Large city screens

Full color LED Video Screens

Stationery Mobile Outdoor Indoor
Within the appearance on the market of extra bright diodes, full colored LED screens almost fully substituted their predecessors - lamp screens, due to their reliability, quality of image, high resolution and small amounts of energy consumption. Despite the dynamic advertisement, LED screens are used as well for translating live events, different arrangements and city celebrations.

Thanks to the possibility of connection LED screens into network, central computer may transfer information and the schedule of broadcasting to the controlling computer of each screen. Within the appearance on the market of SMD diodes (3 diodes in one case) appeared small video screens with high resolution for the indoor exploitation - in the concert and sport halls, television studios, conferences, airports and train stations.

Usage of the LED screens
- Outdoor dynamic advertisement
- Crowded arrangements, concerts, holidays
- Presentations
- Exhibitions
- Meetings
- Train stations, airports
- Metro
- Sport arenas and halls
- Concert halls and squares
- TV studios
- Modern dynamic video banners

Major advantages of the LED screens
- Broadcasting of live video and dynamic advertisement
- High quality
- Module construction of the screens
- High resolution (up to 1280 x 960 pixels)
- Extra bright LED
- High reliability and durability
- High brightness and contrast of the image
- Allowance to increase sizes of the screen
- Allowance to unite the screens into the network
- Quick substitution of the models
- Easy maintenance

ATV Outdoor Systems
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Module construction of the screens

- **Standard** - 4:3 aspect ratio

**Advantages of the module structure**

- Construction of the screens of different sizes and resolutions
- Possibility of size increase when upgrading
- Construction of the screens of different forms and shapes
- Construction of the screens of high resolution
- Easiness of assembling and servicing
- Exchangeability of the modules
- Easy localization of the errors
- Possibility of constructing mobile and easily assembling screens

It should be also mentioned that it is necessary to keep sides aspect ratio 4:3 for live video broadcasting on the video screen. Otherwise the image is going to be cut or shown on the different parts of the screen.

On the picture (left above) there is an example of construction of the video screen’s modules with the linear size 480 x 480 mm, pixel pitch 15 and ratio of the sides – 4:3.

In the table (left) there are linear sizes, image area and resolution of the screen.

Using modules with different pixel pitch you can assemble a video screen with any linear size and resolution you need.

**Note:** All data in tables are for reference only. If you want to get more information about modules produced by our company you can visit our web site or send your request to us.

### Modules for video screens

**Modules** – segments for building screens of all sizes and resolution. (like building bricks)

**Essential parameters of a module:**

- Pitch (distance between pixels, mm)
- Resolution (number of pixels in a module)
- Linear size (height and length)
- Brightness in cd/sq.m (nit)
- Viewing angles (horizontal and vertical)
- Pixel composition (number of LEDs that make up a pixel)

However pitch is the primary feature. The smaller the pitch, the higher the resolution within the same physical dimensions. Most typical pitches used for screens are: 10, 12.5, 15, 20, 25 and 38 mm.

With the appearance of SMD LED (3 LEDs – red, green and blue – in the same case) it became possible to start production of the modules with the pitch smaller than 10 mm.

**Pixel composition (example):**

2R – 2 red LEDs
1G – 1 green LED
1B – 1 blue LED
### Technical data of some modules for outdoor screens

