

/ EX-Z90 Specifications

		EXILIM Zoom		
		EX-Z450	EX-Z90	
Number of Effective Pixels		12.10 million		
Image Sensor		1/2.3-inch square pixel CCD		
File Format	Total Pixels	12.39 million	12.70 million	
	Still Images	JPEG (Exif Version 2.2, DCF 1.0 standard, DPOF compliant)		
	Movies	AVI format, Motion JPEG, IMA-ADPCM (monaural)		
Audio (Voice Recording)		WAV format (monaural)		
Built-in Flash Memory (Image Area)		35.7MB ^{*1}		
Recording Media		SDHC Memory Card, SD Memory Card ^{*2}		
Number of Recorded Pixels	Still Images	12M (4000 x 3000), 3:2 (4000 x 2656), 16:9 (4000 x 2240), 8M (3264 x 2448), 5M (2560 x 1920), 3M (2048 x 1536), VGA (640 x 480)		
	Movies	HD: 1280 x 720 (24 fps) / STD: 640 x 480 (30 fps) / LP: 320 x 240 (15 fps)		
Recording Capacity (Maximum Image Size Setting)	Still Images (JPEG)	SD Memory Card 1GB ^{*3} Approx. 122 shots (Fine) / 234 shots (Normal) / 350 shots (Economy)		
	Movies	Recording Time	Maximum Recording Time per File: 10 min.	
		SD Memory Card 1GB ^{*3}	Approx. 5 min. 27 seconds (HD)	
Continuous Shutter	High-speed Continuous Shutter	Approx. 10 frames per second at 1280 x 960 pixels (Up to 20 shots) Approx. 4 frames per second at 1600 x 1200 pixels (Up to 8 shots)	Approx. 4 frames per second at 1600 x 1200 pixels (Up to 8 shots)	
	Flash Continuous Shutter	Approx. 3 frames per second at 1600 x 1200 pixels (Up to 3 shots)		
Lens	Construction	7 lenses in 6 groups, including aspherical lens	6 lenses in 5 groups, including aspherical lens	
	F-number	F2.6 (W) to F5.8 (T)	F3.1 (W) to F5.9 (T)	
	Focal Length	f=4.9 to 19.6mm	f=6.3 to 18.9mm	
35mm Film Equivalent		Approx. 28 to 112mm	Approx. 35 to 105mm	
Zoom	Optical Zoom	4X	3X	
	Digital Zoom	4X (16X in combination with optical zoom)	4X (12X in combination with optical zoom)	
	HD Zoom	25.0X (image size: 640 x 480 pixels)	18.7X (image size: 640 x 480 pixels)	
Focusing	Focus Type	Contrast Detection Auto Focus		
	Focus Modes	Auto Focus, Macro Mode, Pan Focus, Infinity Mode, Manual Focus		
	AF Area	Intelligent, Spot, Multi or Tracking		
	AF Assist Lamp	Yes	No	
Focus Range ^{*4} (From Lens Surface)	Auto Focus	Approx. 10cm to infinity (W)		
	Macro	Approx. 10cm to 50cm		
	Infinity Mode	Infinity (W)		
	Manual Focus	Approx. 10cm to infinity (W)		
Exposure	Exposure Metering	Multi-pattern, center weighted, spot by imaging element		
	Exposure Control	Program AE		
	Exposure Compensation	-2EV to +2EV (in 1/3EV steps)		
		CCD electronic shutter, mechanical shutter		
Shutter Type	Shutter Speed ^{*5}	Auto	1/2 to 1/1000 second	1/2 to 1/2000 second
		Night Scene	4 to 1/1000 second	4 to 1/2000 second
Aperture ^{*4}		F2.6 (W) to F7.0 (W) ^{*6}	F3.1 (W) to F5.6 (W)	
White Balance		Auto WB, Daylight, Overcast, Shade, Day White FL, Daylight FL, Tungsten, Manual WB		
Sensitivity (SOS/REI) ^{*7}	Still Images	Auto, ISO64, ISO100, ISO200, ISO400, ISO800, ISO1600, ISO3200	Auto, ISO64, ISO100, ISO200, ISO400, ISO800, ISO1600	
	Movies	Auto		

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Other Recording Functions	Image Stabilization Mechanism	CCD-shift image stabilization		
	Make-up Mode	Yes (12-level steps)		
	Landscape Mode	Yes (Vivid Landscape: 2-level steps / Mist Removal: 2-level steps)		
	Handheld Night Scene	Yes	No	
	Lighting Function	Yes		
	BEST SHOT		Yes: 39 scenes	Yes: 32 scenes
		Dynamic Photo	Yes	
		Multi-motion Image ^{*8}	Yes	
		YouTube ⁱ Capture Mode	Yes	
		AUTO BEST SHOT	Yes	
	Voice Recording	Yes		
	Face Detection	Yes		
	Auto Shutter	Yes		
Self-timer	10 seconds, 2 seconds, Triple Self-timer			
Built-in Flash	Flash Modes	Auto, Flash Off, Flash On, Soft Flash, Red Eye Reduction		
	Flash Range ^{*4}	Approx. 0.1 to 4.5m (W), approx. 0.5 to 2.0m (T)	Approx. 0.1 to 3.7m (W), approx. 0.6 to 1.4m (T)	
Monitor Screen	3.0-inch TFT color LCD (Super Clear LCD), 230,400 dots (960 x 240)		2.7-inch TFT color LCD, 230,160 dots (959 x 240)	
Timekeeping Functions	Date and Time	Recorded with image data		
	On-image Time Stamp Function	Yes		
	Auto Calendar	To 2049		
	World Time	162 cities in 32 time zones, city name, date, time, summer time		
Input/Output Terminals		USB/AV port		
	USB	Hi-Speed USB		
Microphone	Monaural			
Speaker	Monaural			
Power Requirements	Rechargeable lithium ion battery (NP-40) x 1		Rechargeable lithium ion battery (NP-60) x 1	
Battery Life	Number of Shots ^{*9} (CIPA Standards)	Approx. 550 still images	Approx. 230 still images	
	Continuous Playback (Still Images)	Approx. 9 hr.	Approx. 5 hr.	
	Continuous Recording (Voice Recording)	Approx. 13 hr.	Approx. 5 hr.	
Dimensions (Excluding Projections)	96.9 (W) x 57.6 (H) x 21.4 (D)mm		89.7 (W) x 51.7 (H) x 19.4 (D)mm	
	Thinnest part: 19.5mm		Thinnest part: 17.8mm	
Weight (Excluding Battery and Accessories)	Approx. 130g		Approx. 102g	
Bundled Accessories	Rechargeable lithium ion battery, lithium ion battery charger, AC power cord, USB cable, AV cable, strap, CD-ROM			

*1. Built-in memory capacity after formatting. *2. Compatible with Eye-Fi Card, an SD memory card-type wireless LAN. *3. When using Panasonic Pro High Speed 1GB SD Memory Card. *4. Range is affected by optical zoom. *5. May differ according to camera settings. *6. F7.0 is the aperture when an ND filter is being used. *7. SOS: Standard Output Sensitivity. REI: Recommended Exposure Index. *8. Image size 2048 x 1536 pixels. *9. Auto Mode, standard brightness monitor setting.