CDD DE series Xray Detectors

Cheyney are the innovators of Linear Diode Arrays for Xray detection. We now have more than 30 years of in designing and manufacturing Xray detectors.

It has the following features :

Available in diode pitch of 1.6mm, 0.8mm, 0.4mm, 0.2mm
Data interface RS422 pixel rate of up to 4MHz
Scan rate from 50 to 4000 scans/sec
Output resolution of 8 to 12 bits as standard
Control interface USB 2.0 as standard, RS232 optionally
Multi channel radiographic trigger
Scan rate fixed or synchronous to external clock
Pixel output normalised by internal DSP processor
Output translation tables provide gamma law
All cables exit from end of module for easy connection

Control Commands

    Set Line/Integration period

    Zero diodes (set black level)

    Full range for diodes (set maximum white level)

    Set gamma law lookup table

    Start/stop scanning

    Display raw (input) data

    Display normalised output data

    Display underlying zero, gain and multiplier data

    Histogram display of pixel grey levels

    Calculate noise for each pixel

    Display test pattern output

    Radiographic trigger setup

General Specifications:

<table cellspacing="0" cellpadding="0" border="0" style="border: 2px solid rgb(221, 221, 223); background-color: rgb(255, 255, 204); width: 640px; height: 390px;">
  <tbody>
    <tr>
      <td> </td>
      <td>CDD XX2</td>
      <td>CDD XX4</td>
      <td>CDD XX8</td>
      <td>CDD XX16</td>
    </tr>
    <tr>
      <td>X-ray tube kVp range</td>
      <td>20-160 kVp</td>
      <td>20-160 kVp</td>
      <td>20-160 kVp</td>
      <td>20-160 kVp</td>
    </tr>
    <tr>
      <td>Scintillator</td>

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    <td>GOS</td>
    <td>GOS</td>
    <td>GOS</td>
    <td>GOS</td>
</tr>
<tr>
    <td>Active area lengths</td>
    <td>102-410 mm</td>
    <td>102-819 mm</td>
    <td>102-1024 mm</td>
    <td>205-1638 mm</td>
</tr>
<tr>
    <td>Number of pixels</td>
    <td>512-2048</td>
    <td>256-2048</td>
    <td>128-1280</td>
    <td>128-1024</td>
</tr>
<tr>
    <td>Pixel Pitch</td>
    <td>0.2 mm</td>
    <td>0.4 mm</td>
    <td>0.8 mm</td>
    <td>1.6 mm</td>
</tr>
<tr>
    <td>Pixel Height</td>
    <td>0.3 mm</td>
    <td>0.6 mm</td>
    <td>0.8 mm</td>
    <td>1.6 mm</td>
</tr>
<tr>
    <td>Pixel Width</td>
    <td>0.1 mm</td>
    <td>0.3 mm</td>
    <td>0.7 mm</td>
    <td>1.4 mm</td>
</tr>
<tr>
    <td>Max. Scanning Speed</td>
    <td>12 m/mn <sup>(1)</sup></td>
    <td>50 m/mn <sup>(1)</sup></td>
    <td>170m/mn <sup>(1)</sup></td>
    <td>300m/mn<sup> (1)</sup></td>
</tr>
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<tr>
<td>Min. Integration Time</td>
<td>1 ms</td>
<td>0.5 ms</td>
<td>0.25 ms</td>
<td>0.25 ms</td>
</tr>
<tr>
<td>Max Integration Time</td>
<td>20 ms</td>
<td>20 ms</td>
<td>20 ms</td>
<td>20 ms</td>
</tr>
<tr>
<td>A/D Resolution</td>
<td>12-bits</td>
<td>12-bits</td>
<td>12-bits</td>
<td>12-bits</td>
</tr>
<tr>
<td>Dynamic Range</td>
<td>> 2000 ⁽²⁾</td>
<td>> 2000 ⁽²⁾</td>
<td>> 2000 ⁽²⁾</td>
<td>> 2000 ⁽²⁾</td>
</tr>
<tr>
<td>Data Digital Interface</td>
<td>12-bits ⁽³⁾</td>
<td>12-bits ⁽³⁾</td>
<td>12-bits ⁽³⁾</td>
<td>12-bits ⁽³⁾</td>
</tr>
<tr>
<td>Power consumption</td>
<td>50 W max</td>
<td>50 W max</td>
<td>50 W max</td>
<td>50 W max</td>
</tr>
<tr>
<td>Image acquisition interface</td>
<td>RS-422</td>
<td>RS-422</td>
<td>RS-422</td>
</tr>

