LED Pixelboard 500/256

ORDERCODE 101130

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Always get the best -- with Showtec !

Thank you!

Showtec

Showtec LED Pixelboard™ Product Guide

WARNING

SAFETY INSTRUCTIONS

Every person involved with the installation, operation and maintenance of this device has to:
- be qualified
- follow the instructions of this manual

> **CAUTION! Be careful with your operations.
> With a dangerous voltage you can suffer
> a dangerous electric shock when touching the wires!**
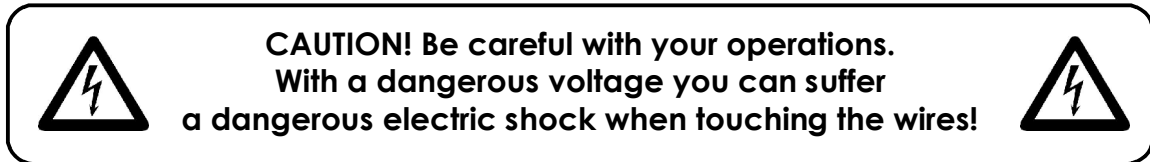
Before your initial start-up, please make sure that there is no damage caused by transportation. Should there be any, consult your dealer and do not use the device.

To maintain perfect condition and to ensure a safe operation, it is absolutely necessary for the user to follow the safety instructions and warning notes written in this manual.

Please consider that damages caused by manual modifications to the device are not subject to warranty.

This device contains no user-serviceable parts. Refer servicing to qualified technicians only.

IMPORTANT:

The manufacturer will not accept liability for any resulting damages caused by the non-observance of this manual or any unauthorized modification to the device.

- Never let the power-cord come into contact with other cables! Handle the power-cord and all connections with the mains with particular caution!
- Never remove warning or informative labels from the unit.
- Do not open the device and do not modify the device.
- Do not connect this device to a dimmerpack.
- Do not shake the device. Avoid brute force when installing or operating the device.
- Never look directly into the light source.
- Never leave any cables lying around.
- Do not switch the device on and off in short intervals, as this would reduce the lamp's life.
- Never use the device during thunderstorms, unplug the device immediately.
- Only use device indoor, avoid contact with water or other liquids.
- Avoid flames and do not put close to flammable liquids or gases.
- Only operate the device after having familiarized with its functions.
- Always allow free air space of at least 50 cm around the unit for ventilation.
- Always disconnect power from the mains, when device is not used or before cleaning! Only handle the power-cord by the plug. Never pull out the plug by tugging the power-cord.
- Make sure that the device is not exposed to extreme heat, moisture or dust.
- Make sure that the available voltage is not higher than stated on the rear panel.
- Make sure that the power-cord is never crimped or damaged. Check the device and the power-cord from time to time.
- The cable insert or the female part in the device must never be strained. There must always be sufficient cable to the device. Otherwise, the cable may be damaged which may lead to deadly electrical shocks.

- If the external cable is damaged, it has to be replaced by a qualified technician.
- If device is dropped or struck, disconnect mains power supply immediately. Have a qualified engineer inspect for safety before operating.
- If the device has been exposed to drastic temperature fluctuation (e.g. after transportation), do not switch it on immediately. The arising condensation water might damage your device. Leave the device switched off until it has reached room temperature.
- If your Showtec device fails to work properly, discontinue use immediately. Pack the unit securely (preferably in the original packing material), and return it to your Showtec dealer for service.
- For adult use only. Lighteffect must be installed out of the reach of children. Never leave the unit running unattended.
- The user is responsible for correct positioning and operating of the LED Pixelboard. The manufacturer will not accept liability for damages caused by the misuse or incorrect installation of this device.
- This device falls under protection class I. Therefore it is essential to connect the yellow/green conductor to earth.
- Repairs, servicing and electric connection must be carried out by a qualified technician.
- For replacement use fuses of same type and rating only.
- WARRANTY: Till one year after date of purchase.

CAUTION ! EYEDAMAGES !.
Avoid looking directly into the light source.
(meant especially for epileptics) !

OPERATING DETERMINATIONS

This device is not designed for permanent operation. Consistent operation breaks will ensure that the device will serve you for a long time without defects.

The minimum distance between light-output and the illuminated surface must be more than 0,5 meters.

The maximum ambient temperature t_a = 45°C must never be exceeded.

The relative humidity must not exceed 50 % with an ambient temperature of 45° C.

If this device is operated in any other way, than the one described in this manual, the product may suffer damages and the warranty becomes void.
Any other operation may lead to dangers like short-circuit, burns, electric shock, lamp explosion, crash etc.

You endanger your own safety and the safety of others!

Improper installation can cause serious damage to people and property !

Connection with the mains

Connect the device to the mains with the power-plug.
Always pay attention, that the right color cable is connected to the right place.

Cable	Pin	International
BROWN	FASE	L
BLUE	NUL	N
YELLOW/GREEN	EARTH	⏚

Make sure that the device is always connected properly to the earth!

Description of the device

Features
The LED Pixelboard is a fabulous LED Lighteffect from Showtec.
• Inputs: DVI, VGA, RF, YC, YCbCr, SCART, and HDMI
• 16million colors (24bit)
• Effects: Video/flash/text/RGB color mixing and any PC based graphics
• Play music videos (example Windows Mediaplayer) and DVDs from your computer
• Average Lifespan: 50,000~100,000hrs
• Mounting system has rigging points and flexible configurations
• Additional power-con output for daisy chaining units together
• Additional video output for daisy chaining units together
• Rated Power: 192W
• IP Rating: IP65
• OUTPUT/led: 0.08W
• LED/Unit: 2304pcs
• Cooling: Direct air convection
• LED/Pixel: 3xRED/3XGREEN/3XBLUE
• Pixel/Unit: 16 x 16
• Pixel Pitch: 31mm
• Pixel Density: 1024 pixels/m

Control
• Software: LEDstudio
• System: Windows XP/ATI video card
• Works with other manufacturer's software Pandora's Box, Arkaos, Sweetlight Timeline
• Applications: Small or large, interior or exterior architectural/ advertising /stage

Overview

Fig. 1

Overall Requirements

• Windows XP computer with an available PCI slot
• ATI graphics card or Nvdia Geforce with DVI Out
• LED Pixelboard Controller (**101140**); 1 controller for every 6 panels wide and 16 panels high

Computer System Requirements

Minimum
Operating system: Windows XP SP2 (Service Pack 2)
Processor: Pentium 200 MHz with at least one free PCI slot
Harddisk: 20 GB 5400 RPM
Memory: 128 MB
Graphic Card: ATI Graphics Card with dual display and DVI-I output
Note: NVIDIA graphics cards are not compatible with this software

Recommended
Operating system: Windows XP SP2 (Service Pack 2)
Processor: Pentium 1 GHz or better with at least one free PCI slot
Harddisk: 40 GB 7200 RPM or more
Memory: 512 MB or higher
Graphic Card: ATI Graphics Card with dual display and DVI-I output
Note: NVIDIA graphics cards are not compatible with this software
Tested on an ATI Radeon 9300

Set Up and Operation
Before plugging the unit in, always make sure that the power supply matches the product specification voltage. Do not attempt to operate a 120V specification product on 230V power, or vice versa.
Always disconnect from electric mains power supply before cleaning or servicing.
Damages caused by non-observance are not subject to warranty.

The LED Pixelboard can be used indoors and outdoors. Due to the IP65 rating, the LED Pixelboard will be reliable and safe to use in most weather conditions. The LED Pixelboard can be viewed during night-time as well as day-time. Due to the clever mounting system it is easy to setup. The LED Pixelboard excellent design allows you to vary the setup in many shapes and sizes.

