

inFocus

23 ОКТЯБРЯ

18:00

АУДИТОРИЯ 1205

ЛЕКЦИЯ 2

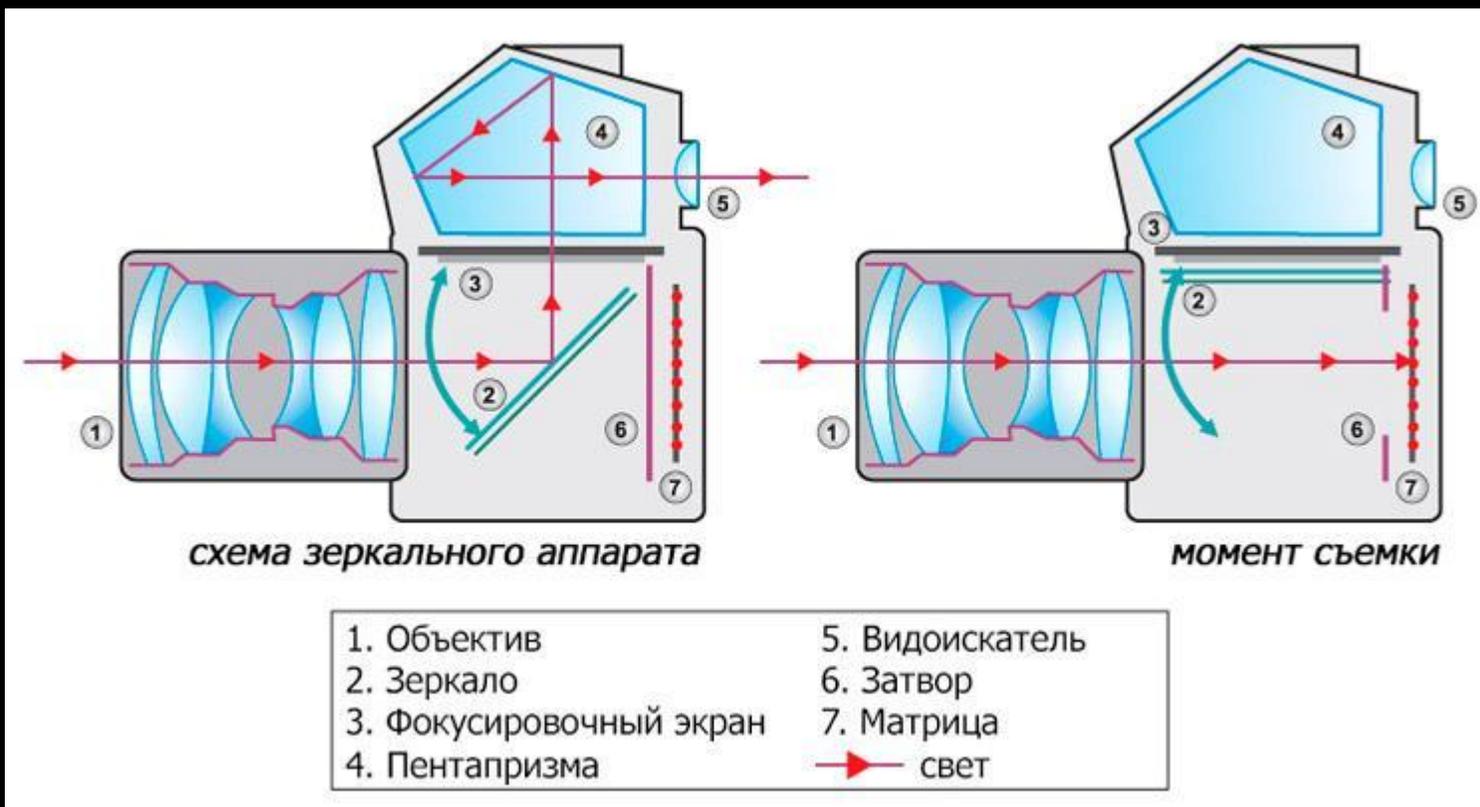
ТЕХНИЧЕСКАЯ СОСТАВЛЯЮЩАЯ  
ФОТОГРАФИИ



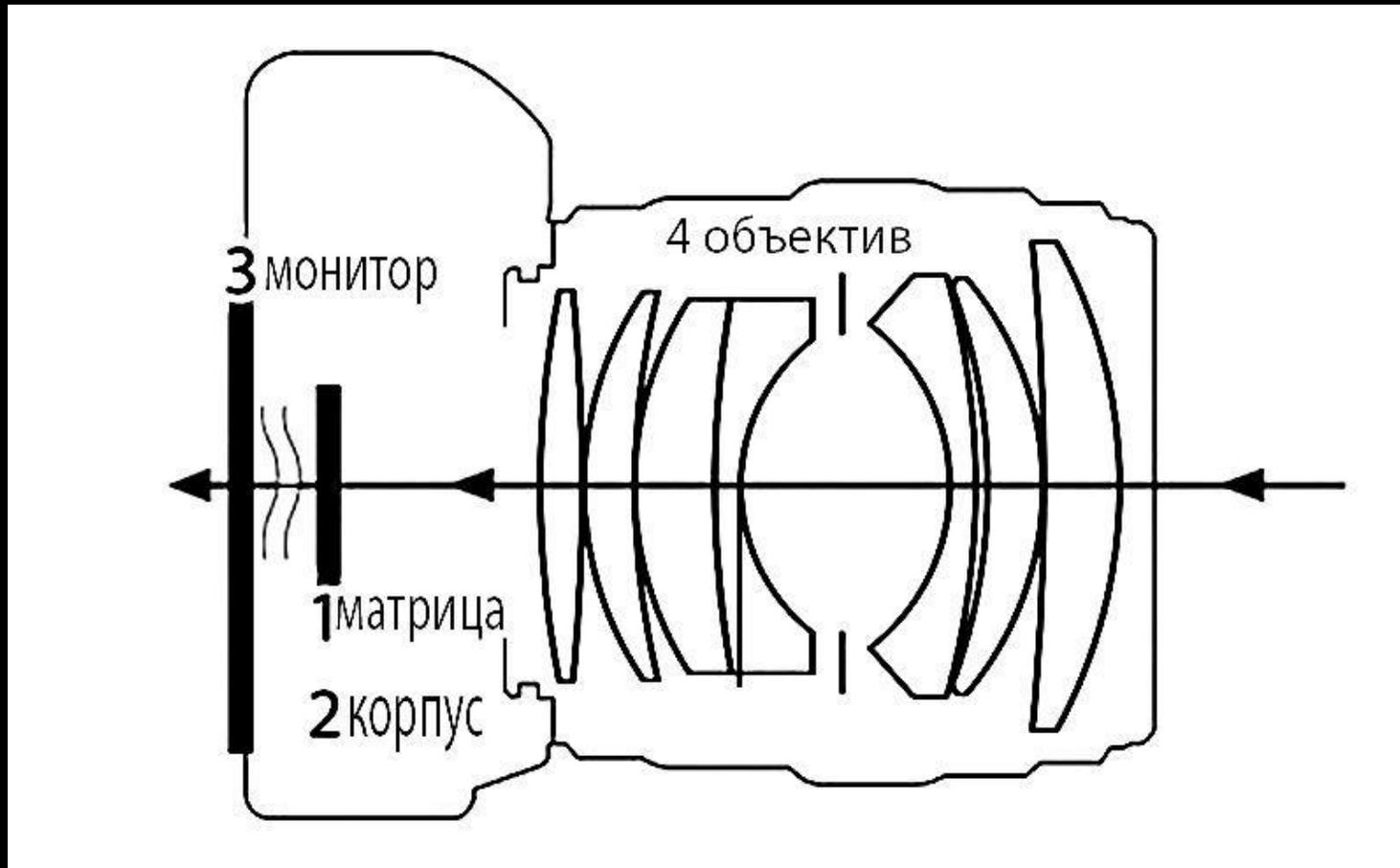
Техническая  
составляющая  
фотографии



