PannonScreen

Visual Solutions

PannonScreen large-scale LED video display boards

Visual Solutions offers the latest in LED video displays technology. From the simple **PannonScore** numeric scoreboards, and the **PannonSign** alphanumeric or matrix information display boards (VMS – Variable Message Signs) to the flagships of our product range **PannonScreen** large-scale LED video display boards are state of the art. We deal with the most respected and advanced suppliers of semiconductor techniques and LED-s, provided us with recent advancement in the industry. This position combined with our innovative technology we are able to provide our clients with unprecedented level of quality.
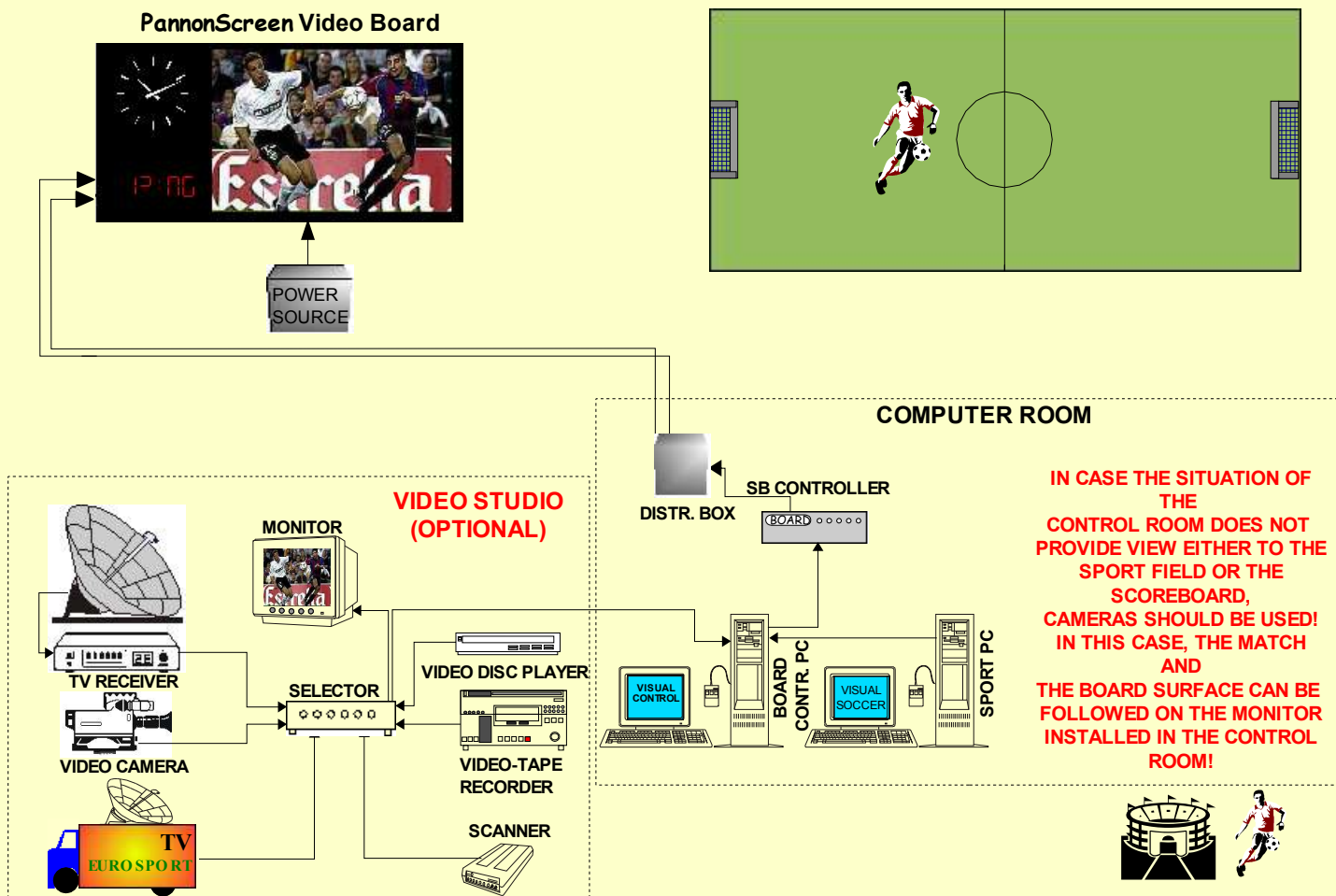
The **PannonScreen** Led video display boards are capable of displaying live video and VGA computer animations, graphics and texts. Due to the applied best quality, high brightness, wide viewing angle, long lifetime LED elements of Red, Blue and Pure Green colors the surface can generate as many as 16 millions different color possibilities and excellent contrast ratio (over 1:50 in a 10.000 lux environment) and the high light intensity of the screen (6-8.000 NIT) ensure perfect visibility of the produced image even in direct sunlight. It has a special digital power control that adjusts the 8-step brightness of the display board according to the surrounding lighting condition. Together with unique advanced image processing technology and the surface driver method we are able to achieve steady, flicker free, sharp graphic and video pictures and to provide unsurpassed viewing clarity for most video formats. The video surface is built of independent modular panels that include the LED clusters, their control electronics, the module power supply units and the inner air ventilation and cabling system.