LED Pixelboard Limitations

Horizontal Panels (Left/Right)

Minimum 1 Panel	16 columns of LED clusters or 16 horizontal pixels/lines
Maximum with 6 panels (1 Controller)	96 columns of LED clusters or 96 horizontal pixels/lines
Maximum with 48 panels (2 Controllers)	768 columns of LED clusters or 768 horizontal pixels

Vertical Panels (UP/Down)

Minimum 1 Panel	16 rows of LED clusters or 16 vertical pixels/lines
Maximum with 16 panels (1 Controller)	256 rows of LED clusters or 256 vertical pixels/lines
Maximum with 32 panels (2 Controllers)	512 rows of LED clusters or 512 vertical pixels

Resolution

Minimum 1 Panel	16 X 16 Pixels
Maximum With (1 Controller)	96 X 128 Pixels
Maximum With (2 Controllers)	768 X 512 Pixels

1 Panel is 16 pixels on your PC screen.
So 8 x 6 panels (4 x 3 meters) = a resolution of 128 x 96 pixels in Windows XP.
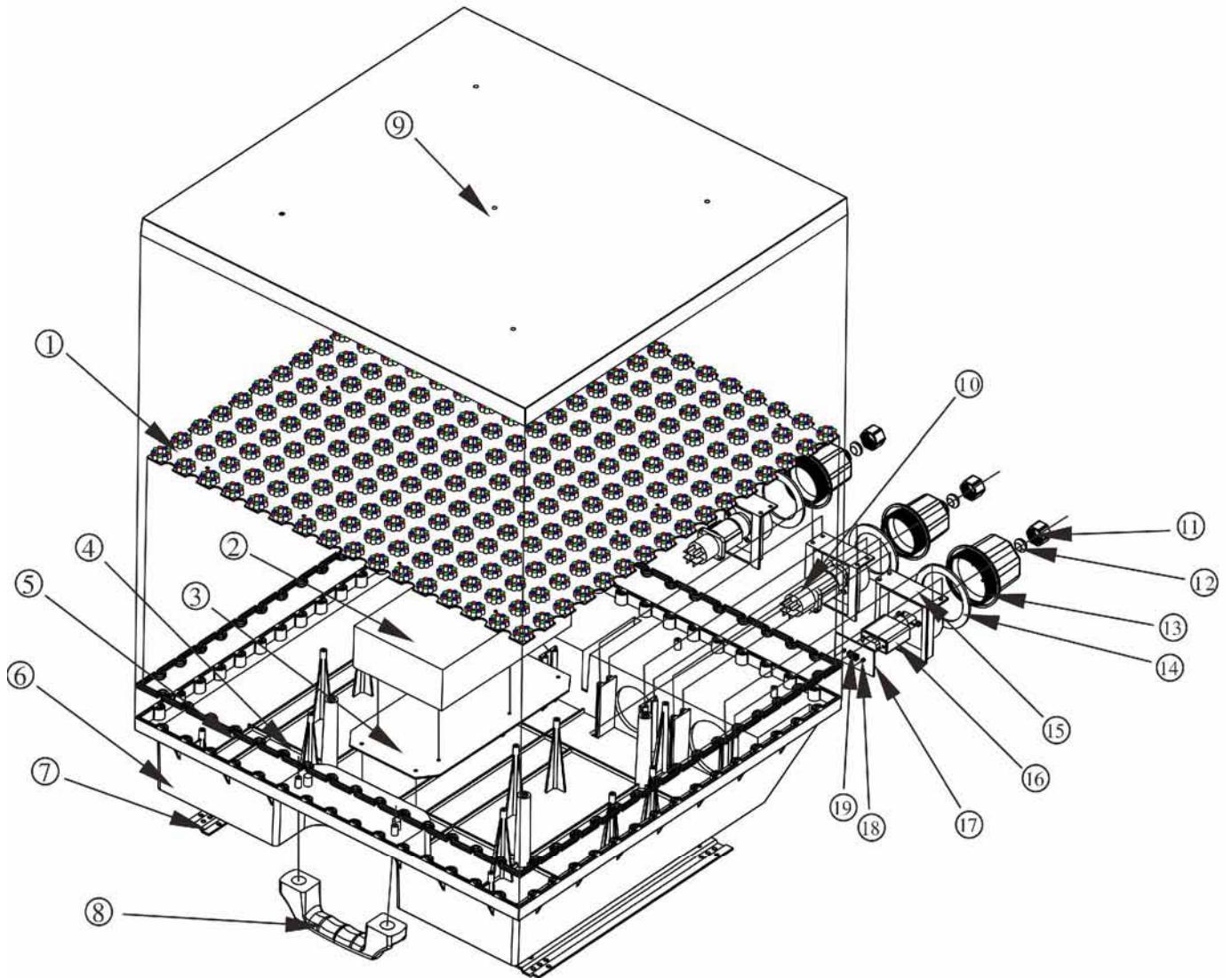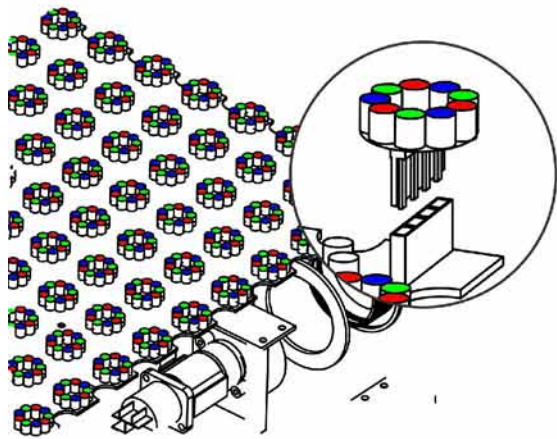
1) PCB
2) Power supply
3) Power supply mounting plate
4) Mounting support B
5) Rubber seal
6) Plastic casing
7) Mounting support A
8) Handle
9) Display cover
10) Power connector
11) Cable watertight locking nut
12) Rubber seal
13) Watertight locking nut
14) Rubber seal
15) Watertight locking thread
16) Signal connector
17) PCB
18) Alan bolt
19) Signal connector
20) Mains power connection
21) Mains power connection
22) DC +12V
23) COM
24) GND
25) Neutral
26) Live
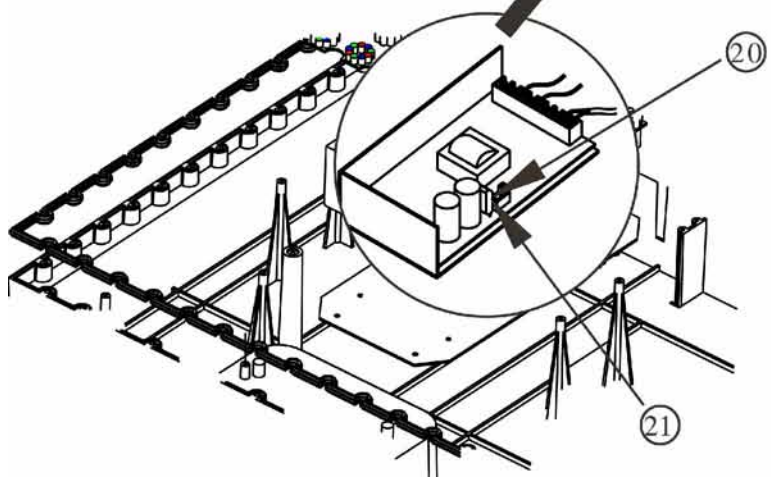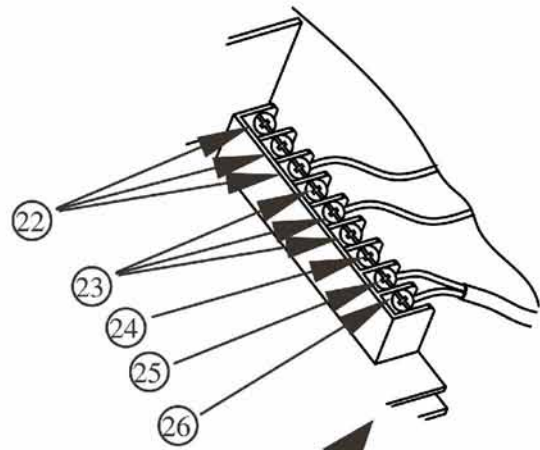
Mounting System to LED Screen Connection

Each LED Pixelboard panel is mounted to the mounting system using 4 x M10 Hexagon Bolts.