<table>
<thead>
<tr>
<th>Model</th>
<th>Type</th>
<th>Pixel configuration</th>
<th>Number of pixels</th>
<th>Pitch, mm</th>
<th>Size, mm</th>
<th>Brightness, cd/m²</th>
<th>Viewing angle</th>
<th>Weight, kg</th>
<th>Power, W</th>
<th>Temperature range</th>
</tr>
</thead>
<tbody>
<tr>
<td>m15-16x16</td>
<td>Outdoor</td>
<td>1R-1G-1B</td>
<td>16 x 16</td>
<td>15</td>
<td>240 x 240</td>
<td>5000±10%</td>
<td>60°</td>
<td>120°</td>
<td>2.0</td>
<td>80</td>
</tr>
<tr>
<td>m19-16x16</td>
<td>Outdoor</td>
<td>1R-1G-1B</td>
<td>16x16</td>
<td>19</td>
<td>304x304</td>
<td>5000±10%</td>
<td>60°</td>
<td>120°</td>
<td>2.2</td>
<td>80</td>
</tr>
<tr>
<td>m22-8x8</td>
<td>Outdoor</td>
<td>2R-1G-1B</td>
<td>8 x 8</td>
<td>22</td>
<td>176 x 176</td>
<td>5000±10%</td>
<td>60°</td>
<td>120°</td>
<td>1.0</td>
<td>20</td>
</tr>
<tr>
<td>m30-8x8</td>
<td>Outdoor</td>
<td>2R-1G-1B</td>
<td>8 x 8</td>
<td>30</td>
<td>240 x 240</td>
<td>5000±10%</td>
<td>45°</td>
<td>60°</td>
<td>1.5</td>
<td>20</td>
</tr>
<tr>
<td>m38-8x8</td>
<td>Outdoor</td>
<td>2R-1G-1B</td>
<td>8 x 8</td>
<td>38</td>
<td>305 x 305</td>
<td>5000±10%</td>
<td>45°</td>
<td>60°</td>
<td>1.7</td>
<td>20</td>
</tr>
</tbody>
</table>

**Note:** All data in tables are for reference only. If you want to get more information about modules produced by our company you can visit our web site or send your request to us.

### Technical data of some video screens’ models

#### Video screens on the base of the module m22-8x8 (pitch 22 mm)

<table>
<thead>
<tr>
<th>Model</th>
<th>Number of hor. modules</th>
<th>Number of vert. modules</th>
<th>Total number of modules</th>
<th>Screen resolution</th>
<th>Screen size, m</th>
<th>Image area, sq.m</th>
<th>Number of pixels</th>
<th>Weight, kg</th>
<th>Max power, kW</th>
<th>Average power, kW</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATV-22/13d</td>
<td>24</td>
<td>18</td>
<td>432</td>
<td>192x144</td>
<td>4.22x3.17</td>
<td>13.38</td>
<td>27 648</td>
<td>490</td>
<td>9.0</td>
<td>4.5</td>
</tr>
<tr>
<td>ATV-22/18d</td>
<td>28</td>
<td>21</td>
<td>588</td>
<td>224x168</td>
<td>4.93x3.7</td>
<td>18.21</td>
<td>37 632</td>
<td>665</td>
<td>12.0</td>
<td>6.0</td>
</tr>
<tr>
<td>ATV-22/24d</td>
<td>32</td>
<td>24</td>
<td>768</td>
<td>256x192</td>
<td>5.63x4.32</td>
<td>23.79</td>
<td>49 152</td>
<td>870</td>
<td>16.0</td>
<td>8.0</td>
</tr>
<tr>
<td>ATV-22/37d</td>
<td>40</td>
<td>30</td>
<td>1 200</td>
<td>320x240</td>
<td>7.04x5.28</td>
<td>37.17</td>
<td>76 800</td>
<td>1 360</td>
<td>24.0</td>
<td>12.0</td>
</tr>
<tr>
<td>ATV-22/69d</td>
<td>60</td>
<td>45</td>
<td>2 700</td>
<td>480x360</td>
<td>10.56x7.92</td>
<td>83.64</td>
<td>172 800</td>
<td>3 055</td>
<td>54.0</td>
<td>27.0</td>
</tr>
</tbody>
</table>

**Note:**
1) Brightness - 5 000 ± 10% cd/m²
2) Viewing angle horizontally 120° and vertically 60°
3) Screen side aspect ratio - 4:3 (TV standard)
4) Weight of the screen doesn’t include the framing construction
5) Following power consumption is without ventilation and heating of the system
6) For producing advanced LED systems mentioned in the table we use the products of American, European and Japanese led suppliers.
7) Calculations for non-standard image areas (which are not included in the table) are made separately.