# Устройство зеркальной камеры



# Устройство беззеркальной камеры







◀ f/2



◀ f/8



◀ f/2.8



◀ f/11



◀ f/4



◀ f/16



◀ f/5.6



◀ f/22

# Объективы

Автофокусные

Мануальные

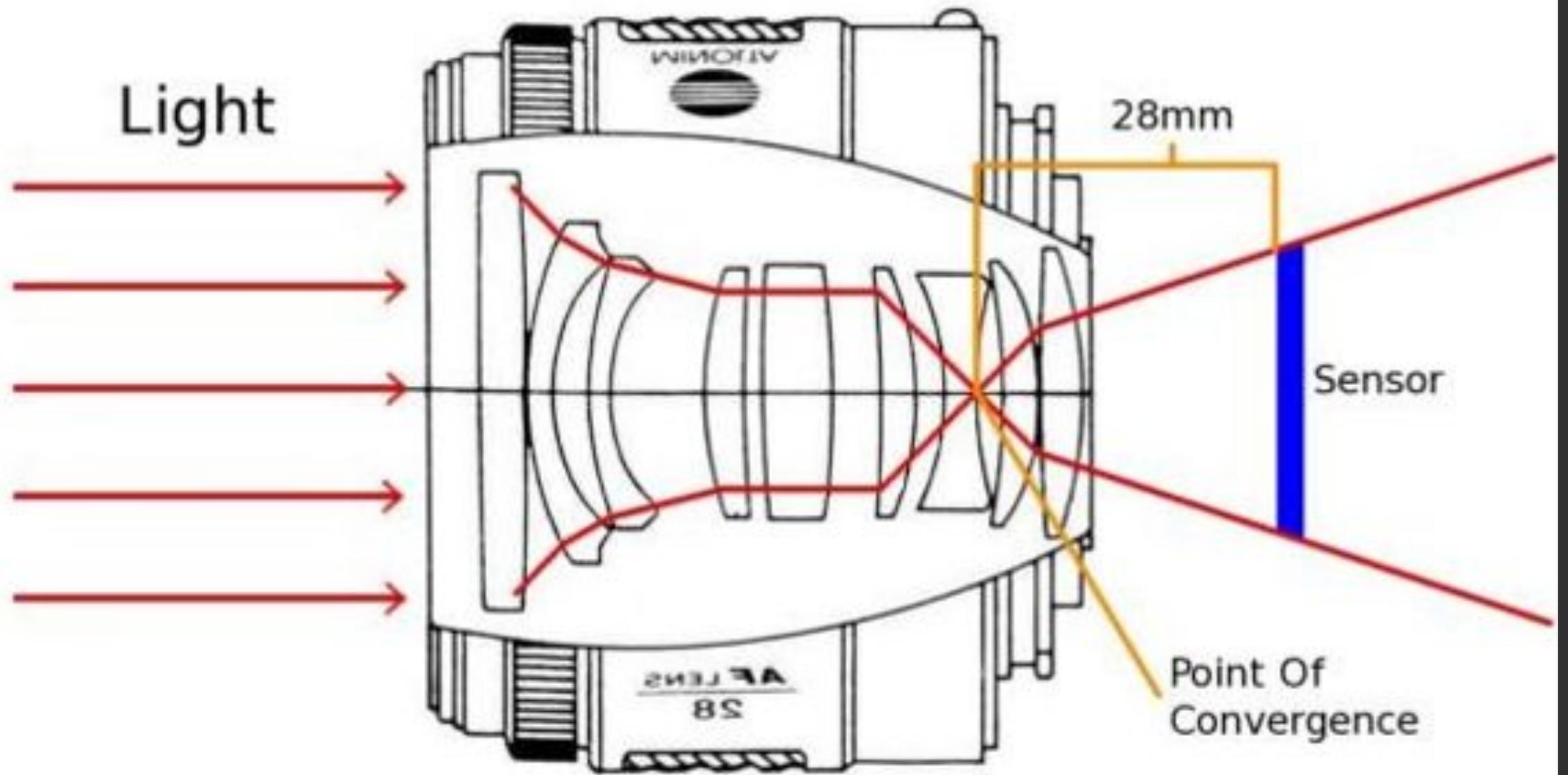
С фиксированным ФР  
«Фиксы»