Note: These bolts only need to be removed when an LED Panel needs to be moved or serviced, when the mounting system is locked to other units (and it is not possible to unlock the mounting system).

Connecting 96 LED panels to 1 controller

101130 LED Panel: Total 6x 16 panels
96 Panels on 1 controller

101140 Controller

Computer
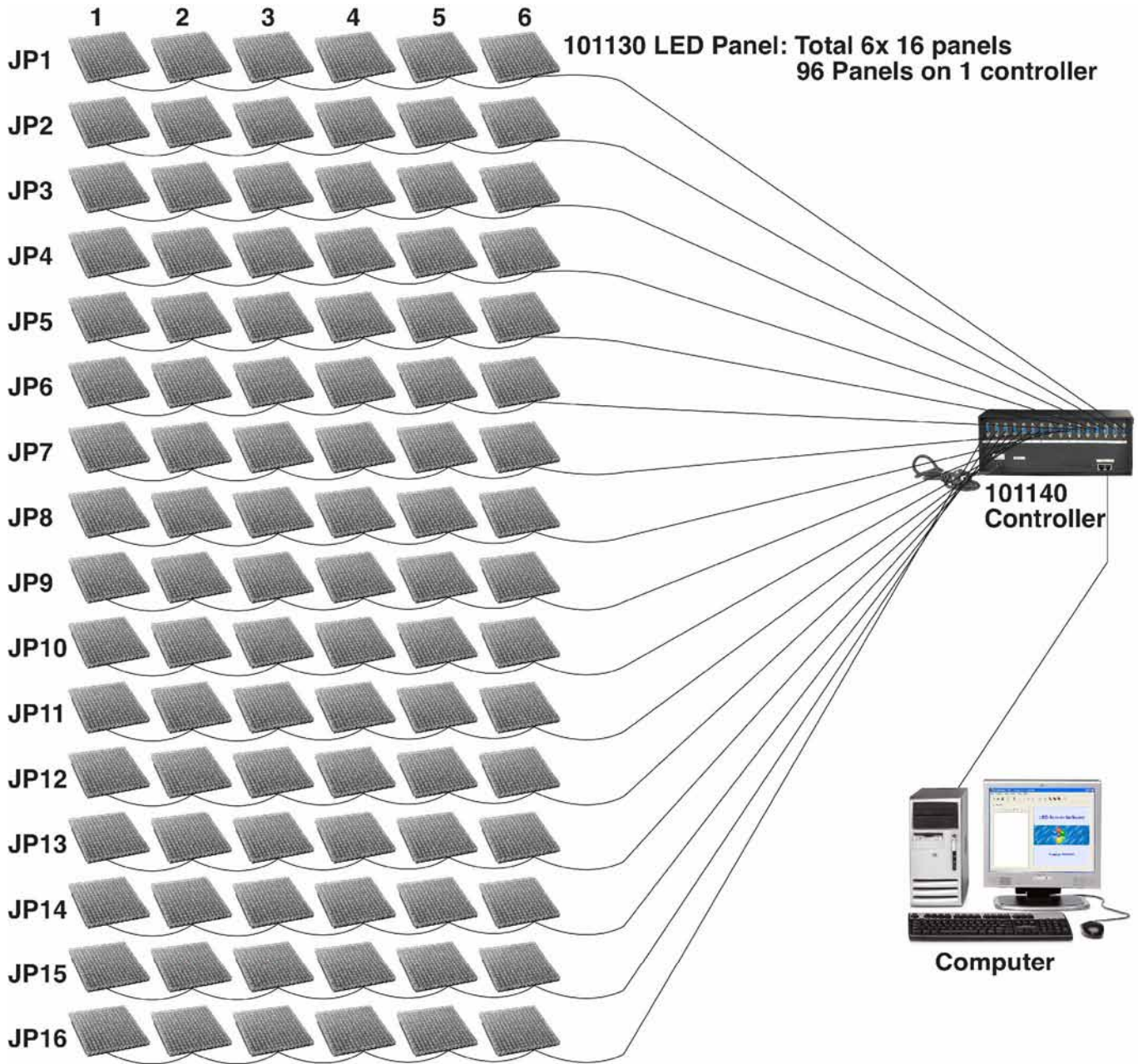
Maximum System Configuration

Each controller **C1-16** (**101140**) can control up to 6x16 panels (HxV)

101140
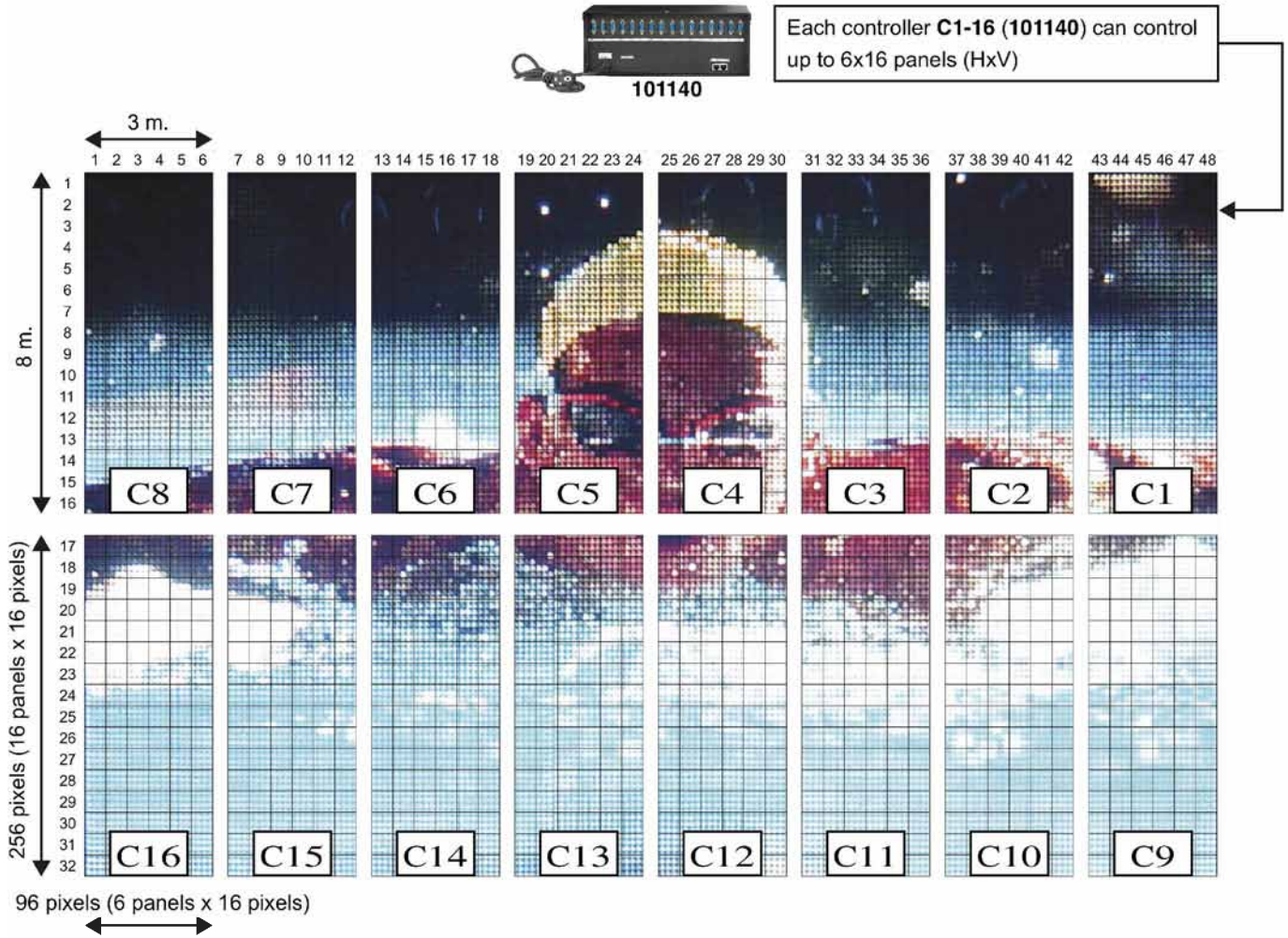
In the example above 16 Controllers (**C1-C16**) are used to control a LED Wall from 24 x 16 meter.
The gaps between each matrix section are for visual aid only.
Panel sections pair up edge to edge, to maintain consistent pixel separation across multiple matrix sections.

