System LSI for Public Displays
MN81010H

Overview

"MN81010H" is a system LSI for public displays that features a variety of interfaces and delivers multi-purpose digital signage solutions. It supports multi-screen configurations, is network compatible, and can be used to efficiently develop public display products in varying configurations.

Features

- The built-in high-performance CPU (ARM CA9) and high-performance GPU (OpenGL ES2.0) deliver a wide range of effects and quick response with a high-speed graphics rendering.
- A vast range of content playback is supported. For example, content playback over the network and various media playback (USB etc.) are supported.
- Multi-screen compatibility allows expansion to arrays of up to 10 x 10 panels. In order that the multiple panels look seamlessly as a single screen, it is possible to adjust individually the size/ position and chromaticity/ brightness of the displayed image in each panel.
- Since many peripherals are incorporated, systems can be built with the minimum amount of external components.

Applications

"MN81010H" is well-suited to a wide range of display products, including multi-screen displays and digital signage devices.

Multi-screen displays
- Large screen displays up to 10 x 10 panels
- Enables seamless, natural images

Digital signage devices
- Low-cost, space-saving interactive signage
- Features include eye-catching video effects
## Specifications

<table>
<thead>
<tr>
<th>Function</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Package</td>
<td>BGA / 21mm x 21mm / 0.8mm pitch</td>
</tr>
<tr>
<td>CPU</td>
<td>ARM CA9 800MHz (2,000 DMIPS)</td>
</tr>
<tr>
<td>Graphics</td>
<td>OpenGL ES2.0</td>
</tr>
<tr>
<td>Memory</td>
<td>DDR3-1333 (16bit) x2</td>
</tr>
<tr>
<td>AV Decoder</td>
<td>On the air / Network</td>
</tr>
<tr>
<td>Demodulator</td>
<td>ATSC, QAM, DVB-T/C, ISDB-T/S</td>
</tr>
<tr>
<td>Standby Microcontroller</td>
<td>Build-in</td>
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</tbody>
</table>

### I/O

- **Ethernet**: Build-in MAC + PHY
- **USB**: USB2.0-HS x3
- **HDMI Input**: Ver1.4a x4 *One port supports ARC.
- **Analog Video Input**: CVBS, YC, YPbPr, VGA
- **LVDS Output**: LVDS / mini-LVDS (60Hz)

### Video Processor

- **HQ Picture**: High quality IP convertor and Noise reducer
  Super-resolution
- **FRC**: No
- **TCON**: Yes (60Hz)

### System Configuration (Example)

![System Configuration Diagram]

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