INTERLACED CAMERAS – EASY TO USE

- WB on push button
- Analog output to monitor
- ALC control

It provides onboard DSP results for remote monitoring.

Compact, lightweight 1/2'' CCD color camera, ideally suited for machine vision applications.

### HIGHLIGHTS

- Excellent vibration/shock resistance
- Simplified & flexible trigger
- Model H-type with higher NIR sensitivity

### CS5260BD/BDP

- **Dimension (WxHxD) [mm]**: 29 x 31 x 80
- **Dimension (WxHxD) [mm]**: 29 x 29 x 31
- **CCU: 110 x 28 x 156**
- **CCU: 120 x 41 x 156**
- **Resolution (H x V) [px]**: 768 x 494
- **Power consumption**: 12 V DC
- **Sensitivity settings AGC**, **Scanning system interlaced**, **Shutter speed [s]**: 1/50 – 1/10000
- **Synchronization** internal, **Shutter modes** auto, man, random trigger, reset/restart
- **S/N ratio [dB]**: > 46
- **Image sensor**: interline CCD color
- **Sensor size**: 1/2""
HIGHLIGHTS

· **High-speed output of ultra-high resolution images**

  1.258 megapixel images are output at a speed of 25 fps in raw output mode

· **Global shutter**

  Like the CCD image sensor models, the camera incorporated a digital global shutter to achieve sharp, less blur images, even for fast-moving subjects

· **Camera Link interface**

  The dual MDR connector supporting Camera Link medium or Camera Link base configuration

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**Table: Camera Specifications**

<table>
<thead>
<tr>
<th>Model</th>
<th>Image sensor</th>
<th>Resolution (H x V)[px]</th>
<th>Sensor size</th>
<th>Pixel size [μm]</th>
<th>Scanning system</th>
<th>Data path [bit]</th>
<th>Synchronization</th>
<th>Aspect ratio</th>
<th>Interface</th>
<th>Frame rate [fps]</th>
<th>Partial scan</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSDS60CM3</td>
<td>CMOS monochrome</td>
<td>4096 x 3072</td>
<td>1.9&quot; (24.6 (H) x 18.5 mm(V))</td>
<td>6.00 x 6.00</td>
<td>progressive scan / global shutter</td>
<td>8/10</td>
<td>internal</td>
<td>4.3</td>
<td>Camera Link medium or base</td>
<td>25 at full resolution</td>
<td>yes / e.g. 648 x 120 (294 fps)</td>
</tr>
<tr>
<td>CSDS60CM28</td>
<td>CMOS color</td>
<td>2096 x 1561</td>
<td>1/2.8&quot;</td>
<td>2.50 x 2.50</td>
<td>progressive scan</td>
<td>RGB 8</td>
<td>internal</td>
<td>4.3</td>
<td>DVI-D</td>
<td>60</td>
<td>no</td>
</tr>
<tr>
<td>CSDW2M60CSC</td>
<td></td>
<td>1329 x 1049</td>
<td>1/3&quot;</td>
<td>3.63 x 3.63</td>
<td></td>
<td></td>
<td></td>
<td>5:4 or 16:9</td>
<td>C-mount</td>
<td></td>
<td>no</td>
</tr>
</tbody>
</table>

**Power Consumption**

- 12 V DC, approx. 5.4 W

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**Since 1996 NET distributes teli cameras.**

**Toshiba Teli Corporation – many years of experience in camera technology.**
## INTERLACED CAMERAS – EASY TO USE

### CS5260BD/BDP
- Compact, lightweight 1/2” CCD color camera, ideally suited for machine vision applications, multimedia and remote monitoring.
- It provides onboard DSP results for easy mounting on or incorporation into other devices.

### HIGHLIGHTS
- ALC control
- Analog output to monitor
- WB on push button
- Easy mounting on or incorporation into other devices.
- It provides onboard DSP results for remote monitoring.

### CS8600 SERIES
- Easy to install and ideal for image processing and machine vision applications.
- The 1/2” or 1/3” type B/W analog camera is one of the most successful camera series.
- The CS8600 series is used many thousand times in different applications.

### HIGHLIGHTS
- 1/2” and 1/3” CCD with HAD technology
- Model H-type with higher NIR sensitivity
- Simplified & flexible trigger
- Excellent vibration/shock resistance

### CS4000 SERIES: CAMERA CONTROL UNIT AND CAMERA HEADS
- B/W camera series with camera heads and CCU serial number matching.
- The range includes three different camera heads, round or square, ensuring compatibility with a wide variety of devices.

