aperture controlled by the camera body</li><li>• Smooth iris support with the latest Canon (2009+), Tamron (SP series 2013+) and Sigma (2016+) lenses</li><li>• Image stabilization (IS) lens support</li><li>• Support for cameras with in-body image stabilization (IBIS), including Panasonic GX7, GX8, GX80/85 and Olympus cameras</li><li>• Electronic manual focusing (e.g. EF 85/1.2L II and discontinued EF 50/1.0L)</li></ul>	<ul style="list-style-type: none"><li>• EF-S lenses require modification to fit or may remain incompatible even after modification (but third-party DX lenses can be used without modification)</li><li>• Some EF-S and DX lenses may not have enough coverage of the entire image circle for stills after widening by 0.71x (but video will have enough coverage).</li><li>• No video AF for Olympus</li><li>• AF may not work if the maximum aperture of the lens plus any EF Extender or other teleconverter attached is smaller than f/8 before boost or smaller than f/5.6 after boost.</li><li>• AFC (continuous AF) and AFF (flexible AF) modes are not supported, except on Olympus OM-D E-M1.</li><li>• Panasonic video AF may hunt more than a native lens or have unsatisfactory performance.</li><li>• Some Tamron lenses may have unsatisfactory AF accuracy.</li><li>• No support for Focus Stacking and Focus Bracketing on Olympus.</li><li>• On Olympus, other than E-M1, you may move the single AF point among any of the 81, but you may not multi-point AF. There is no restriction on E-M1 and Panasonic.</li><li>• Very early Olympus models (e.g. E-PL1) have no autofocus support.</li><li>• EF-mount lenses are not silent but may make audible click noises during autofocus operation and iris changes which may be picked up by the built-in microphone of the camera. An external microphone is recommended for video.</li></ul>

- EXIF (focal length, aperture, zoom range)
- Distance and zoom display on camcorders (requires lenses supporting distance information)
- Cinema EOS lens support (CN-E 18-80mm T4.4 L), including AF (requires external 5V power via micro USB port), auto iris and servo zoom

#### Other

- Detachable tripod foot compatible with Arca Swiss, Markins and Photo Clam ball heads.
- The opening is flocked with felt material to reduce internal reflection.
- Compatible with all MFT mount cameras, including GH4, OM-D, Blackmagic Cinema Camera, Blackmagic Pocket Cinema Camera and JVC GY-LS300.

- Use of Canon Cinema lenses such as CN-E 18-80mm T4.4L IS KAS S for still photography is not supported.
- Iris changes are in 1/8 stop steps which may be noticeable in video recordings. Programmed exposure mode and shutter priority exposure mode should not be used for video. This limitation does not apply to Cinema EOS lenses which permit fine resolution iris control, such as CN-E 18-80mm T4.4 L IS KAS S.
- No support for in-camera correction such as peripheral shading, CA and distortion
- Designed to cover a 24mm image circle, JVC GY-LS300 needs to have VSM configured to 86% (4k) when using a true Super 35 lens such as Canon CN-E 18-80mm T4.4L IS KAS S. Higher VSM settings is possible with full-frame lenses, but will be operating outside of the design parameters of the ULTRA optical formula. Many APS-C/DX lenses do not have adequate coverage at 86% (4k) and on JVC with ULTRA the use of full-frame or true Super 35 lenses is advised.

## Description



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### **Always Enhance and Never Degrade the Performance of the Attached Master Lens**

Like the ULTRA series for Sony E-mount, the new Speed Booster ULTRA m43 uses an advanced 5-element 4-group optical design incorporating ultra-high index tantalum-based optical glass. However, the new design is specifically optimized for the Micro Four Thirds sensor and filter stack, and as a result achieves an astonishing level of performance that sets a new standard for focal reducers.

