

# 2010 LUMIX® TS2 DIGITAL CAMERA



## ADVANCED TOUGH DESIGN

Waterproof: 33'; Shockproof: 6.6'; Freezeproof: 14° F.



## HD MOVIE RECORDING IN AVCHD LITE FORMAT

Record HD quality movies.

## POWER O.I.S.

Enhanced technology to further prevent blurring caused by vibration.

- Photo/Movie Hybrid Tough Digital Camera
- 28mm Wide Angle Lens
- 4.6x Optical Zoom
- Shockproof, Waterproof, Freezeproof, Dustproof
- iA (Intelligent Auto) Mode
- Silicone Jacket Included

**Panasonic** LUMIX®



2010 LUMIX® TS2 Digital Camera Specifications

			DMC-FT2/TS2	
METRICS	Dimensions (W x H x D)		99.3 x 63.1 x 24.3mm (3.91 x 2.48 x 0.96 in.)	
	Weight		Approx. 188g with Battery and SD Memory Card (0.41 lb.); Approx. 167g without Battery and SD Memory Card (0.37 lb.)	
OPTICS	Pixels	Camera Effective Pixels	14.1 megapixels	
	CCD	Sensor Size / Total Pixels / Filter	1/2.33-type/14.5 Total Megapixels/Primary Color Filter	
	Lens	Aperture	F3.3–5.9/2-Step (F3.3–10 [W]/F5.9–18 [T])	
		Optical Zoom	4.6x	
		Focal Length	f=4.9–22.8mm (28–128mm in 35mm equiv.)	
		Extra Optical Zoom (EZ)	5.5x (4:3/10M), 6.5x (4:3/7M), 7.8x (4:3/5M), 9.8x (under 3M)	
	Intelligent Zoom	Intelligent Zoom	6x	
		Lens	LEICA DC VARIO-ELMAR; 10 elements in 8 groups; (5 Aspherical Lenses/6 Aspherical Surfaces/1 ED Lens)	
		2-Speed Zoom	No	
		Optical Image Stabilizer	Power O.I.S. (Off/Auto/Mode1/Mode2)	
	Focus	Conversion lens Compatibility	—	
		Digital Zoom	4x; (Max. 18.6 x combined with Optical Zoom without Extra Optical Zoom); (Max. 39.3 x combined with Extra Optical Zoom)	
		Focusing Area	Normal: Wide 30 cm–infinity/Tele 30 cm–infinity; Macro/Intelligent AUTO/Clipboard: Wide 5 cm–infinity/Tele 30 cm – infinity	
		Focus Range Display	Yes	
	Shutter	AF Assist Lamp	Yes	
		Focus	Normal/Macro, Zoom Macro, Quick AF On/Off (On in Intelligent Auto), Continuous AF On/Off, AF Tracking	
		AF Metering	Face/AF Tracking/11pt/1pt HS/1pt/Spot	
		Shutter Speed	Still: 8 – 1/1300 sec; Starry Sky Mode: 15, 30, 60sec.	
Finder	Viewfinder	Shutter Interval	Approx. 1.0 sec	
		Viewfinder	—	
RECORDING	iA	Face Recognition	Photo	
		Optical Image Stabilizer	Photo & Movie	
		Intelligent ISO Control	Photo	
		Face Detection	Photo & Movie	
		Intelligent Scene Selector	Photo (Portrait, Scenery, Night Portrait, Night Scenery, Sunset, Macro) & Movie (Portrait, Scenery, Low Light, Macro)	
		Intelligent Exposure	Photo & Movie	
		AF Tracking	Photo	
		Digital Red Eye Correction (Red-Eye Removal)	Photo	
		iA Direct Button	—	
		Intelligent Resolution Technology	Photo & Movie	
	File	File Format	Still Image: JPEG (DCF/Exif2.21); Image with Audio: JPEG (DCF/Exif2.21) + QuickTime; Motion Picture: AVCHD Lite/QuickTime Motion JPEG	
		AVCHD Lite REC	NTSC	
	Interface	Mode Switch	[Recording]/[Playback]	
		One-Touch Movie Button	Yes	
	Recording Modes	Mode Dial / Mode Button	Intelligent Auto, Normal Picture, Sports, Snow, Beach & Surf, SCN, Clipboard	
		Still Image Scene Mode	Portrait, Soft Skin, Transform, Self-Portrait, Scenery, Panorama Assist, Night Portrait, Night Scenery, Food, Party, Candlelight, Baby1, Baby2, Pet, Sunset, High Sensitivity, High-Speed Burst, Flash Burst, Starry Sky, Fireworks, Aerial Photo, Pinhole, Film	