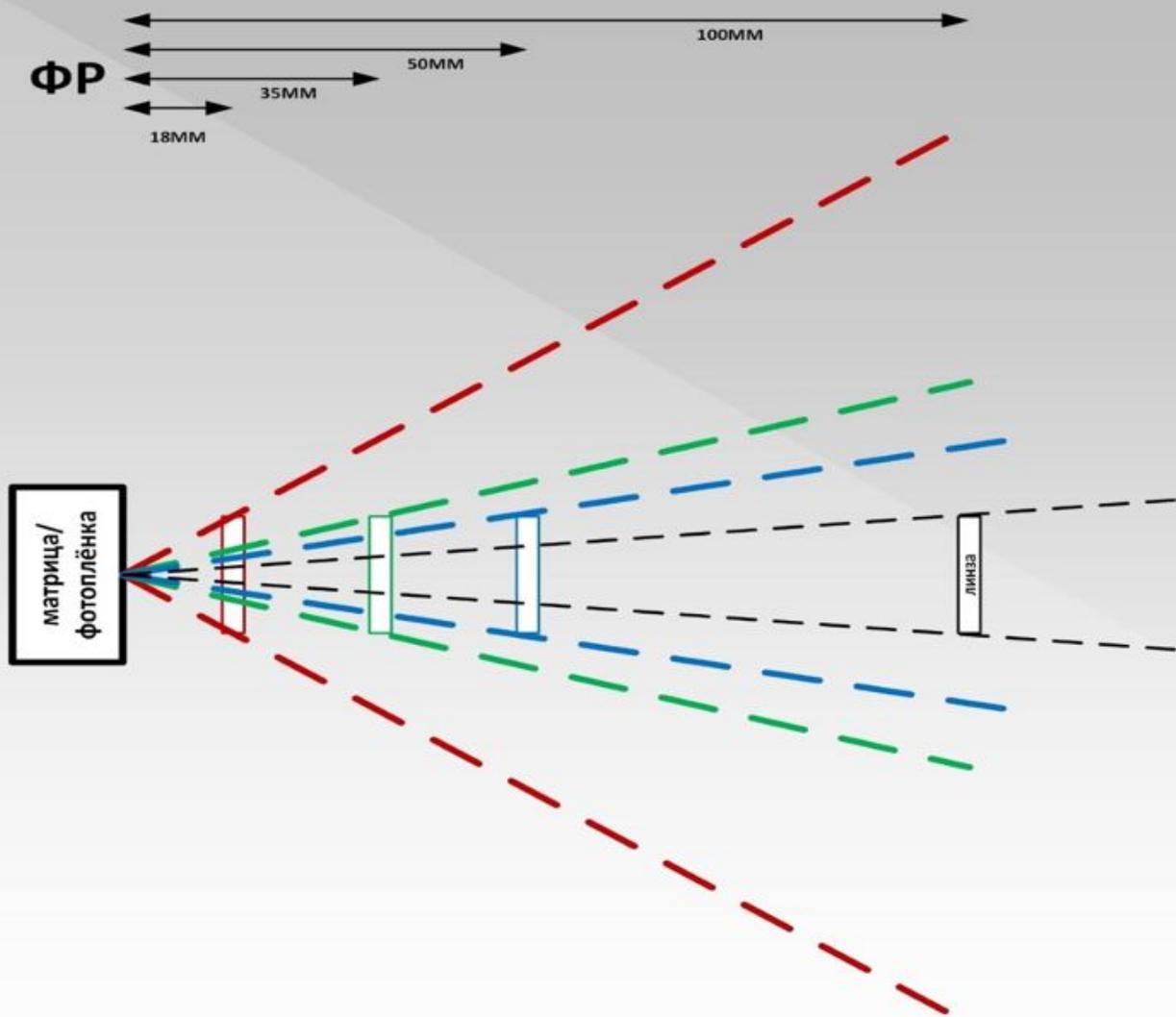
С фиксированным ФР  
«Фиксы»

С переменным ФР  
«Зумы»

С переменным ФР  
«Зумы»