Other Setup Possibilities
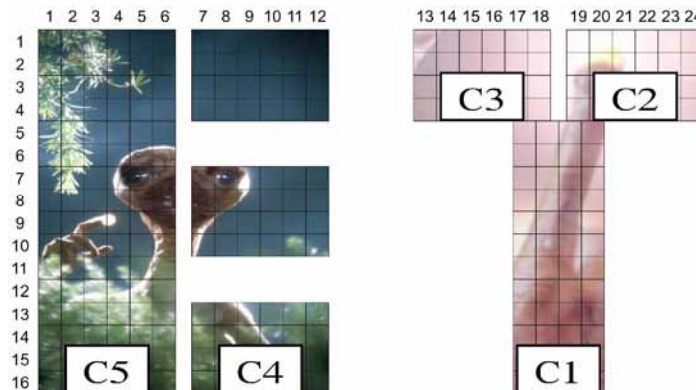
Mounting System Connections

Each LED Pixelboard can be locked to any other panel, using the interlocking connectors at the rear of each Pixelboard.

Note: Always position the panels using the position guides.

Inter-lock the LED Pixelboards together using the thumb-bolts.

Always check that the thumb-bolts are tightly fastened using a spanner.

Attach the square bracket to the back of the panel, using M10 Hex bolts

M10 Hex Bolts

Each panel can be joined together perfectly using the positioning guides.
The interlocking connectors provide a fast and safe method for building and securing a large video display area.