		Movie Scene Mode	Portrait, Soft Skin, Transform, Self-Portrait, Scenery, Low Light, Food, Party, Candlelight, Sunset, Aerial, Pinhole, Film Grain, Underwater, High Sensitivity, High Dynamic (Standard, Art, B&W)(Activated by selecting Still Picture Scene Mode then press	
		Continuous Shooting Mode	Full-Resolution Image, 1.8 frames/sec Max. 5 images (Standard Mode), Max. 3 images (Fine Mode); High-Speed Burst Mode: approx. 6.0 frames/sec (image priority); Approx. 10 frames/sec (speed priority); (recorded in 3M for 4:3, 2.5M for 3:2, 2M for 16:9)	
		Unlimited consecutive shooting	—	
		Flash Burst Continuous Shooting Mode	Max. 5 images (Standard Mode)	
		Motion Picture Recording	VGA: 640 x 480 pixels, 30fps (Motion JPEG); QVGA: 320 x 240 pixels, 30 fps (Motion JPEG)	
		HD Movie	WVGA: 848 x 480 pixels, 30 fps (Motion JPEG)	
	Continuous recordable time (motion pictures)	AVCHD Lite with picture quality set to [SH]	60p (CCD output is 30p); (AVCHD Lite, SH: 17Mbps/H:13Mbps/L:9Mbps )/30fps (Motion JPEG)	
		MOTION JPEG with picture quality set to [HD]	Approx. 110 min*1	
	Actual recordable time (motion pictures)	AVCHD Lite with picture quality set to [SH]	Approx. 110 min*1	
		MOTION JPEG with picture quality set to [HD]	Approx. 70 min*1	
	Exposure Parameters	Exposure	Program AE	
		Exposure Compensation	1/3 EV step, +/-2 EV	
		Backlight Compensation	Yes (only in Intelligent AUTO mode)	
		Auto (AE) Bracketing	+/- 1/3 EV ~1EV step, 3 frames	
		Multi-Aspect	—	
		Light Metering	Intelligent Multiple	
		ISO Sensitivity	Auto/80/100/200/400/800/1600; High Sensitivity (ISO 1600/6400)	
		Max Auto ISO Setting	—	
	Image Parameters	Aspect Ratio	4:3/3:2/16:9	
		Still Picture Recording	4320x3240 (14M)/3648x2736 (10M)/3072x2304 (7M)/2560x1920 (5M)/2048x1536 (3M)/640X480 (0.3M)	
			4320x2880 (12.5M)/3648x2432 (9M)/3072x2048 (6M)/2560x1712 (4.5M)/2048x1360 (2.5M)/640x424 (0.3M)	
			4320x2432 (10.5M)/3648x2056 (7.5M)/3072x1728 (5.5M)/2560x1440 (3.5M)/1920x1080 (2M)/640x360 (0.2M)	
		Image Quality	Fine/Standard	
		White Balance	Auto/Daylight/Cloudy/Shade/Halogen/White Set; (Selectable at Portrait, Soft Skin, Transform, Self-Portrait, Panorama Assist, Sports, Baby, Pet, High Sensitivity, High-Speed Burst, Pinhole, Photo Frame, High Dynamic)	
		Quick Menu	Yes	
		Color Mode / Color Effect	Standard, Vivid, Natural, Black & White, Sepia, Cool, Warm, Happy (only in iA Mode)	
	Others	Still Image with Audio Recording	5 sec	
		GPS	—	
		Flip Animation	—	
		Real-time histogram	Yes	
		Composition Guide line	Yes (2 patterns)	
		Auto Review	1 sec, 2 sec, Hold	
		Easy Zoom / Zoom Resume	No/No	
		Optical Zoom in Motion Picture	Yes	
		Macro Zoom	Yes	
		Orientation Detector	Yes	
		Scene Mode Help Screen	Yes	
		Self Timer	2 sec/10 sec	
		Focus Icon Select	Yes (in Face Recognition only)	
	PLAYBACK	Display	Normal Playback, Slideshow, Category Playback, Mode Playback, Favorites Playback	
		Thumbnails / Zoomed Playback	12,30 Thumbnails/Max. 16x	
		Calendar Display / Dual-Image Playback	Yes/No	
		Set Favorites / Rotate Image	Yes/No	
		Playback Still Images with Audio	Yes	
		Playback Motion Picture	Yes ( AVC HD Lite/Motion JPEG)	
		Slideshow Mode	All/Still Images Only/Motion Picture Only/Category/Favorites/BGM Effect (Natural/Slow/Swing/Urban/OFF)	
		Show Histogram	Yes	
		Show Highlights	—	
		Delete	Single/Multi/All/All except Favorites	