Visual Solutions is not simple a LED video display board supplier but the provider of the complete system solutions for clients' needs.

We are able to provide integrated, turnkey systems including the LED video display along with control unit and computer, operating software, additional sport software for different sport events, interconnection to different networks and subsystems (like time keeping systems for swimming or track & fields, or judging systems etc.), supporting frames and housing. With our flexible, modular systems we can cover different market segments, not only the traditional indoor & outdoor sport event market, but the grooving advertising application areas, POS advertising solutions at shopping malls, and any kind of different public information systems (FIDS flight information display systems at airports, railway stations, bus stations, VMS variable message signs for traffic information systems on highways, etc).

Due to our wide product range we can proudly state that we are able to offer the optimal solution according the clients' requirements and budget. Whether your needs are indoor or outdoor, full color, semicolor or monochrome, numeric, alphanumeric or matrix display boards, design, technical support or consultation, the entire team at Visual Solutions is your one stop LED display provider. Our dedicated professionals will guide you from initial concept design to the final LED display solution

On the following pages you can find a sample system block diagram offered for a general soccer stadium, a brief description of the **Visual Control** software, and the **Visual Soccer** software, and the technical parameters of the currently available **PannonScreen** outdoor video display boards. The types and specifications are updated constantly to keep up with market & industry trends and customer requirements.

PannonScreen Video Board

POWER SOURCE

COMPUTER ROOM

DISTR. BOX

SB CONTROLLER

BOARD

VIDEO STUDIO (OPTIONAL)

MONITOR

TV RECEIVER

VIDEO CAMERA

SELECTOR

VIDEO DISC PLAYER

VIDEO-TAPE RECORDER

SCANNER

TV EUROSPORT

VISUAL CONTROL

VISUAL SOCCER

BOARD CONTR. PC

SPORT PC

IN CASE THE SITUATION OF THE
CONTROL ROOM DOES NOT
PROVIDE VIEW EITHER TO THE
SPORT FIELD OR THE
SCOREBOARD,
CAMERAS SHOULD BE USED!
IN THIS CASE, THE MATCH
AND
THE BOARD SURFACE CAN BE
FOLLOWED ON THE MONITOR
INSTALLED IN THE CONTROL
ROOM!

SYSTEM DIAGRAM OF THE PANNON SCREEN FOR SOCCER

Visual Soccer

The main intention of the **Visual Soccer** software is to help the operator to track the events of a soccer match and inform the spectators by displaying on the board this information on a spectacular way.

With the software the operator can arrange the matches and the main information of the matches into a database. This information are the date and location of the match, the participants like players, coaches and other officials of the teams, referees, etc. In this database we can store those simple programs, animations called revues which determine the displaying sequence of different events (goals, yellow cards, penalty, etc). The revues can be different for the different teams and matches, e.g. the goal of the home and the visitor team can be appeared on the board on a different way. This feature of the software provides a good opportunity to link the different events with different advertiser or sponsor, e.g. by showing the logo and advertisement of the sponsor at the goal of the home team, etc.

If the necessary arrangements has been done before the match properly (teams, player's names and numbers, preparation and selection of the revues, etc.), than during the match tracking the events and displaying the actual information on the board can be done easily by a few mouse clicks only. The software is linked to the **Visual Control** software by TCP/IP protocol via the LAN.

Visual Control

PannonScreen LED video display boards can be operated by **Visual Control** software.
Using the software the following operational functions can be done:

- We can setup the parameters of the video digitizer unit (brightness, contrast, saturation, etc.) and select the video norm (PAL, SECAM or NTSC)

- We can decide that the signal of one of the video inputs, the still or animated computer picture or the mixture of these two can be seen on the display board.

