

## B/W Video and Colour Raw Data Digital Camera Modules

XCD-SX910  
XCD-SX910UV  
XCD-SX910CR  
XCD-X710  
XCD-X710CR

Ideal for use in today's diverse applications in the machine vision industry.



In complement of the monochrome models, XCD-SX910 and XCD-X710, Sony has introduced additions to its IEEE 1394 digital camera family – the Sony XCD-SX910CR and XCD-X710CR colour raw data digital camera modules plus the Sony XCD-SX910UV with ultraviolet sensitivity. The Sony IEEE 1394 digital camera series employs progressive scan CCD with square pixels, making them ideal for use in a wide range of machine vision applications.

What's more, the XCD-SX910CR and XCD-X710CR output raw image data, which allows the images to be captured at high frame rates. The XCD-SX910UV has sensitivity in the UV area (below 200 to 380 nm) and can capture clear images of minute surface detail when used with UV illumination systems.

The XCD-SX910, XCD-SX910UV and XCD-SX910CR incorporate a 1/2 type, 1,450,000-pixel CCD and offer SXGA resolution images, at a speed of 15 fps while the XCD-X710 and XCD-X710CR, the XGA version of the XCD-SX910 and XCD-SX910CR, with a speed of 30 fps, incorporate a 1/3 type, 800,000-pixel CCD.

These cameras incorporate an external trigger function, which allows fast-moving objects or still images to be captured clearly in low-light environments. A variety of convenient features such as partial scan (16 x 16 zones) and selectable output modes (frame rate/bit depth) make these cameras extremely flexible.

With their high frame rates, and compact, robust design, these cameras are the right choice for today's wide range of machine vision applications, ranging from demanding factory automation and traffic control to food, agriculture, and pharmaceutical applications. The XCD-SX910UV is ideal for use in semiconductor inspection, ultraviolet microscopy, FA precision inspection and surface inspection applications.



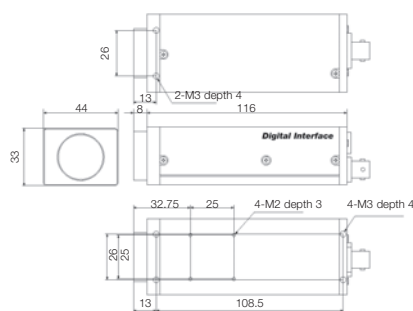
### Features

- High resolution with progressive scan square-pixel CCD
  - XCD-SX910, XCD-SX910UV and XCD-SX910CR: 1/2 type IT CCD SXGA, 1,280 (H) x 960 (V) with a maximum resolution of 1,376 (H) x 1,024 (V)
  - XCD-X710 and XCD-X710CR: 1/3 type IT CCD XGA, 1,024 (H) x 768 (V)
- IEEE 1394 Digital Camera Specification Ver. 1.30 compliant
- Selectable frame rate
  - XCD-SX910, XCD-SX910UV and XCD-SX910CR: Up to 15 fps
  - XCD-X710 and XCD-X710CR: Up to 30 fps
- 8-bit (Mono8) or 10-bit (Mono16) output (XCD-SX910, XCD-SX910UV and XCD-X710)
- Raw data 8-bit (Mono8) or raw data 10-bit (Mono16) output (XCD-SX910CR and XCD-X710CR)
- External trigger input and Exposing output function (BNC)
- Partial scan (16 x 16 selectable zones)
- Binning function (2 x 1, 2 x 2)\*
- Fast hardware or software asynchronous trigger
- Frame Memory
- Auto/Manual gain
  - XCD-SX910, XCD-SX910UV and XCD-X710: 0 to 24 dB, 0.035 dB steps
  - XCD-SX910CR and XCD-X710CR: 0 to 18 dB, 0.035 dB steps
- C mount
- High shock and vibration tolerance
- Lead-free solder mounting board

\* In binning mode for the XCD-SX910CR and XCD-X710CR the colour information is lost.

SPECIFICATIONS	XCD-SX910	XCD-SX910UV	XCD-SX910CR	XCD-X710	XCD-X710CR
Image device	1/2 type progressive scan IT CCD		1/3 type progressive scan IT CCD		
Effective picture elements	1,392 (H) x 1,040 (V); 1,450,000 pixels		1,034 (H) x 779 (V); 800,000 pixels		
Output image size	SXGA: 1,280 (H) x 960 (V), Max. 1,376 (H) x 1,024 (V)		XGA: 1,024 (H) x 768 (V)		
Cell size	4.65 µm (H) x 4.65 µm (V)				
Lens mount	C mount				
Minimum illumination	4 lx (F0.95 lens open, +18 dB gain)		20 lx (F0.95 lens open, +18 dB gain)	4 lx (F0.95 lens open, +18 dB gain)	20 lx (F0.95 lens open, +18 dB gain)
Digital interface	IEEE 1394-1995				
Transfer rate	400/200 Mbps				
Frame rate	15/7.5/3.75/1.875 fps		30/15/7.5/3.75/1.875 fps		
Gain control	Auto/manual (0 to 24 dB, 0.035 dB steps)		Auto/manual (0 to 18 dB, 0.035 dB steps)	Auto/manual (0 to 24 dB, 0.035 dB steps)	Auto/manual (0 to 18 dB, 0.035 dB steps)
White Balance	-		R/B Gain Control	-	R/B Gain Control
Brightness	Software block level adjustment				
Hue	-		G Gain	-	G Gain
Optical Filter	-		Bayer Output	-	Bayer Output
External shutter	1/100,000 to 17.5 s				
External trigger shutter	Trigger start (mode0), trigger start and exposure duration (mode1)				
Partial scan	256 zones (16 x 16)				
Power requirements	DC 8 to 30 V (from IEEE 1394 camera cable)				
Dimensions	44 (W) x 33 (H) x 116 (D) mm (1 3/4 x 1 1/8 x 4 5/8 inches)				
Mass	250 g (9 oz)				
Operating temperature	-5 to +45 °C (23 to 113 °F)				
Storage temperature	-30 to +60 °C (-22 to +140 °F)				
Operating humidity	20 to 80 % (non condensing)				
Storage humidity	20 to 95 % (non condensing)				
Vibration	10 G (20 to 200 Hz)				
Shock resistance	70 G				
Regulations	UL60950 listed, FCC Class B Digital Device, CE (EN61326)				
Supplied accessories	Lens mount cap (1), Operating instructions (1), Cable (1), Clamp filter (2)				
Optional accessories	VCT-ST70I Tripod Adaptor 50 mm macro lens				

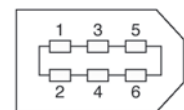
## Dimensions Unit: mm



## Rear Panel



## PIN Assignment



- 1: Power
- 2: Power
- 3: TPB-
- 4: TPB+
- 5: TPA-
- 6: TPA+

## Sony Contacts

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