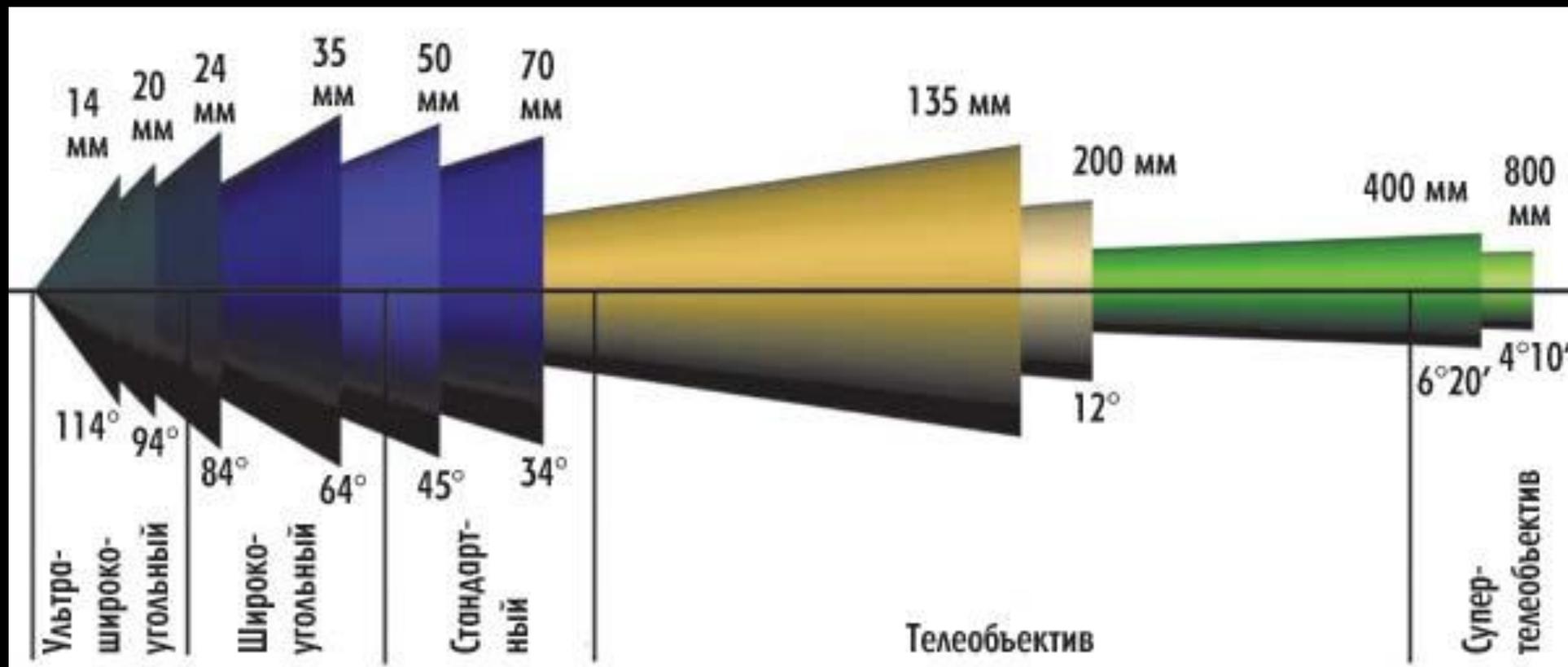


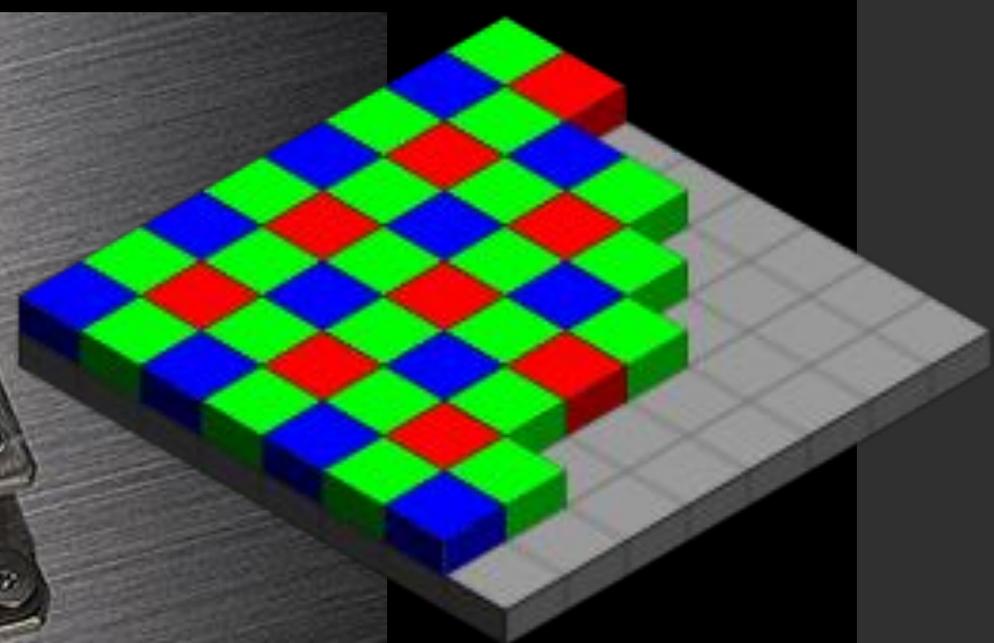
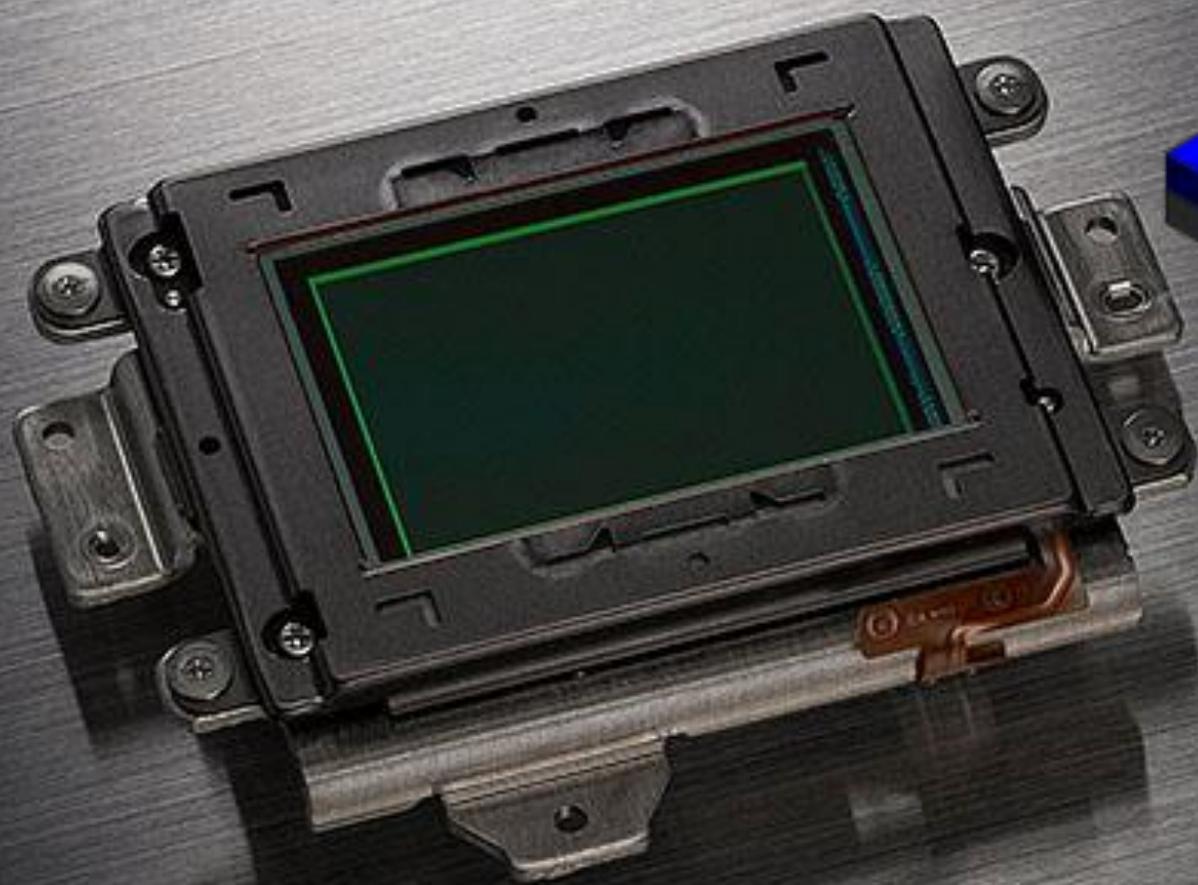