Like the revolutionary original Metabones Speed Booster<sup>®</sup> announced in January 2013, the Speed Booster ULTRA m43 has a magnification of 0.71x, and so it effectively reduces the crop factor of mirrorless Micro Four Thirds mount cameras from 2.0x to 1.4x. However, the new ULTRA design makes very effective use of exotic materials at the furthest limit of glassmaking technology, and as a result is almost perfectly corrected for use with all fullframe SLR lenses regardless of aperture. The Speed Booster ULTRA m43 will also work extremely well with many DX and APS-C format lenses provided the image circle of the lens is large enough. Optical performance of the new Speed Boosters is so good that the MTF of any lens attached to it will be improved. Even the latest generation of ultra-high performance SLR lenses such as the Zeiss Otus series can be improved by adding a Speed Booster ULTRA m43. (More information can be found in the press release [here](#) and whitepaper [here](#))

### **Autofocus with an Optimum Balance of Accuracy, Speed, Consistency and Reliability**

New in Speed Booster ULTRA for Canon EF Mount to Micro Four Thirds is autofocus support, subject to certain limitations (see table above for details). We are pleased to report that Panasonic Micro Four Thirds camera bodies are capable of autofocus even if the maximum aperture of the Speed Booster and the lens combined is in the sub-f/1.0 range. Although our first and foremost priority is accuracy, we are able to make great strides in autofocus speed as well.

*Select the correct EF-MFT Speed Booster for your camera*

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Compatibility List						
EF-MFT Speed Booster Products	Crop factor / Aperture Stop	Cameras				
		OMD	JVC	GH4	BMPCC BMMSC	BMCC *
Canon EF Lens to Micro Four Thirds T Speed Booster ULTRA 0.71x MB_SPEF-M43-BT4	0.71x / +1	Y	Y***	Y	Y	Y
Canon EF Lens to Micro Four Thirds T Speed Booster XL 0.64x MB_SPEF-M43-BT3	0.64x / +1.33	N	N	Y	Y**	Y**
Canon EF Lens to BMPCC T Speed Booster 0.58x MB_SPEF-BMPCC-BT1	0.58x / +1.66	N	N	N	Y	N
Canon EF Lens to BMCC T Speed Booster 0.64x MB_SPEF-BMCC-BT1	0.64x / +1.33	N	N	N	Y	Y

\* For the passive MFT mount camera an external 5 Volt micro-USB power supply is required.

\*\* Standard Micro Four Thirds cameras like the Panasonic GH4 have a total of approximately 4mm thickness of filter glass near the sensor, and the Speed Booster XL 0.64x is designed to work optimally with this thickness of glass. The Blackmagic Cinema Camera and Pocket Cinema Camera have substantially thinner total filter glass thickness, which may cause noticeable aberrations when the Speed Booster XL 0.64x is used on Blackmagic cameras at large apertures. For best results on Blackmagic cameras it is recommended that the appropriate Blackmagic-specific Speed Boosters be used.

\*\*\* Set VSM to 86% (UHD)

Recommended model is highlighted in Yellow

### Camera Body Compatibility List

Blackmagic: Micro Cinema Camera, Pocket Cinema Camera

JVC: GY-LS300

Olympus: E-M1, E-M1 Mark II, E-M5, E-M5 Mark II, E-M10, PEN-F, E-P5, E-PL3

Panasonic: GX1, GX7, GX8, GX80/85, GH1, GH4, GH5, GH5s, G2, G3, G5, G7, G8, G80/85, G9, GM1, GF3, AF100

Unlisted cameras have not been fully tested for compatibility.

### Autofocus Lens Compatibility List



## Autofocus Lens Compatibility List

The following table lists lenses which has been tested. Other lenses not listed here typically works well, too.