### CS9001 SERIES: CAMERA CONTROL UNIT AND CAMERA HEADS
- This video camera unit includes three different camera heads for incorporation into a wide range of systems.
- VBS and Y/C output
- ALC function
- Full-auto white balance
- 3 m and 5 m camera cable length

### Specifications

<table>
<thead>
<tr>
<th>CS8600 SERIES</th>
<th>CS4000 SERIES</th>
<th>CS9001 SERIES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CS5260BD/BDP</strong></td>
<td><strong>CS8620i</strong></td>
<td><strong>CS8620Hi</strong></td>
</tr>
<tr>
<td><strong>CS8630i</strong></td>
<td><strong>CS8620Ci</strong></td>
<td><strong>CS8620HCi</strong></td>
</tr>
<tr>
<td><strong>CS8630Ci</strong></td>
<td><strong>CS8630Ci</strong></td>
<td><strong>CSH4200B/BC</strong></td>
</tr>
<tr>
<td><strong>CS8600 series</strong></td>
<td><strong>CSH4300B/BC</strong></td>
<td><strong>CSH4310B/BC</strong></td>
</tr>
<tr>
<td><strong>CS86921/P</strong></td>
<td><strong>CSH9201/P</strong></td>
<td><strong>CSH9221/P</strong></td>
</tr>
<tr>
<td><strong>CS869301/P</strong></td>
<td><strong>CSH9301/P</strong></td>
<td><strong>CSH9310B/BC</strong></td>
</tr>
</tbody>
</table>

### Image Sensor
- Interline CCD color
- Interline CCD monochrome

### Resolution (H x V) [px]
- 768 x 494 NTSC
- 768 x 582 PAL
- 752 x 582 CCIR
- 752 x 582 CCIR / 768 x 494 EIA
- 768 x 494 NTSC / 752 x 582 PAL

### Shutter Speed [s]
- 1/50 – 1/10000
- 1/125 – 1/10000

### S/N Ratio [dB]
- 52
- 50

### Lens
- C-mount

### Camera Head Ø [mm]
- 17

### Power Consumption
- 12 V DC approx. 230 mA
- 12 V DC approx. 1.3 W
- 12 V DC approx. 400 mA
- 12 V DC approx. 500 mA

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### CS8550Di
- B/W camera series with camera heads and CCU serial number matching.

### CS8560D
- Designed in a miniature body, the CS8541D camera inherits all the outstanding features of the CS85600 series.

### CS8570D
- Compact and lightweight camera head (19g)

### CS8541D
- High shock/vibration resistance

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*Technical changes, errors and omissions excepted. 10/2011*
HIGHLIGHTS

· All pixel readout
  With its built-in all-pixel-data-readout CCD, this series can read out image data approximately from 1/90 to 1/15 seconds.

· Full frame shutter
  All pixel readout is possible even in random trigger shutter mode with no degradation in vertical resolution.

· Camera Link interface (PoCL = Power over Camera Link)
  Integrates the power supply, high-speed image transfer and camera control all in one cable.

· Random trigger shutter
  The random trigger shutter starts exposure by synchronizing with external trigger signals.

BEST SOLUTION FOR CHIP-/DIE-BONDER AND PICK & PLACE MACHINES

CSCLV90BC3

HIGHLIGHTS

· High frame rate
  Outputs: Full HD size images or video signals (up to SXGA) with 60 frames per second.

· Digital crosshairs
  Vertical/horizontal digital crosshairs generator

· High-contrast color reproduction
  Primary color filter mosaic sensor for outstanding color reproduction

· Full HD Vision
  Visual inspection e.g. microscopy and technical endoscopy

SMALLEST CAMERA LINK

CSC series

HIGHLIGHTS

· High-speed output of ultra-high resolution images
  12.58 megapixel images are output at a speed of 25 fps in raw output mode

· Global shutter
  Like the CCD image sensor models, the camera incorporated a digital global shutter to achieve sharp, less blur images, even for fast-moving subjects

· Camera Link interface
  The dual MDR connector supporting Camera Link medium or Camera Link base configuration

HIGH RESOLUTION WITH HIGH FRAME RATES

CSCU series

HIGHLIGHTS

· Power consumption
  12 V DC approx. 1.3 W

Since 1996 NET distributes Teli cameras.

Toshiba Teli Corporation – many years of experience in camera technology.
FULL HD VISION FOR VISUAL INSPECTION

HIGHLIGHTS
- High frame rate
  Outputs: Full HD size images or video signals (up to SXGA) with 60 frames per second.
- Digital crosshairs
  Vertical/horizontal digital crosshairs generator
- High-contrast color reproduction
  Primary color filter mosaic sensor for outstanding color reproduction
- Full HD Vision
  Visual inspection e.g. microscopy and technical endoscopy
- DVI-D Video output for easy connection to monitor

These cameras are color cameras incorporating a CMOS image sensor. Their DVI-D video output interface for high-speed output of high-resolution video signals can be connected directly to a HDMI monitor, making it ideal for inspection applications.