Easy interlocking system

11
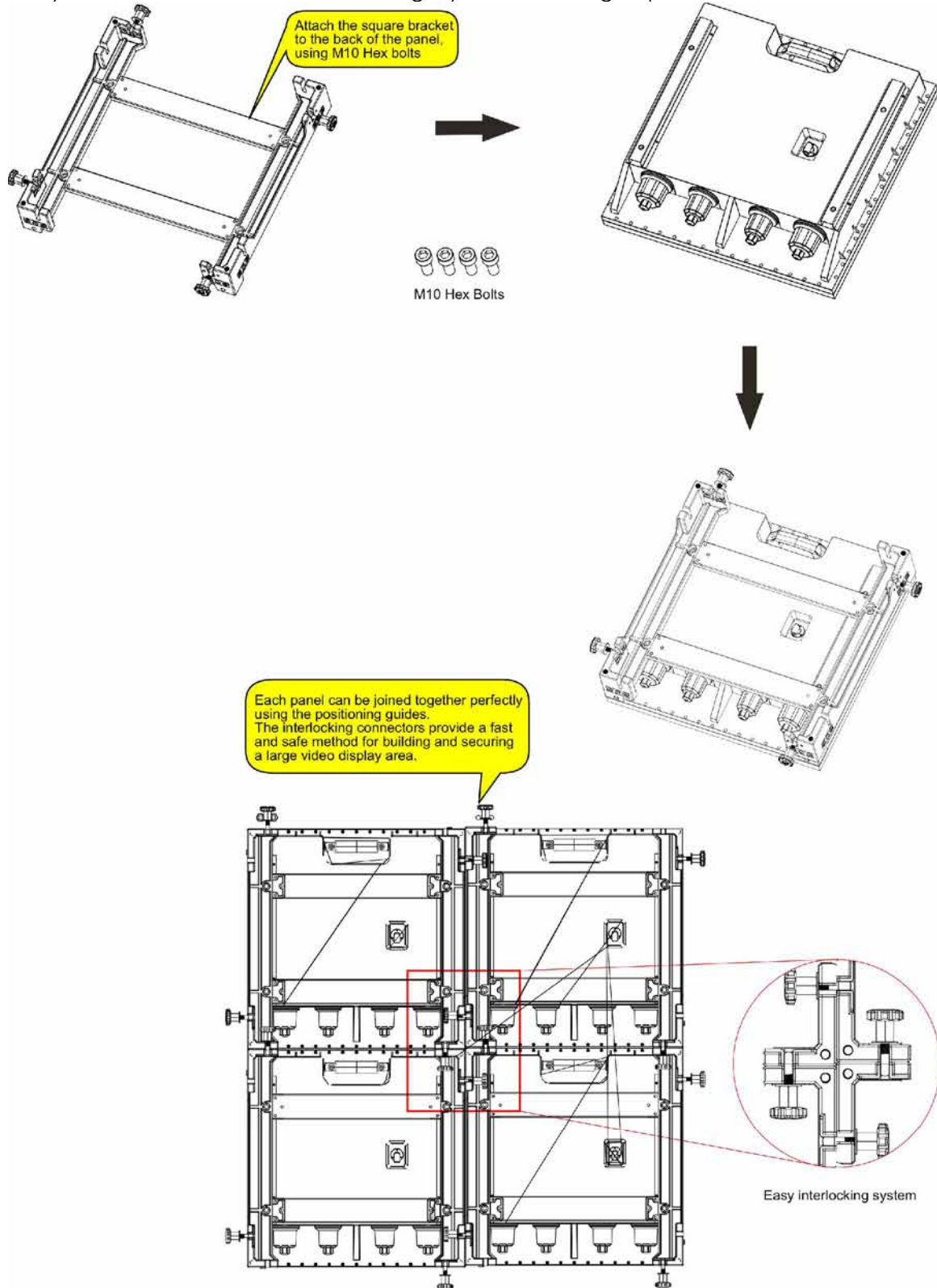
Attaching the Flying Bracket

The flying bracket attachment is used to rig a 1 meter section (Width) of the LED Pixelboard. It is designed to be attached to the very top row of a 1 meter section. Additional hardware is provided for interconnecting multiple flying brackets.
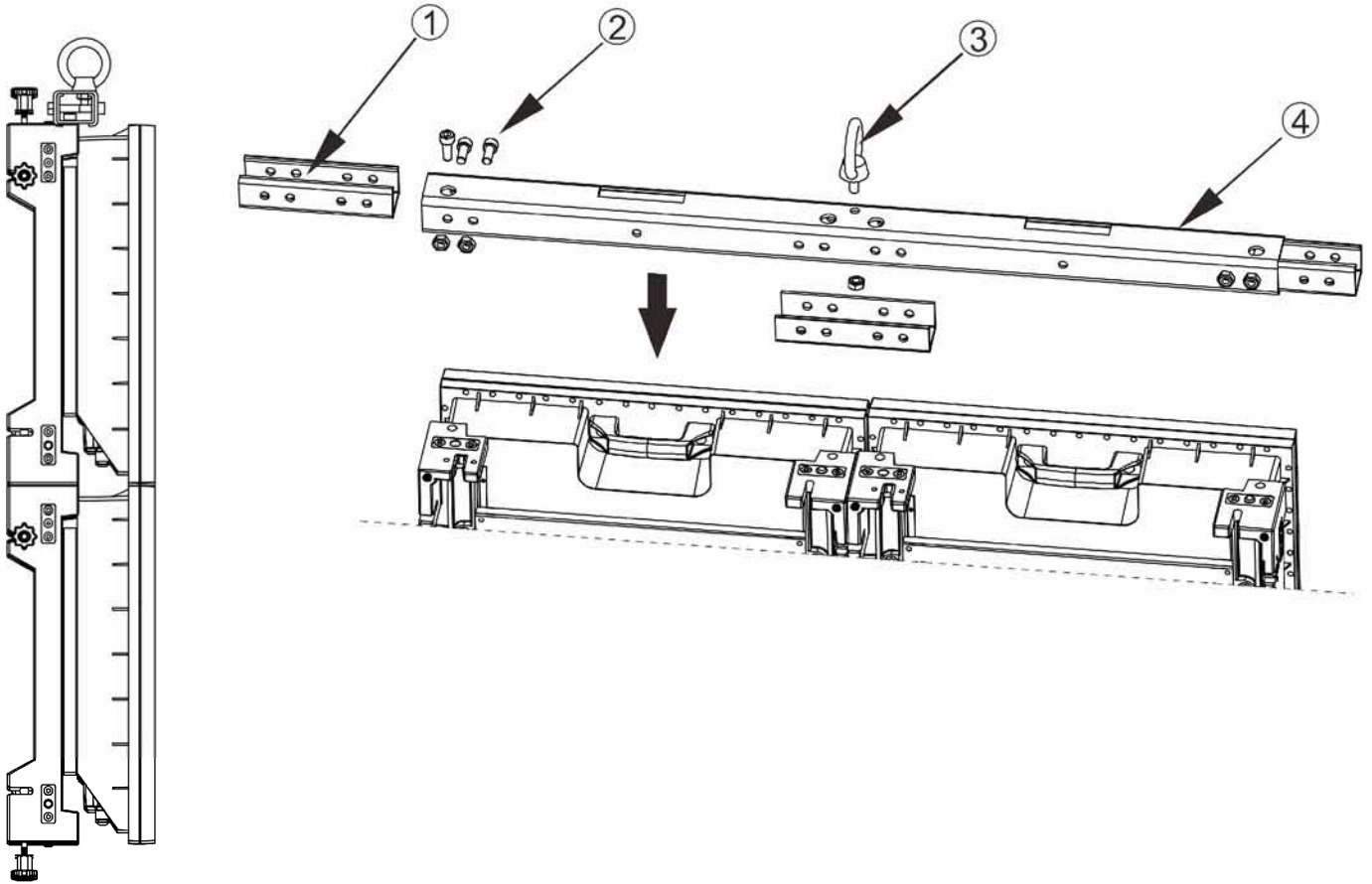
Note:
Always make sure that all bolts are securely fastened.
For screens measuring 3 meters in height or beyond, use 2 rigging points for every 1 meter section.
Do not use on systems larger than 6 meters in height.

Net OUT1: Displays the first 256 rows or horizontal lines of the screens
Net OUT2: displays horizontal lines 257 through 512.

Controller 2

IN   OUT
NEXT

VIDEO CARD WITH DVI
NOTE: CARD NOT INCLUDED

Controller 1

IN   OUT

RS232 SIGNAL CABLE

COM

DVI SIGNAL CABLE

VGA   DVI

DVI   OUT2

1~256 ROW   NET CABLE

257~512 ROW

Multiple controllers are used for larger
video displays and patterns.

TRANSMITTER

Each LED Pixelboard uses 192W.

SIGNAL CABLE

Signal IN   Power IN   Power OUT   Signal OUT   Signal IN   Power IN   Power OUT   Signal OUT

Next Panel

Next Panel

230V

!!!! WARNING !!!
No more than 16 panels should be
connected to a 20A circuit on 230V

8 panels should

Signal IN   Power IN   Power OUT   Signal OUT   Signal IN   Power IN   Power OUT   Signal OUT

Next Panel

230V

Next Panel

BACKSIDE

13

Every driver contains 16 output ports (J1 ~ J16). Each output port provides signal source to one horizontal row of panels not exceeding 6 panels wide.

Backside
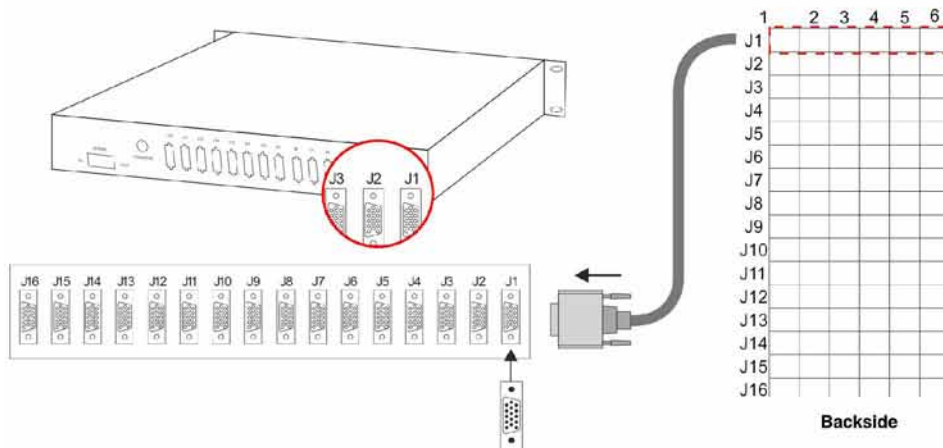
Example
If you want to use a video wall 3 x 3m.,
please check the following connection diagram.
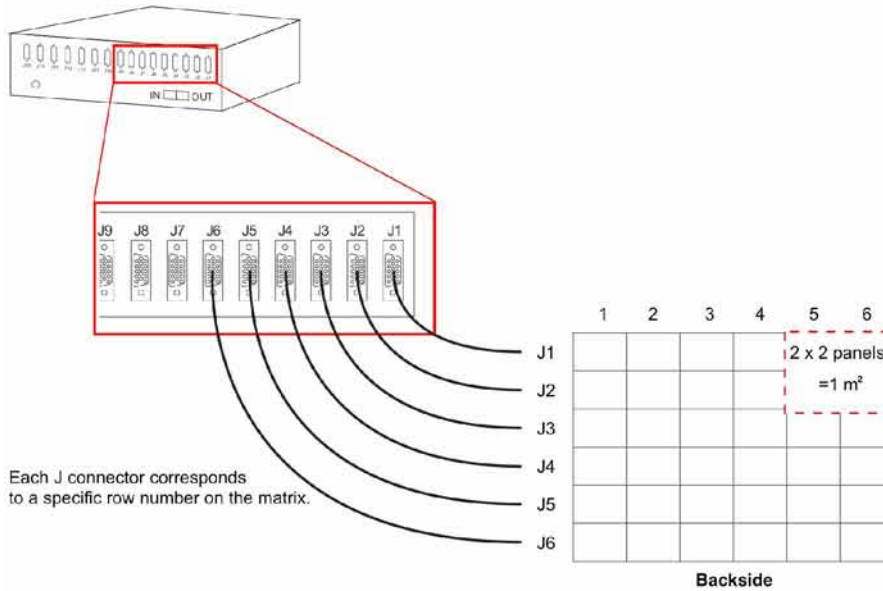
Each J connector corresponds
to a specific row number on the matrix.

