An attractive Shelf Edge Display well suited for a variety of in store, on shelf digital signage applications.

23” Shelf Edge Displays
MSE-23016 - Display Only
MST-23016 - Display with Android Player

23” Shelf Edge Display with Android Player
The shelf edge wide LCD display is designed for on shelf advertising in supermarkets, grocery stores, liquor stores, clothing stores and other retail applications. The very wide screen makes it easy to display your digital signage content or pricing quickly and easily along with the ability to update content via WiFi.

23” Shelf Edge Stretch Display Only
You can also daisy-chain up 6 total displays with an HDMI splitter.

For a more detailed explanation of different configurations, see the scenarios that begin on page 2.

Features:
• 23” LED Display
• Low operating temperature
• Slim Border (4.1mm)
• Anti Glare Surface
• Durable Metal Housing

Applications:
• Retail Shelf Edge Pricing
• Retail Shelf Edge Advertising
• Multi-Shelf Digital Signage

Note: Information and specification are subject to change without prior notice.
## Product Specifications

<table>
<thead>
<tr>
<th>DISPLAY (for both versions)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Display</td>
<td>23” horizontal</td>
</tr>
<tr>
<td>Resolution</td>
<td>1920x165</td>
</tr>
<tr>
<td>Brightness</td>
<td>700 NITS</td>
</tr>
<tr>
<td>Contrast</td>
<td>1000:1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>23” Shelf Edge Display with Android</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>I/O</td>
<td>Micro HDMI, Micro USB</td>
</tr>
<tr>
<td>CPU</td>
<td>ARM CORTEX - A35 Quadcore 1.3GHz</td>
</tr>
<tr>
<td>Operating System</td>
<td>Android 6.0</td>
</tr>
<tr>
<td>RAM</td>
<td>1GB DDR3</td>
</tr>
<tr>
<td>Storage</td>
<td>8GB eMMC</td>
</tr>
</tbody>
</table>

## Product Pictures

### MSE-23016 - Display Only

![MSE-23016 - Display Only](image1)

### MST-23016 - Display with Android Player

![MST-23016 - Display with Android Player](image2)
Display Scenarios - MSE 23016
Special firmware required for some configurations, please contact us to discuss your specific configuration.

Scenario 1
- Connect to PC/Media Player

Scenario 2
- Connect to USB
  - picture / video loop
  - format supported: JPEG, BMP, MPEG4, H.264, GIF

Scenario 3
Multi-screens with identical content

Configuration:
- MSE-23016 x 2-6pcs
- Content
- HDMI splitter
- PC/media player
- CMS (Option)

Scenario 4
Multi-screens with different content (video wall)

Configuration:
- MSE-23016 x 2-6pcs
- Firmware code #1-#6
- Content
- HDMI splitter
- PC/media player
- CMS (Option)
Android Version Scenarios - MST-23016
Special firmware required for some configurations, please contact us to discuss your specific configuration.

Scenario 5: Connect to CMS for real time update

Configuration:
- Content
- CMS

Scenario 6

Configuration:
- Content
- Media Player APP

Scenario 7: for 48” shelves (MST-23016 + MSE-23016)

Configuration:
- One Android Version
- One Display Version
- Content
- CMS

Two screens can show identical or different content, controlled by CMS.
5. OPTICAL CHARACTERISTICS

5.1 TEST CONDITIONS

<table>
<thead>
<tr>
<th>Item</th>
<th>Symbol</th>
<th>Value</th>
<th>Unit</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambient Temperature</td>
<td>Ta</td>
<td>25</td>
<td>°C</td>
<td>±2</td>
</tr>
<tr>
<td>Ambient Humidity</td>
<td>Ha</td>
<td>50</td>
<td>%RH</td>
<td>±10</td>
</tr>
<tr>
<td>Supply Voltage</td>
<td>VCC</td>
<td>3.3 V</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Input Signal</td>
<td>According to typical value in &quot;3. ELECTRICAL CHARACTERISTICS&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LED Light Bar Input Current</td>
<td>IL</td>
<td>178.4 mA</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The measurement methods of optical characteristics are shown in Section 5.2. The following items should be measured under the test conditions described in Section 5.1 and stable environment shown in Note (5).

5.2 OPTICAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>Item</th>
<th>Symbol</th>
<th>Condition</th>
<th>Min.</th>
<th>Typ.</th>
<th>Max.</th>
<th>Unit</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contrast Ratio</td>
<td>CR</td>
<td>500</td>
<td>800</td>
<td>-</td>
<td>-</td>
<td>(2), (5), (7)</td>
<td></td>
</tr>
<tr>
<td>TR</td>
<td>-</td>
<td>14</td>
<td>17 ms</td>
<td>Response Time</td>
<td>TF</td>
<td>-</td>
<td>11</td>
</tr>
<tr>
<td>Cross Talk</td>
<td>CT</td>
<td>-</td>
<td>-</td>
<td>4 %</td>
<td>(8)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average Luminance of White</td>
<td>LAVE</td>
<td>300</td>
<td>350</td>
<td>-</td>
<td>-</td>
<td>cd/m²</td>
<td>(4), (6), (7)</td>
</tr>
<tr>
<td>Rx</td>
<td>0.592</td>
<td>-</td>
<td>Red</td>
<td>Ry</td>
<td>0.340</td>
<td>-</td>
<td>Green</td>
</tr>
<tr>
<td>Wx</td>
<td>0.308</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Color Chromaticity</td>
<td>White</td>
<td>Wy</td>
<td>Typ</td>
<td>-</td>
<td>0.03</td>
<td>0.324</td>
<td></td>
</tr>
<tr>
<td>Color Gamut</td>
<td>CG</td>
<td>θx=0</td>
<td>θY =0</td>
<td>47</td>
<td>50</td>
<td>%</td>
<td>(9)</td>
</tr>
<tr>
<td>Viewing Normal Angle</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>47</td>
<td>50</td>
</tr>
<tr>
<td>Viewing Angle</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Horizontal</td>
<td>θx+</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Vertical</td>
<td>θY+</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Viewing Angle</td>
<td>θY-</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>CR</td>
<td>≥</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>White Variation of 5 Points</td>
<td>δW5p</td>
</tr>
</tbody>
</table>

5. OPTICAL SPECIFICATIONS

Multi-Screens Scenario

- Our Shelf Edge design works great for both 24" & 48" shelves.

**Ex. 24" wide shelf:**

24" x 1 x N shelves

**48" wide shelf:**

48" x 2 x N shelves

48” Shelf

- **Key Feature**
  - Cost effective structure
    - use one CPU to drive two screens.
  - Slim border design
    - border size(AA to AA) : 8.2mm only.