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            <td>RS-422</td>
        </tr>
        <tr>
            <td>Control interface</td>
            <td>USB 2.0</td>
            <td>USB 2.0</td>
            <td>USB 2.0</td>
            <td>USB 2.0</td>
        </tr>
    </tbody>
</table>




<i><u>Notes



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<ol>
    <li>Maximum speed is specified for active length up to 512 mm.</li>
    <li>Dynamic Range is defined as saturation signal/RMS noise, normal detector sensitivity.</li>
    <li>Digital interface has 16 RS-422 I/O lines for data, but user can select actual data to be
14,12,10 or 8 bits. The default value is 8 or 12 bits</li>
    <li>User can designate radiographic trigger outputs by specifying Window left, Window right and
Threshold.</li>
</ol>


<b>Physical Dimensions:</b> &amp;nbsp;



<table width="200" cellspacing="0" cellpadding="0" border="0" style="border: 2px solid rgb(221,
221, 223); background-color: rgb(255, 255, 204); width: 640px;">
    <tbody>
        <tr>
            <td><b>Model</b></td>
            <td><b>Active Length</b></td>
            <td><b>Number of Pixels</b></td>
            <td><b>Length</b></td>
            <td><b>Width</b></td>
            <td><b>Height</b></td>
            <td><b>Weight</b></td>
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            <td>CDD048</td>
            <td>204mm</td>
            <td>256</td>
            <td>260mm</td>
            <td>130mm</td>
            <td>50mm</td>
            <td>4Kg</td>
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        <tr>
            <td>CDD068</td>
            <td>307mm</td>
            <td>384</td>
            <td>360mm</td>
            <td>130mm</td>
            <td>50mm</td>
            <td>6Kg</td>
        </tr>
        <tr>
            <td>CDD098</td>
            <td>461mm</td>
            <td>576</td>
            <td>510mm</td>
            <td>130mm</td>
            <td>50mm</td>
            <td>9Kg</td>
        </tr>
        <tr>
            <td>CDD128</td>
            <td>614mm</td>
            <td>768</td>
            <td>660mm</td>
            <td>130mm</td>
            <td>50mm</td>
            <td>12Kg</td>
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    </tbody>
</table>


<b>Enviromental Characteristics:</b>


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    <tbody>
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            <td><b>Characteristic </b></td>
            <td><b>Specific characteristic</b></td>
            <td><b>Specification</b></td>
            <td><b>Notes</b> </td>
        </tr>
        <tr>
            <td> Operational</td>
            <td> Ambient temperature</td>
            <td> 0-40 C</td>
            <td> </td>
        </tr>
        <tr>
            <td> </td>
            <td> Relative humidity</td>
            <td> 30-80 % (non condensing)</td>
            <td> </td>
        </tr>
        <tr>
            <td> Storage</td>
            <td> Ambient temperature</td>
            <td> -10-50 C</td>
            <td> </td>
        </tr>
        <tr>
            <td> </td>
            <td> Relative humidity</td>
            <td> 30-80 % (non condensing)</td>
            <td> </td>
        </tr>
    </tbody>
</table>


<b>

Power Requirements:



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<table cellspacing="0" cellpadding="0" border="0" style="border: 2px solid rgb(221, 221, 223);
background-color: rgb(255, 255, 204); width: 277px; height: 92px;">
    <tbody>
        <tr>
            <td><b>Supply voltage</b></td>
            <td><b>Maximum current            </b></td>
        </tr>
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        <tr>
            <td>+  5 volts</td>
            <td>5.0 Amp</td>
        </tr>
        <tr>
            <td>+12 volts</td>
            <td>1.0 Amp</td>
        </tr>
        <tr>
            <td>- 12 volts</td>
            <td>0.2 Amp</td>
        </tr>
    </tbody>
</table>
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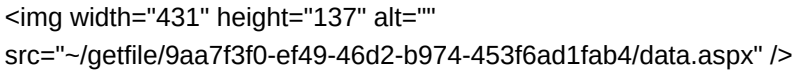
Ordering Information:



Options:

- R   RS232 control interface

- Bnn   Output resolution (bits)