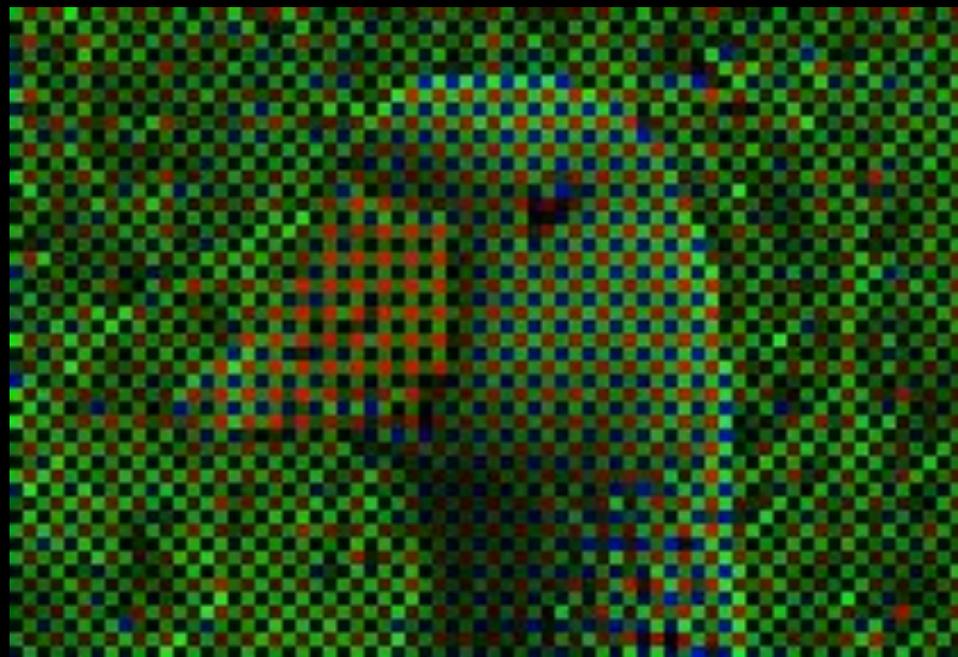
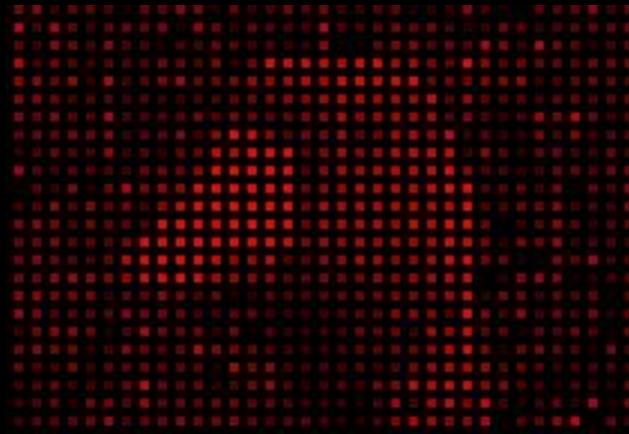
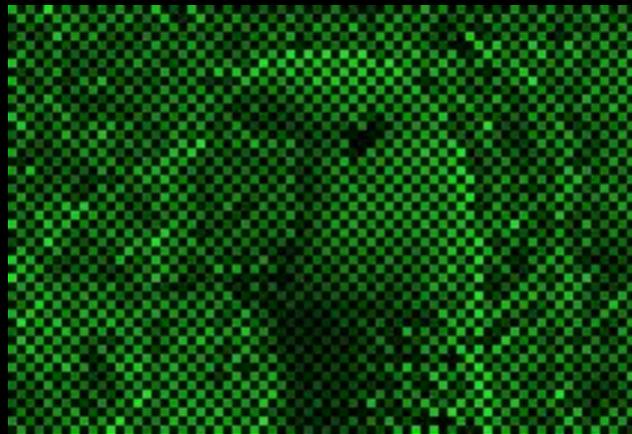


ФОКУСНОЕ РАССТОЯНИЕ	ОБЪЕКТИВ	ЦЕЛИ СЪЁМКИ	УГОЛ ЗРЕНИЯ
4-16mm	РЫБИЙ ГЛАЗ	АРТ, СПЕЦИФИЧЕСКИЕ ЛАНДШАФТЫ	180° и более
10-24mm	СВЕРХ-ШИРОКОУГОЛЬНЫЙ	ПЕЙЗАЖ, ИНТЕРЬЕР, СФЕРИЧЕСКАЯ СЪЁМКА	84-109°
24-35mm	ШИРОКОУГОЛЬНЫЙ	ПЕЙЗАЖ, АРХИТЕКТУРА, РЕПОРТАЖ	62-84°
50mm (35-65)	СТАНДАРТНЫЙ	ПОЧТИ ВСЁ	46° (32-62°)
60-300mm	ТЕЛЕОБЪЕКТИВ	РЕПОРТАЖ, СПОРТ, ПОРТРЕТ	8-32°
300-600mm	СУПЕР-ТЕЛЕОБЪЕКТИВ	РЕПОРТАЖ, СПОРТ, СИЛЬНО ОТДАЛЁННЫЕ ОБЪЕКТЫ	4-8°

# Фокусное расстояние







35mm  
STILL PHOTO



FULL FRAME

35mm (Super 35, 3-perf)  
MOTION PICTURE



APS-C

16mm (Super 16)  
MOTION PICTURE



MICRO FOUR THIRDS

**FULL FRAME (24X36 мм) (kf-1)**

it-photo.pro

**APS-H (28.7X19.1 мм) (kf-1.3)**

**APS-C (22.7X15.1 мм) (kf-1.6)**

**4/3" (18X13.5 мм) (kf-1.9)**

**КОМПАКТЫ**

**APS-C  
(23.7X15.6 мм) (kf-1.5)**



# WHICH LENSES CAN YOU USE

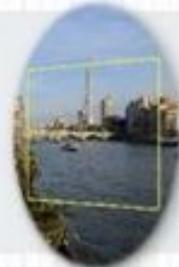
Nikon makes different lenses for its DX- and FX-format cameras. Can you mix and match?