#### Video screens on the base of the module m15-16x16 (pitch 15 mm)

<table>
<thead>
<tr>
<th>Model</th>
<th>Number of hor. modules</th>
<th>Number of vert. modules</th>
<th>Total number of modules</th>
<th>Screen resolution</th>
<th>Screen size, m</th>
<th>Image area, sq.m</th>
<th>Number of pixels</th>
<th>Weight, kg</th>
<th>Max power, kW</th>
<th>Average power, kW</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATV-15/11d</td>
<td>16</td>
<td>12</td>
<td>192</td>
<td>256x192</td>
<td>3.84x2.88</td>
<td>11.06</td>
<td>49 152</td>
<td>485</td>
<td>16.0</td>
<td>8.0</td>
</tr>
<tr>
<td>ATV-15/17d</td>
<td>20</td>
<td>15</td>
<td>300</td>
<td>320x240</td>
<td>4.8x3.6</td>
<td>17.28</td>
<td>76 800</td>
<td>760</td>
<td>24.0</td>
<td>12.0</td>
</tr>
<tr>
<td>ATV-15/34d</td>
<td>28</td>
<td>21</td>
<td>588</td>
<td>448x336</td>
<td>6.72x5.04</td>
<td>33.87</td>
<td>150 528</td>
<td>1 485</td>
<td>47.0</td>
<td>23.5</td>
</tr>
<tr>
<td>ATV-15/69d</td>
<td>40</td>
<td>30</td>
<td>1200</td>
<td>640x480</td>
<td>9.0x7.2</td>
<td>69.12</td>
<td>307 200</td>
<td>3 030</td>
<td>96.0</td>
<td>48.0</td>
</tr>
</tbody>
</table>

**Note:**
1) Brightness - 5 000 ± 10% cd/m²
2) Viewing angle horizontally 120° and vertically 60°
3) Screen side aspect ratio - 4:3 (TV standard)
4) Weight of the screen doesn’t include the framing construction
5) Following power consumption is without ventilation and heating of the system
6) For producing advanced LED systems mentioned in the table we use the products of American, European and Japanese led suppliers.
7) Calculations for non-standard image areas (which are not included in the table) are made separately.
### Video screens on the base of the module m19-16x16 (pitch 19 мм)

<table>
<thead>
<tr>
<th>Model</th>
<th>Number of hor. modules</th>
<th>Number of vert. modules</th>
<th>Total number of modules</th>
<th>Screen resolution</th>
<th>Screen size, m</th>
<th>Image area, sq.m</th>
<th>Number of pixels</th>
<th>Weight, kg</th>
<th>Max power, kW</th>
<th>Average power, kW</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATV-19/18d</td>
<td>16</td>
<td>12</td>
<td>192</td>
<td>256x192</td>
<td>4,86x3,65</td>
<td>17,74</td>
<td>49 152</td>
<td>525</td>
<td>16.0</td>
<td>8.0</td>
</tr>
<tr>
<td>ATV-19/28d</td>
<td>20</td>
<td>15</td>
<td>300</td>
<td>320x240</td>
<td>6,08x4,56</td>
<td>27,72</td>
<td>76 800</td>
<td>820</td>
<td>24.0</td>
<td>12.0</td>
</tr>
<tr>
<td>ATV-19/54d</td>
<td>28</td>
<td>21</td>
<td>588</td>
<td>448x336</td>
<td>8,51x6,38</td>
<td>54,34</td>
<td>150 528</td>
<td>1 605</td>
<td>47.0</td>
<td>23.5</td>
</tr>
<tr>
<td>ATV-19/90d</td>
<td>36</td>
<td>27</td>
<td>972</td>
<td>576x432</td>
<td>10,94x8,21</td>
<td>89,83</td>
<td>248 832</td>
<td>2 650</td>
<td>78.0</td>
<td>39.0</td>
</tr>
</tbody>
</table>

**Note:**
1) Brightness - 5 000 ± 10% cd/m²
2) Viewing angle horizontally 120° and vertically 60°
3) Screen side aspect ratio - 4:3 (TV standard)
4) Weight of the screen doesn’t include the framing construction
5) Following power consumption is without ventilation and heating of the system
6) For producing advanced LED systems mentioned in the table we use the products of American, European and Japanese led suppliers.
7) Calculations for non-standard image areas (which are not included in the table) are made separately.