<table>
<thead>
<tr>
<th>CSDW2M60CM28</th>
<th>CSDS60CM3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Image sensor</td>
<td>CMOS color</td>
</tr>
<tr>
<td>Resolution (H x V) [px]</td>
<td>2096 x 1561</td>
</tr>
<tr>
<td>Sensor size</td>
<td>1/2.8”</td>
</tr>
<tr>
<td>Pixel size [μm]</td>
<td>2.50 x 2.50</td>
</tr>
<tr>
<td>Scanning system</td>
<td>progressive scan</td>
</tr>
<tr>
<td>Datapath [bit]</td>
<td>RGB 8</td>
</tr>
<tr>
<td>Synchronization</td>
<td>internal</td>
</tr>
<tr>
<td>Aspect ratio</td>
<td>16:9</td>
</tr>
<tr>
<td>Interface</td>
<td>DVI-D</td>
</tr>
<tr>
<td>Frame rate [fps]</td>
<td>60</td>
</tr>
<tr>
<td>Partial scan</td>
<td>no</td>
</tr>
<tr>
<td>Lens</td>
<td>C-mount</td>
</tr>
<tr>
<td>Dimension (WxHxD) [mm]</td>
<td>44 x 34 x 77</td>
</tr>
<tr>
<td>Power consumption</td>
<td>12 VDC, 2.5 W</td>
</tr>
</tbody>
</table>
PROGRESSIVE SCAN CAMERAS FOR RELIABLE APPLICATION

**GOLDEN STANDARD**
TTC’s B/W progressive scan video camera series with the 1/3” CCD image sensor produces detailed, VGA resolution image at a high frame rate (60 fps/120 fps binned) and is ideal for high-speed and high resolution image processing with multiple shutter function.

**BEST ANALOG SOLUTION FOR BONDER MACHINES**
Designed in a miniature body, the CS8541D camera inherits all the outstanding features of the CS85600 camera, but in a small body as a remote head camera.

**HIGHLIGHTS**
- High-speed video output
- Compact and lightweight camera head (19g)
- High scan rate/binning function: 60 fps/120 fps binning
- Gain: manual/fixed switchable
- Gamma: OFF (γ=1)
- High shock/vibration resistance

<table>
<thead>
<tr>
<th><strong>CS8550D</strong></th>
<th><strong>CS8560D</strong></th>
<th><strong>CS8570D</strong></th>
<th><strong>CS8541D</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Image sensor</strong></td>
<td>interline CCD monochrome</td>
<td>interline CCD monochrome</td>
<td>interline CCD monochrome</td>
</tr>
<tr>
<td><strong>Resolution (H x V) [px]</strong></td>
<td>659 x 494</td>
<td>659 x 494</td>
<td>659 x 494</td>
</tr>
<tr>
<td><strong>Sensor size</strong></td>
<td>1/3”</td>
<td>1/3”</td>
<td>1/2”</td>
</tr>
<tr>
<td><strong>Frame rate [fps]</strong></td>
<td>60</td>
<td>60</td>
<td>60</td>
</tr>
<tr>
<td><strong>Scanning system</strong></td>
<td>progressive scan</td>
<td>progressive scan</td>
<td>progressive scan</td>
</tr>
<tr>
<td><strong>Sensitivity settings</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Shutter speed [s]</strong></td>
<td>1/200 – 1/20000</td>
<td>1/200 – 1/20000</td>
<td>1/200 – 1/20000</td>
</tr>
<tr>
<td><strong>Synchronization</strong></td>
<td>internal / external</td>
<td>internal / external</td>
<td>internal / external</td>
</tr>
<tr>
<td><strong>Shutter modes</strong></td>
<td>auto, man, random trigger, reset/restart</td>
<td>auto, man, random trigger, reset/restart</td>
<td>auto, man, random trigger, reset/restart</td>
</tr>
<tr>
<td><strong>S/N ratio [dB]</strong></td>
<td>52</td>
<td>50</td>
<td>40</td>
</tr>
<tr>
<td><strong>Lens</strong></td>
<td>C-mount</td>
<td>C-mount</td>
<td>M15.5 P0.5</td>
</tr>
<tr>
<td><strong>Camera head dimensions [mm]</strong></td>
<td>-</td>
<td>-</td>
<td>20 x 20 x 25</td>
</tr>
<tr>
<td><strong>Dimension (W x H x D) [mm]</strong></td>
<td>29 x 29 x 39.5</td>
<td>29 x 29 x 26.5</td>
<td>29 x 29 x 26.5</td>
</tr>
<tr>
<td><strong>Power consumption</strong></td>
<td>12 V DC approx. 1.8 W</td>
<td>12 V DC approx. 1.5 W</td>
<td>12 VDC approx. 3.0 W</td>
</tr>
</tbody>
</table>

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Technical changes, errors and omissions excepted. 10/2011