2 x 2 panels
=1 m²

Backside

It is easy to calculate the required number of J output connectors you want to use, as long as you know the specific pixel resolution for your performance.

Number of Horizontal Lines (Rows) or Vertical Pixels	Number of Panels Vertical	Output Connections to use
16	1	J1
32	2	J1 ~ J2
48	3	J1 ~ J3
64	4	J1 ~ J4
80	5	J1 ~ J5
96	6	J1 ~ J6
112	7	J1 ~ J7
128	8	J1 ~ J8
144	9	J1 ~ J9
160	10	J1 ~ J10
176	11	J1 ~ J11
192	12	J1 ~ J12
208	13	J1 ~ J13
224	14	J1 ~ J14
240	15	J1 ~ J15
256	16	J1 ~ J16

Dip switch settings

A LED Pixelboard video display matrix may consist of up to 16 controllers or 16 individual grid sections in various pattern configurations. Each controller must be addressed according to your configuration so that the video appears whole and intact. Two internal dipswitches (JP1 & JP2) are addressed according to your system layout and configuration.

Open the controller to change the Dipswitch settings.
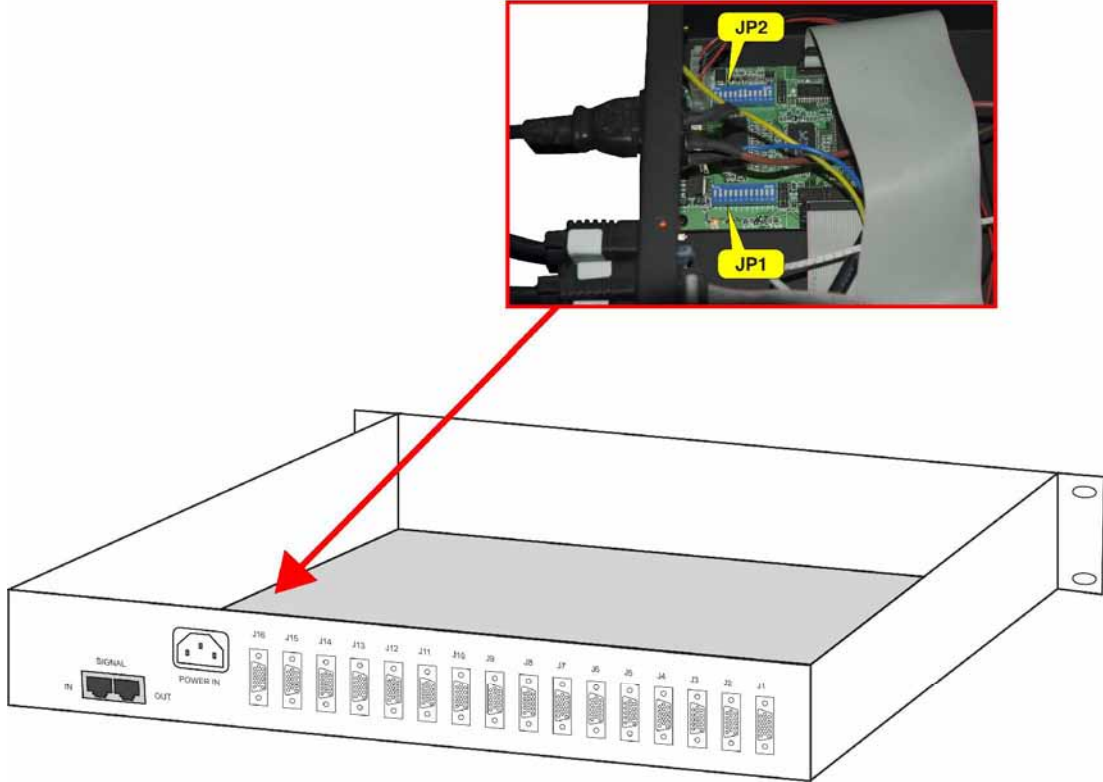
1 Panel is 16 pixels on your PC screen.
So 8 x 6 panels (4 x 3 meters) = a resolution of 128 x 96 pixels in Windows XP.

JP1:
Sets the total width one driver will display. The width can be described in either number of panels or pixel resolution. Possible widths include 1 to 6 panels or 16 to 96 horizontal pixels

JP2:
Sets the starting vertical line from which this driver will begin to display video. Remember that a matrix may consist of multiple sections across, so in order to display video correctly you will need to set starting address for each section handled by a driver.

JP1 Dipswitches

JP1 dipswitches have their own unique addressing method. For example setting dipswitch 3 to ON adds 32 values to the counter while setting 11 to ON subtracts 16.
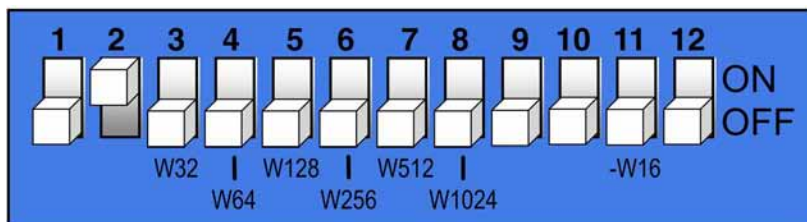
DEFAULT Setting = 32

JP2 Dipswitches

In order for video to display properly across multiple sections or drivers, each driver must be addressed accordingly. The JP2 dipswitch establishes the horizontal starting address or (vertical line) for each section of matrix.

Vertical Line, JP2 set at 0 (=Default) (horizontal starting address)
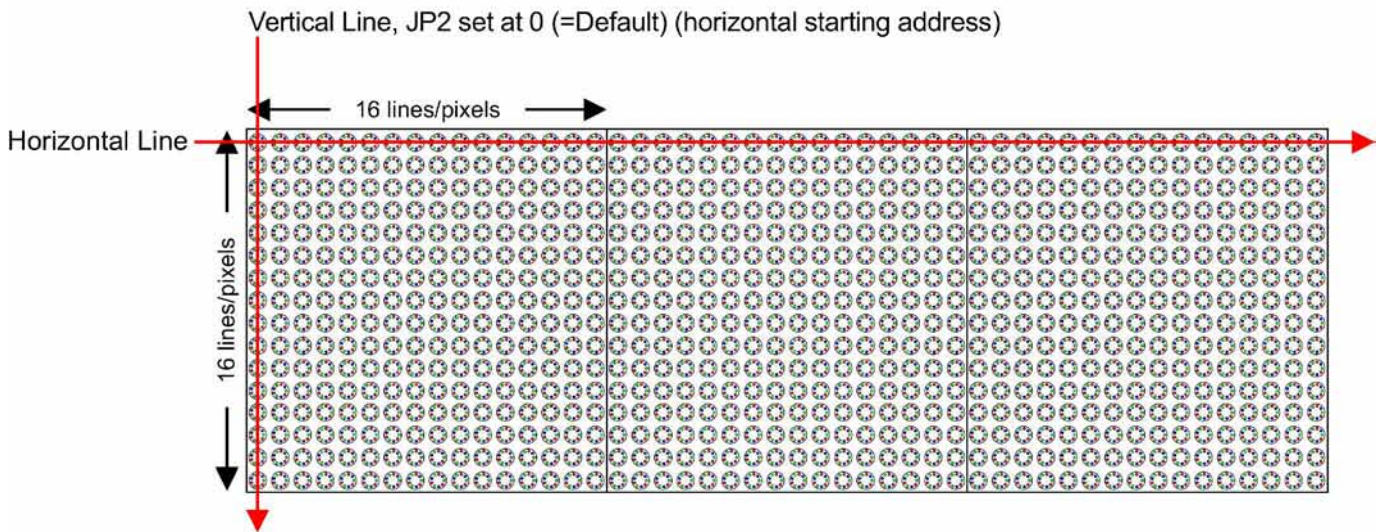
Just like the JP1 dipswitch, JP2 has different numerical designations for addressing. Dipswitches 6 and 7 always remain in the ON position.
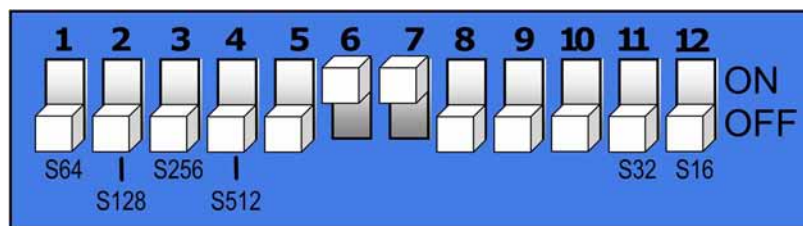
DEFAULT START ADDR = 0