- The brightness of the surface can be adjusted according to the ambient lighting conditions.

- We can create simple drawings and write text, which we can display by different effects on the board or save into a file.

- We can capture still images from the live video to show them on the surface or to save on the hard disc.

- Still pictures and animations can be loaded from the disks to display them on the board (the software can load and save .BMP and .JPG files.)

- Video files can be loaded and played on the board (AVI or MPEG files can be played).

- Messages and texts can be made and displayed on the board like on moving message signs.

- The local time and the temperature can be shown on the display.

- The software has an interface to communicate with different applications to receive data and display the information on the board. (e.g. **Visual Soccer** software)

- The software provides the opportunity of remote control operation of the board from a LAN or from a long distance location via the Internet.

- The software works under Microsoft Windows XP operating system.

- The operator can see the output signal, the editing window and the main functions on the control computer monitor.
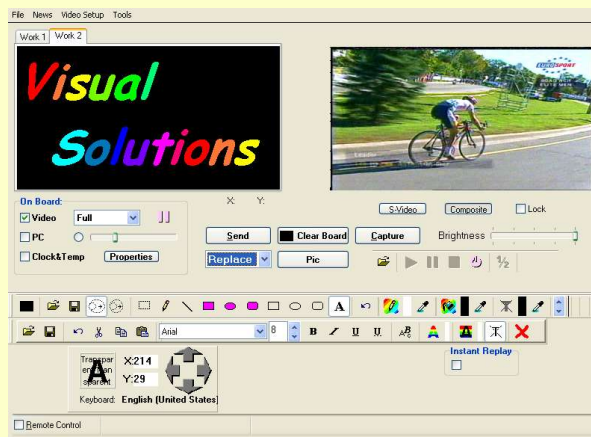
VS 15 – CV LED

Technical parameters:

Pixel spacing (pitch):	15 mm
Light source in a pixel:	1 pc. red, 1 pc. pure green and 1 pc. blue
Pixel density:	4444 pixels/m^2
Maximum display intensity[1]:	>7000 NIT (cd/m^2)
Number of possible colour:	more than 16 million
Brightness control:	8 steps (independent from the colours)
Refreshing time:	same as video source, 2000 frames/sec on the LED surface
Viewing angles Horizontal:	150°
Vertical:	-45° + 25°
Temperature range for Storage:	-20°C to + 60°C
Temperature range for Operation:	-10°C to + 35°C without air conditioning
	-20°C to + 60°C with air conditioning
Relative humidity:	10 - 95 % non condense
Life duration of LED:	50000 - 100000 hour
Life duration of display board:	25 years +
Modul size:	64 (V) x 96 (H) pixel
Power consuption of a module:	max. 2.1 kW (1 kW avarage)

Notes:

1: The final specification depends on the applied LEDs.

2: The above parameters can change because of the continous technical development.

Tipical board sizes:

Moduls:	Resolution: [pixels (Y x X)]	Area: [m^2]	X: [mm]	Y: [mm]	Screen ratio
2 x 2	96 x 128	2.76	1920	1440	4/3
3 x 3	144 x 192	6.22	2880	2160	4/3
3 x 4	144 x 256	8.29	3840	2160	16/9
4 x 4	192 x 256	11.06	2840	2880	4/3
5 x 5	240 x 320	17.28	4800	3600	4/3
6 x 6	288 x 384	24.88	5760	4320	4/3
6 x 8	288 x 512	33.18	7680	4320	16/9
8 x 8	384 x 512	44.24	7680	5760	4/3

VS 20 – CV LED

Technical parameters:

Pixel spacing (pitch):	20 mm
Light source in a pixel[1]:	1 or 2 pcs. red, 2 pcs. pure green and 1 pc. blue
Pixel density:	2500 pixels/m^2
Maximum display intensity[1]:	5-7000 NIT (cd/m^2)
Number of possible colour:	more than 16 million
Brightness control:	8 steps (independent from the colours)
Refreshing time:	same as video source, 2000 frames/sec on the LED surface
Viewing angles Horizontal:	150°
Vertical:	-45° + 25°
Temperature range for Storage:	-20°C to + 60°C
Temperature range for Operation:	-10°C to + 35°C without air conditioning
	-20°C to + 60°C with air conditioning
Relative humidity:	10 - 95 % non condense
Life duration of LED:	50000 - 100000 hour
Life duration of display board:	25 years +
Modul size:	32 (V) x 48 (H) pixel
Power consuption of a module:	max. 800 W (400 W avarage)

Notes:

1: The final specification depends on the applied LEDs.