## FX lens on an FX body

Naturally, there's no problem here. The FX sensor is larger, but the image circle produced by FX lenses is big enough to cover it. If you have some old 35mm Nikon film camera lenses, those will match the FX format too.



FX lenses are designed for FX bodies



## FX lens on an DX body

This works fine too, though the larger image circle of the lens is partially wasted because the smaller DX sensor captures a smaller area in the centre. FX lenses are a good investment, though, if you might move up to the FX format in future.



DX bodies use only a part of an FX lens's image area



## DX lens on an DX body

It's the perfect match. DX lenses produce an image circle just larger than the DX sensor size. If you need a wideangle lens for your DX camera, it will have to be a proper DX lens – FX lenses don't come in short enough focal lengths.



DX lenses produce a smaller image circle to suit the smaller sensor



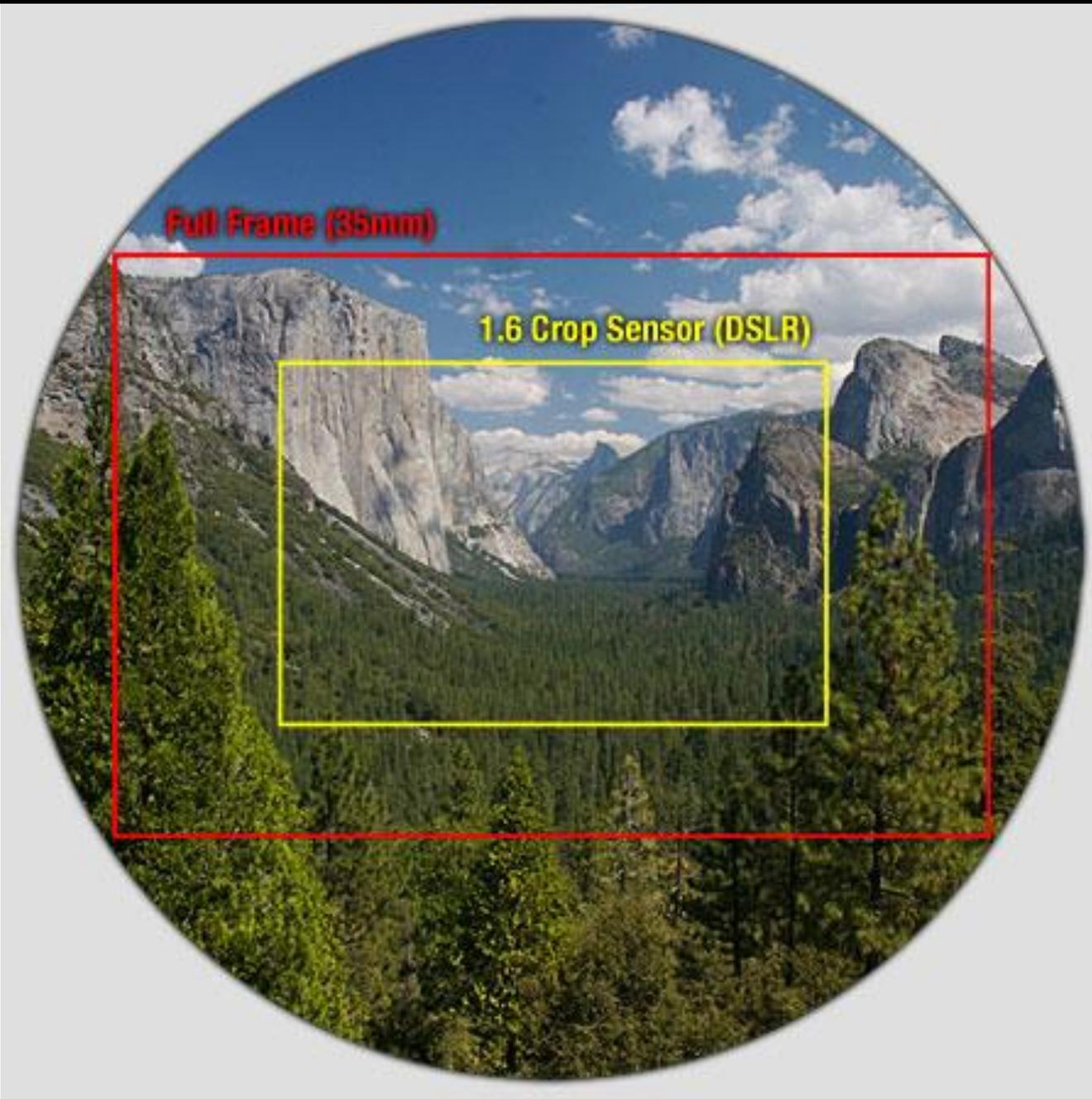
## DX lens on an FX body

You can use DX lenses on FX cameras. The camera recognises it's a DX lens and automatically switches to 'crop' mode, where only a DX-sized area in the middle of the sensor is used. The resolution of the images is reduced as a result, though.