SETUP	Delete	DPOF Print Setting / Set Protection	Yes/Yes	
		Resize / Trim / Aspect Conv. / Leveling	Yes/Yes/No/Yes	
		Copy / Title Edit / Text Stamp	Yes/Yes/Yes	
		Cut Animation	Yes	
	Edit	Video Divide	Yes	
		PictBridge Support	Single/Multi/All/Favorites/DPOF	
	Monitor	OSD language	English/Spanish	
		Movie REC Guide	—	
	Tough	Wind-Cut in Motion Picture	Yes	
		Travel Date / World Time	Yes/Yes	
OTHERS	Monitor	LCD Monitor	6.7cm (2.7") TFT Screen LCD Display (230K dots), AR Coat; Field of View: Approx. 100% Wide Viewing Angle; AUTO Power LCD Mode, Power LCD Mode	
		Touch Panel	—	
		Water Proof	10.0m (IEC60529 IPX8 compliant)	
		Dust Proof	Yes (IEC60529 IP6X compliant)	
	Flash	Freeze Proof	-10.0° C	
		Shock Proof	2.0m (MIL-STD810F Method 516.5–Shock compliant)	
		Built-in-Flash	Auto, Auto/Red-Eye Reduction, Forced On, Slow Sync./Red-Eye Reduction, Forced Off, 0.3–5.1m (Wide/ISO Auto), 0.3–2.8m (Tele/ISO Auto)	
		External Flash	—	
	Media	Recording Media	Built-in Memory, SD Memory Card, SDHC Memory Card, SDXC Memory Card	
		Built-in-Memory	Approx. 40MB	
	Audio	Microphone / Speaker	Mono/Yes	
	Interface	Interface	AV Output (NTSC), Mini HDMI, USB2.0 High-Speed, DC Input (requires optional Multi Conversion Adaptor)	
	Network	Viera Link	Yes	
	Power	HDMI output	Video: Auto/1080i/720p/480p (576p for PAL); Audio: Dolby® Digital Creator	
		Power	ID-Security LI-Ion Battery Pack (3.6V, Minimum: 940mAh) (Included); AC Adaptor (Input: 110-240V AC) (Optional)	
Standard Package	Standard Accessories	Battery life (approx.)	360 pictures (CIPA Standard)*2	
		Included Software	PHOTOFunSTUDIO 5.0 HD Edition; QuickTime; Adobe Reader	
	Standard Accessories	Standard Accessories	Battery Charger, Battery Pack, Battery Case, AV Cable, USB Cable, Brush, Hand Strap, Silicon Jacket, CD-ROM	
		Standard Accessories	Battery Charger, Battery Pack, Battery Case, AV Cable, USB Cable, Brush, Hand Strap, Silicon Jacket, CD-ROM	

NOTE:  
\*1 • These are standard times taken at a temperature of 23° C (73.4° F) and a humidity of 50%.  
• The time available for recording varies depending on the environment, the interval between recordings, and the manner of use.  
• Actual recordable time is the time available for recording when repeating actions such as switching the power supply [ON]/[OFF], starting/stopping recording, zoom operation etc.  
• Motion picture recorded continuously in [MOTION JPEG] is up to 2 GB. Only the maximum recordable time for 2 GB is displayed on the screen.

\*2 Recording conditions by CIPA standard:  
• CIPA is an abbreviation of [Camera & Imaging Products Association].  
• Temperature: 23° C (73.4° F)/Humidity: 50% when LCD monitor is on.  
• Using a Panasonic SD Memory Card (32 MB).  
• Using the supplied battery.  
• Starting recording 30 seconds after the camera is turned on. (When the optical image stabilizer function is set to [AUTO].)  
• Recording once every 30 seconds with full flash every second recording.  
• Rotating the zoom lever from Tele to Wide or vice versa in every recording.  
• Turning the camera off every 10 recordings and leaving it until the temperature of the battery decreases.  
• The number of recordable pictures decreases in Auto Power LCD Mode and Power LCD Mode.