<u>Accurate</u>	<u>Tested by the community, thanks!</u>	<u>Accurate only on newer cameras such as Panasonic G7, GX8 and GX80/85</u>
Canon CN-E 18-80mm T4.4 Compact-Servo EF** Canon CN-E 70-200mm T4.4 Compact-Servo EF** Canon EF 8-15mm f/4L USM Fisheye* Canon EF 20-35mm f/3.5-4.5 USM Canon EF 24-105mm f/4L IS USM Canon EF 28-80mm f/3.5-5.6 II Canon EF 35-80mm f/4-5.6 Canon EF 40mm f/2.8 STM* Canon EF 50mm f/1.2L USM Canon EF 50mm f/1.4 USM Canon EF 50mm f/1.8 STM* Canon EF 70-200mm f/2.8L IS II USM* Canon EF 70-300mm f/4-5.6L IS USM* Canon EF 85mm f/1.2L II USM Canon EF 100mm f/2.8L IS Macro USM* Canon EF 100-400mm f/4.5-5.6L IS USM Canon EF 100-400mm f/4.5-5.6L IS II USM* Canon EF Extender 1.4x III Canon EF Extender 2x Sigma 18-125mm f/3.8-5.6 DC HSM Sigma 24-105mm f/4 Art Tokina AT-X PRO 11-16mm f/2.8 DX II	Canon EF 70-200mm f/2.8L IS USM (Mark I) Canon EF 85mm f/1.2L USM (Mark I) Canon EF 200mm f/2.0L IS USM Canon EF 300mm f/2.8L IS USM (Mark I) Canon EF 400/2.8L IS USM (Mark I)	Canon EF 70-200mm f/4L USM (non-IS) Canon EF 135mm f/2L USM Canon EF 200mm f/2.8L II USM Canon EF 300mm f/4L IS USM Canon EF 400mm f/5.6L USM Sigma 18-35mm f/1.8 DC Art Sigma 50-100mm f/1.8 DC HSM Art 016* Tamron SP 15-30mm f/2.8 VC USD A012* Tamron 18-270mm f/3.5-6.3 VC PZD B008 Tamron SP 45mm f/1.8 VC USD F013*
	<u>Inaccurate</u>	<u>Require external USB power supply owing to high current consumption; AF inaccurate</u>
	Canon EF 28-70mm f/3.5-4.5 II Canon EF 50mm f/1.8 II Canon EF 100mm f/2.8 Macro USM Sigma 50mm f/1.4 EX HSM Tamron 18-250mm f/3.5-6.3 Di II Macro A18 Tamron 18-270mm f/3.5-5.6 Di II VC B003 Tamron SP 24-70mm f/2.8 Di VC USD A007 Tamron 28-300mm f/3.5-6.3 XR Di Macro A06 Tamron SP 70-200mm f/2.8 Di VC USD A009* Tokina AT-X PRO 11-16mm f/2.8 DX (I)	Tamron 28-300mm f/3.5-6.3 XR Di VC A20 (note 1) Tamron 150-600/5-6.3 VC USD A011*
<u>Does not fit, even after modification</u>	<u>Manual focus only</u>	<u>Not supported</u>
Canon EF-S 18-135mm f/3.5-5.6 IS Nano USM	Contax N lenses modified by Conurus Tamron SP 17-50mm f/2.8 VC B005 Zeiss ZE lenses	Focus confirmation "chips"

\* with smooth iris support

\*\* CN-E Compact-Servo lens with some of MFT cameras may require external power to autofocus

Note 1: VC function of Tamron 28-300/3.5-6.3 XR Di VC model A20 may not operate, due to usually high current requirement.

## ***Manual Focus Lens Compatibility***

Some improperly-made M42 screw mount adapters may short the electronic contacts of the Speed Booster and cause damage to the Speed Booster and/or camera body.

Focus confirmation "chips" such as Dandelion are incompatible.

Many manual focus lenses (e.g. OM 28/2.8, OM 50/1.8, Leica R 15/3.5) have rear protrusions (spikes, levers, other appendages) which would damage the optics and/or housing of Speed Booster. They need to be modified before they can be safely used on Speed Booster. Check and make sure there are no rear protrusions from the adapter/lens combination before using on Speed Booster. Scratches and damages caused by rear protrusions on Speed Booster are not covered by warranty.

### **List of manual focus lenses which REQUIRE MODIFICATION to be used on Speed Booster**

<b>Leica R</b>	<b>Nikon F</b>	<b>Olympus OM</b>	<b>Pentax K</b>
Super-Elmar-R 15mm Elmarit R 28/2.8 Elmarit R 35/2.8 Summicron R 50/2	20/2.8 AI-S	OM 18/3.5 OM 21/2 OM 21/3.5 OM 28/2.8 OM 50/1.8	Every Pentax K-mount lens has a protruding fin and an aperture lever. It does NOT fit.

Remark: Your PayPal receipt is your order confirmation. There is no separate email confirmation until shipment takes place.

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