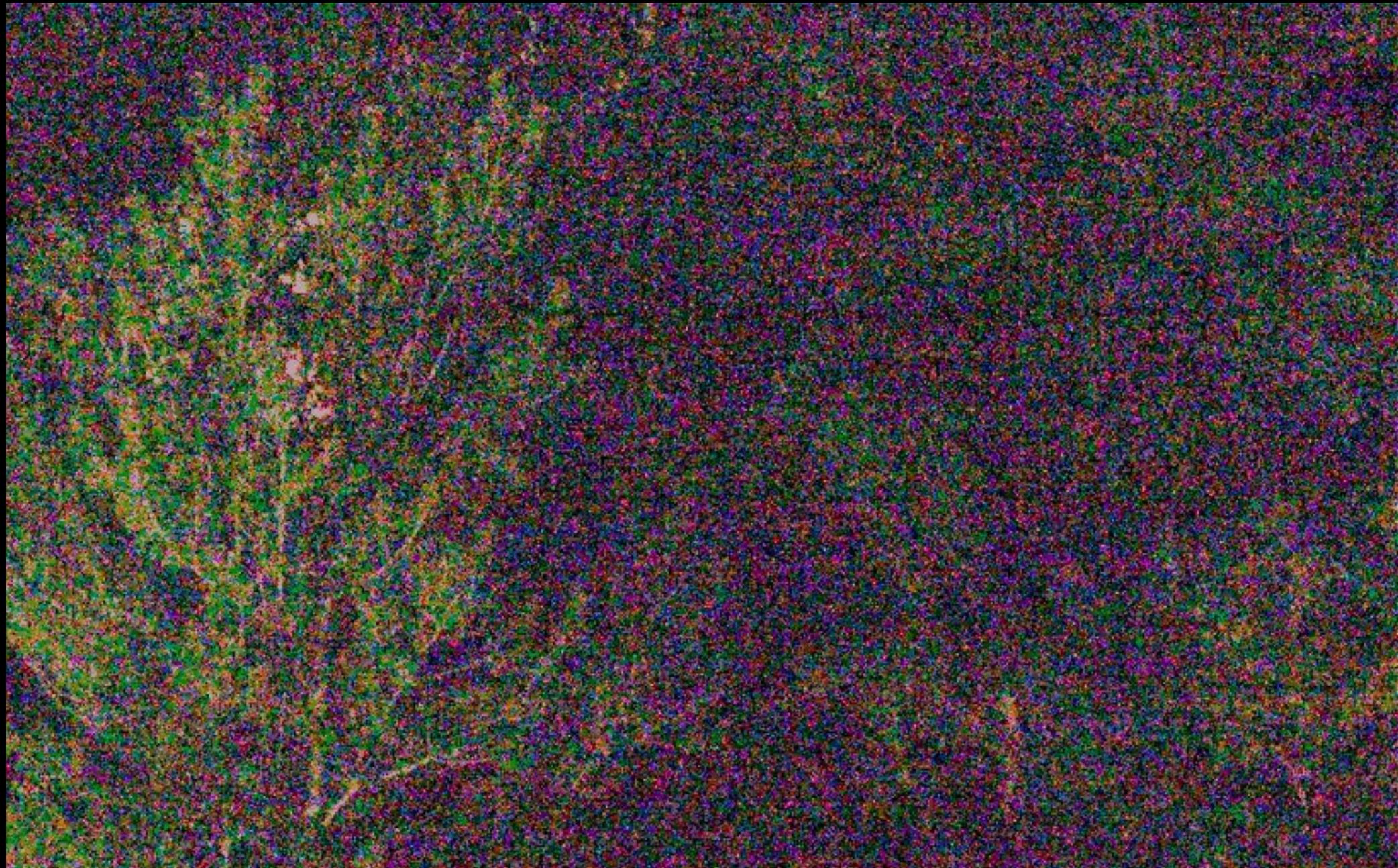


FX bodies will automatically crop to the DX format with a DX lens

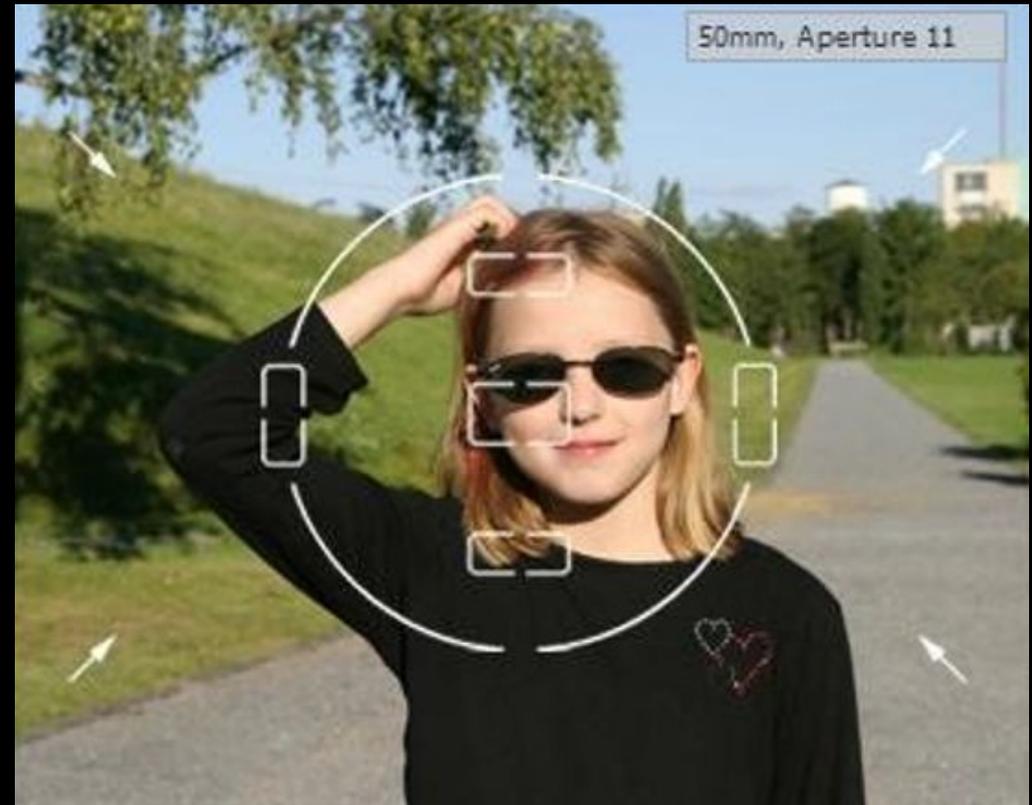
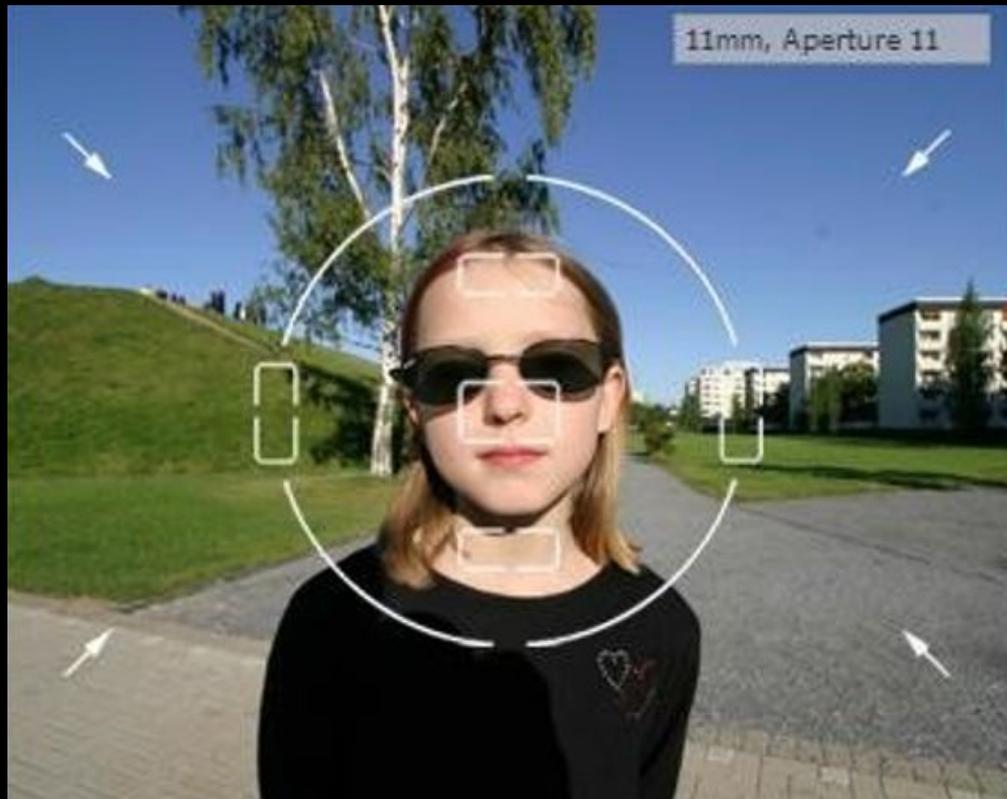
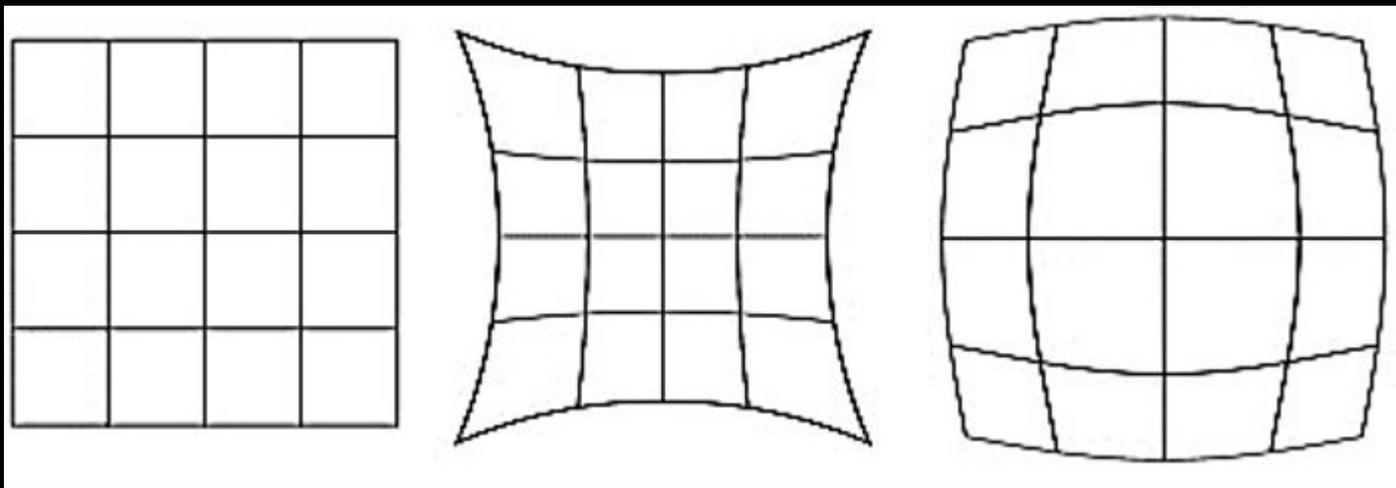




ФР \ кроп	1.3x	1.5x	1.6x	2.0x
<b>10mm</b>	13mm	15mm	16mm	20mm
<b>17mm</b>	22.1mm	25.5mm	27.2mm	34mm
<b>28mm</b>	36.4mm	42mm	44.8mm	56mm
<b>35mm</b>	45.5mm	52.5mm	56mm	70mm
<b>50mm</b>	65mm	75mm	80mm	100mm
<b>105mm</b>	136.5mm	157.5mm	168mm	210mm
<b>135mm</b>	175.5mm	202.5mm	216mm	270mm
<b>200mm</b>	260mm	300mm	320mm	400mm
<b>400mm</b>	520mm	600mm	640mm	800mm
<b>600mm</b>	780mm	900mm	960mm	1200mm



Дисторсия - аберрация оптических систем, при которой коэффициент линейного увеличения изменяется по мере удаления отображаемых предметов от оптической оси. При этом нарушается геометрическое подобие между объектом и его изображением.





350\_MM



230\_MM



200\_MM



135\_MM



100\_MM



70\_MM



50\_MM



35\_MM



24\_MM



19\_MM

Forgive the vignette, I left my screen on tubes in another bag as I was not planning to do anything that would require them, so I had to use some tape to hold and they vignette as a super wide thin slice.