You can use the table below to quickly identify the dipswitch settings for your matrix width.

Vertical Lines (Horizontal starting address)	add 64	add 128	add 256	add 512	(Default Off)	(Default On)	(Default On)	(Default Off)	(Default Off)	(Default Off)	add 16	add 32
	1	2	3	4	5	6	7	8	9	10	11	12
0						1	1					
16						1	1				1	
32						1	1					1
48						1	1				1	1
64	1					1	1					
80	1					1	1				1	
96	1					1	1					1
112	1					1	1				1	1
128		1				1	1					
144		1				1	1				1	
160		1				1	1					1
176		1				1	1				1	1
192	1	1				1	1					
208	1	1				1	1				1	
224	1	1				1	1					1
240	1	1				1	1				1	1
256			1			1	1					
272			1			1	1				1	
288			1			1	1					1
304			1			1	1				1	1
320	1		1			1	1					
336	1		1			1	1				1	
352	1		1			1	1					1
368	1		1			1	1				1	1
384		1	1			1	1					

Vertical Lines (Horizontal starting address)	add 64	add 128	add 256	add 512	(Default Off)	(Default On)	(Default On)	(Default Off)	(Default Off)	(Default Off)	add 16	add 32
	1	2	3	4	5	6	7	8	9	10	11	12
400		1	1			1	1				1	
416		1	1			1	1					1
432		1	1			1	1				1	1
448	1	1	1			1	1					
464	1	1	1			1	1				1	
480	1	1	1			1	1					1
496	1	1	1			1	1				1	1
512				1		1	1					
528				1		1	1				1	
544				1		1	1					1
560				1		1	1				1	1
576	1			1		1	1					
592	1			1		1	1				1	
608	1			1		1	1					1
624	1			1		1	1				1	1
640		1		1		1	1					
656		1		1		1	1				1	
672		1		1		1	1					1
688		1		1		1	1				1	1
704	1	1		1		1	1					
720	1	1		1		1	1				1	
736	1	1		1		1	1					1
752	1	1		1		1	1				1	1
768			1	1		1	1					

Note: 1 = Dipswitch ON, Blank = Dipswitch OFF

Transmitter Card

Install the transmitter card in an available PCI slot in your computer. The transmitter card is the interface between your PC, LED Studio and the LED Pixelboard. You must use the DVI cable provided to connect from the computers DVI output to the DVI port on the transmitter card.

| DVI Port | Aux port | DC external power input | Data Out 2 | Data Out 1 |
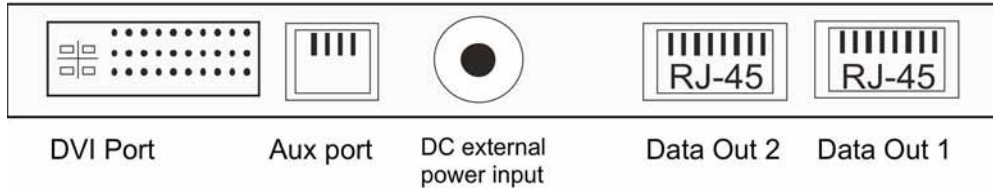
Data Out 1 & Data Out 2 connectors
The 2 network output ports transmit 256 rows or horizontal lines. Output 1 transmits rows/lines 1 throug 256. output 2 transmits rows/lines 257 through 512.

Aux Port
This is a standard 6-pin telephone connector. A cable is provided that connects from the 9-pin dIN R-232 port to the AUX port on the transmitter card. This port allows control of the R variable, gray scale, DV Wall matrix active area, and matrix lock and matrix range.

DC External Power Input
This input takes the 5V power supply provided. It is only used if the transmitter card will be operated eternally of the computer.

Making an additional Net-cable

A Standard NET CABLE cannot be used to replace the NET CABLE required to transmit the information for the LED Pixelboard. The Pin connection is not compatible with the LED Pixelboard.

Please follow the following instructions in order to create extra NET CABLE.

Take a standard net cable (Cat5/ 5E /6) and connect it like as displayed on the picture. The wires should now be colored as following:

1- white & orange
2- orange
3- white & green
4- green
5- blue
6- white & blue
7- white & brown
8- brown
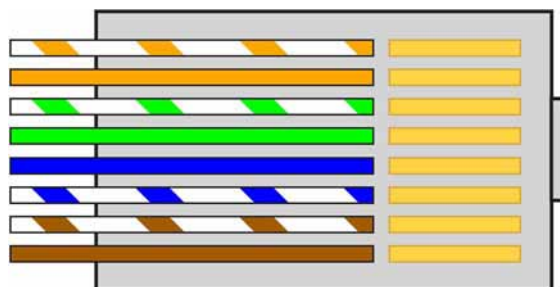
RJ-45 Connector

Twist the following pairs together so that only the plastic is touching (the metal wires must not touch) 1&2, 3&4, 5&6, 7&8
Insert each wire into an RJ-45 connector with the white & orange wire connected to PIN 1, the orange wire connected to the second PIN, etc.
Both ends of the NET WIRE are connected in this way.

RS232 cable connection (AUX Connection)

RS232 to RJ-11connection:

A(Connector)

2--3
3--2
4--1
5--4
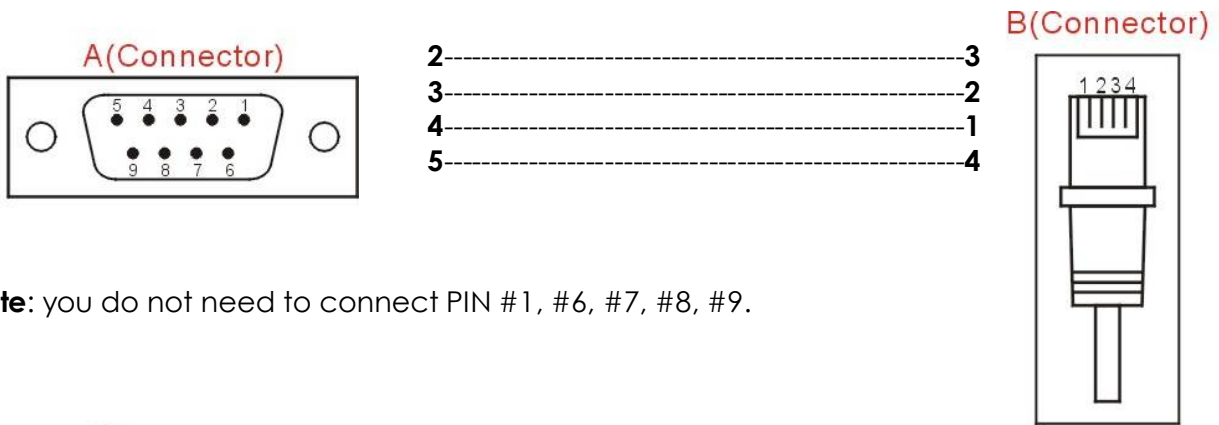
B(Connector)

Note: you do not need to connect PIN #1, #6, #7, #8, #9.