2: The above parameters can change because of the
   continous technical development.

Tipical board sizes:

Moduls:	Resolution: [pixels (Y x X)]	Area: [m^2]	X: [mm]	Y: [mm]	Screen ratio
2 x 2	96 x 128	4.92	2560	1920	4/3
3 x 3	144 x 192	11.06	3840	2880	4/3
3 x 4	144 x 256	14.75	5120	2880	16/9
4 x 4	192 x 256	19.66	5120	3840	4/3
5 x 5	240 x 320	30.72	6400	4800	4/3
6 x 6	288 x 384	44.24	7680	5760	4/3
6 x 8	288 x 512	58.98	10240	5760	16/9
8 x 8	384 x 512	78.64	10240	7680	4/3

VS 30 – CV LED

Technical parameters:

Pixel spacing (pitch):	30 mm
Light source in a pixel[1]:	2 or 3 pcs. red, 2 pcs. pure green and 1 pc. blue
Pixel density:	1111 pixels/m^2
Maximum display intensity[1]:	5-7000 NIT (cd/m^2)
Number of possible colour:	more than 16 million
Brightness control:	8 steps (independent from the colours)
Refreshing time:	same as video source, 2000 frames/sec on the LED surface
Viewing angles Horizontal:	150°
Vertical:	-45° + 25°
Temperature range for Storage:	-20°C to + 60°C
Temperature range for Operation:	-10°C to + 35°C without air conditioning
	-20°C to + 60°C with air conditioning
Relative humidity:	10 - 95 % non condense
Life duration of LED:	50000 - 100000 hour
Life duration of display board:	25 years +
Modul size:	32 (V) x 48 (H) pixel
Power consuption of a module:	max. 900 W (450 W avarage)

Notes:

1: The final specification depends on the applied LEDs.

2: The above parameters can change because of the
   continous technical development.

Tipical board sizes:

Moduls:	Resolution: [pixels (Y x X)]	Area: [m^2]	X: [mm]	Y: [mm]	Screen ratio
2 x 4	96 x 128	11.06	3840	2880	4/3
3 x 6	144 x 192	24.88	5760	4320	4/3
3 x 8	144 x 256	33.18	7680	4320	16/9
5 x 5**	160 x 240	34.56	7200	4800	3/2
4 x 8	192 x 256	44.24	7680	5760	4/3
5 x 10	240 x 320	69.12	9600	7200	4/3
6 x 12	288 x 384	99.53	11520	8640	4/3
6 x 16	288 x 512	132.71	15360	8640	16/9

VS 40 – CV LED

Technical parameters:

Pixel spacing (pitch):	40 mm
Light source in a pixel[1]:	5 or 4 pcs. red, 3 pcs. pure green and 2 pcs. blue
Pixel density:	625 pixels/m^2
Maximum display intensity[1]:	5-7000 NIT (cd/m^2)
Number of possible colour:	more than 16 million
Brightness control:	8 steps (independent from the colours)
Refreshing time:	same as video source, 2000 frames/sec on the LED surface
Viewing angles Horizontal:	150°
Vertical:	-45° + 25°
Temperature range for Storage:	-20°C to + 60°C
Temperature range for Operation:	-10°C to + 35°C without air conditioning
	-20°C to + 60°C with air conditioning
Relative humidity:	10 - 95 % non condense
Life duration of LED:	50000 - 100000 hour
Life duration of display board:	25 years +
Modul size:	16 (V) x 24 (H) pixel
Power consuption of a module:	max. 500 W (250 W avarage)

Notes:

1: The final specification depends on the applied LEDs.

2: The above parameters can change because of the continous technical development.

Tipical board sizes:

Moduls:	Resolution: [pixels (Y x X)]	Area: [m^2]	X: [mm]	Y: [mm]	Screen ratio
4 x 4	96 x 128	19.66	5120	3840	4/3
5 x 5	120 x 160	30.72	6400	4800	4/3
6 x 6	144 x 192	44.24	7680	5760	4/3
6 x 8	144 x 256	58.98	10240	5760	16/9
5 x 10**	160 x 240	61.44	9600	6400	3/2
8 x 8	192 x 256	99.53	11520	8640	4/3
9 x 9	216 x 288	99.53	11520	8640	4/3
12 x 12	288 x 384	176.95	15360	11520	4/3