### Video screens on the base of the module m30-8x8 (pitch 30 мм)

<table>
<thead>
<tr>
<th>Model</th>
<th>Number of hor. modules</th>
<th>Number of vert. modules</th>
<th>Total number of modules</th>
<th>Screen resolution</th>
<th>Screen size, m</th>
<th>Image area, sq.m</th>
<th>Number of pixels</th>
<th>Weight, kg</th>
<th>Max power, kW</th>
<th>Average power, kW</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATV-30/17d</td>
<td>20</td>
<td>15</td>
<td>300</td>
<td>160x120</td>
<td>4,8x3,6</td>
<td>17,28</td>
<td>19 200</td>
<td>505</td>
<td>6.0</td>
<td>3.0</td>
</tr>
<tr>
<td>ATV-30/34d</td>
<td>28</td>
<td>21</td>
<td>588</td>
<td>224x168</td>
<td>6,72x5,04</td>
<td>33,87</td>
<td>37 632</td>
<td>985</td>
<td>12.0</td>
<td>6.0</td>
</tr>
<tr>
<td>ATV-30/69d</td>
<td>40</td>
<td>30</td>
<td>1200</td>
<td>320x240</td>
<td>9,6x7,2</td>
<td>69,12</td>
<td>76 800</td>
<td>2 010</td>
<td>24.0</td>
<td>12.0</td>
</tr>
</tbody>
</table>

**Note:**
1) Brightness - 5 000 ± 10% cd/m²
2) Viewing angle horizontally 60° and vertically 45°
3) Screen side aspect ratio - 4:3 (TV standard)
4) Weight of the screen doesn’t include the framing construction
5) Following power consumption is without ventilation and heating of the system
6) For producing advanced LED systems mentioned in the table we use the products of American, European and Japanese led suppliers.
7) Calculations for non-standard image areas (which are not included in the table) are made separately.

### Video screens on the base of the module m38-8x8 (pitch 38 мм)

<table>
<thead>
<tr>
<th>Model</th>
<th>Number of hor. modules</th>
<th>Number of vert. modules</th>
<th>Total number of modules</th>
<th>Screen resolution</th>
<th>Screen size, m</th>
<th>Image area, sq.m</th>
<th>Number of pixels</th>
<th>Weight, kg</th>
<th>Max power, kW</th>
<th>Average power, kW</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATV-38/54d</td>
<td>28</td>
<td>21</td>
<td>588</td>
<td>224x168</td>
<td>8,51x6,38</td>
<td>54,34</td>
<td>37 632</td>
<td>1 105</td>
<td>12.0</td>
<td>6.0</td>
</tr>
<tr>
<td>ATV-38/90d</td>
<td>36</td>
<td>27</td>
<td>972</td>
<td>288x216</td>
<td>10,94x8,21</td>
<td>89,83</td>
<td>62 208</td>
<td>1 825</td>
<td>20.0</td>
<td>10.0</td>
</tr>
<tr>
<td>ATV-38/111d</td>
<td>40</td>
<td>30</td>
<td>1200</td>
<td>320x240</td>
<td>12,16x9,12</td>
<td>110,90</td>
<td>76 800</td>
<td>2 250</td>
<td>24.0</td>
<td>12.0</td>
</tr>
<tr>
<td>ATV-38/217d</td>
<td>56</td>
<td>42</td>
<td>2352</td>
<td>448x336</td>
<td>17,02x12,77</td>
<td>217,36</td>
<td>150 528</td>
<td>4 410</td>
<td>47.0</td>
<td>23.5</td>
</tr>
</tbody>
</table>

**Note:**
1) Brightness - 5 000 ± 10% cd/m²
2) Viewing angle horizontally 60° and vertically 45°
3) Screen side aspect ratio - 4:3 (TV standard)
4) Weight of the screen doesn’t include the framing construction
5) Following power consumption is without ventilation and heating of the system
6) For producing advanced LED systems mentioned in the table we use the products of American, European and Japanese led suppliers.
7) Calculations for non-standard image areas (which are not included in the table) are made separately.