RS-232 Connector

RJ-11 Connector

Finsihed Cable

Transmitter card installation

1) Turn off your computer and disconnect from the powersource. Always take these precautions before opening the case and adding/removing components.

2) Insert the transmitter card into an available PCI slot in your computer.

3) Connect the DVI output from your computer's display card to the DVI input on the transmitter card, using the DVI signal cable provided.

4) Connect your computer's serial RS232 (also known as COM port) connector to the 6-pin telephone connector of the transmitter card, using the RS232 signal cable provided.

5) Connect the RJ45 OUT 1 connector to the controller's Net IN connector with the provided net cable to display rows 1 through 256.

6) When you want to display 512 row lines, connect the OUT 2 to a second controller.

7) Make sure that all connections are correctly connected, before applying power to the entire system.

8) In order to test the system successfully, it will be necessary to address the controllers correctly. Also see page 15 for the controllers dipswitch settings.

9) Once the controllers are assigned, turn on the computer and test the system.
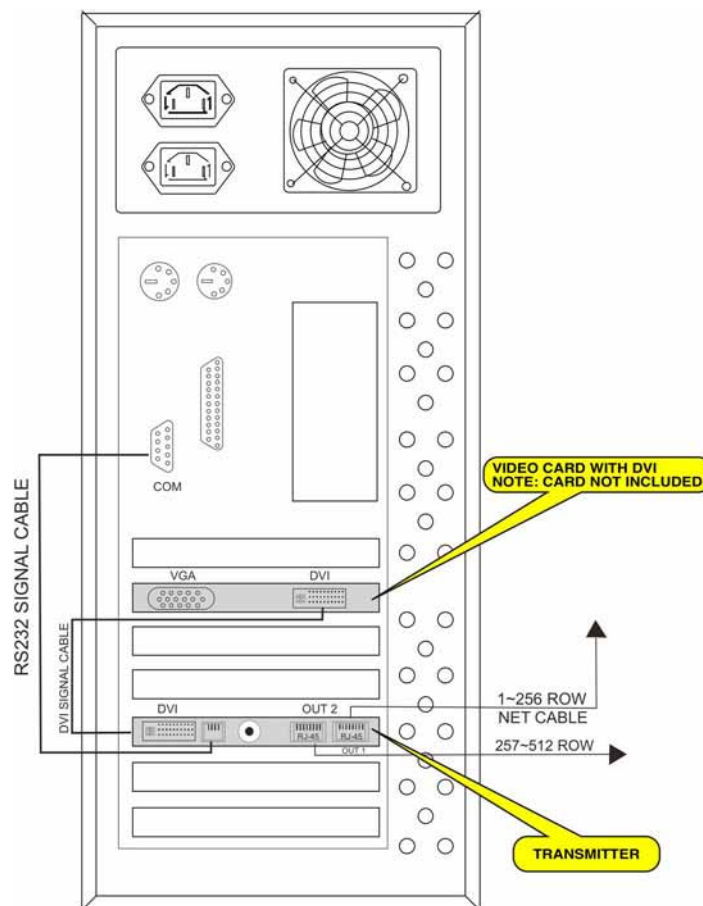
Warning

When your PC starts up and your screen stays black after connecting the transmitter card, turn off your computer immediately and disconnect the DVI cable from the transmitter card. Reboot your PC and when Windows has loaded, reconnect the DVI cable.

Example System Configurations

Aspect Ratio (4:3)

4 x 3 m.

Front View

96 pixels wide or 96 vertical lines

32 pixels wide or 32 vertical lines

Driver J output ports

System Information

Vertical lines: 128
Horizontal lines: 96
Resolution: 128 x 96 pix
Size: 4m x 3m
Panels: 48 (8 x 6)
Power: 6 x 20A (110V)
Drivers: 2
Net Out: Out 1
J Ports: 1 ~ 6

	J1	J1
	J2	J2
	J3	J3
	J4	J4
	J5	J5
	J6	J6

Controller 1

		1	2	3	4	5	6	7	8	9	10	11	12
Width = 32	JP1	0	1	0	0	0	0	0	0	0	0	0	0
Start = 96	JP2	1	0	0	0	0	1	1	0	0	0	0	1

Controller 2

		1	2	3	4	5	6	7	8	9	10	11	12
Width = 96	JP1	0	1	0	1	0	0	0	0	0	0	0	0
Start = 0	JP2	0	0	0	0	0	1	1	0	0	0	0	0

← Starting Address: 0

← Starting Address: 96

Controller 2   **Controller 1**

8 x 6 m.

Front View

256 pixels wide or 256 vertical lines

96 pixels wide or 96 vertical lines

96 pixels wide or 96 vertical lines

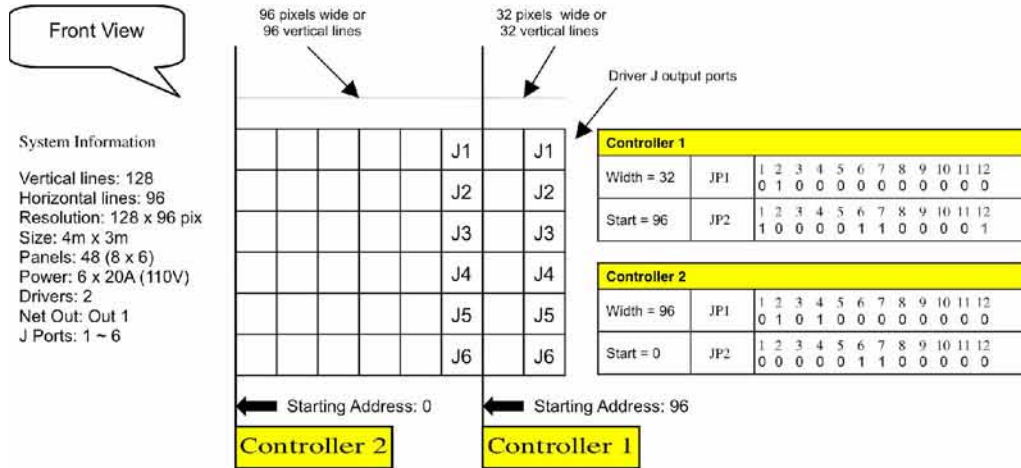64 pixels wide or 64 vertical lines

System Information

Vertical lines: 256
Horizontal lines: 192
Resolution: 256 x 192 pix
Size: 8m x 6m
Panels: 192 (16 x 12)
Power: 24 x 20A (110V)
Drivers: 3
Net Out: Out 1
J Ports: 1 ~ 12

	J1		J1		J1
	J2		J2		J2
	J3		J3		J3
	J4		J4		J4
	J5		J5		J5
	J6		J6		J6
	J7		J7		J7
	J8		J8		J8
	J9		J9		J9
	J10		J10		J10
	J11		J11		J11
	J12		J12		J12

← Starting Address: 0

← Starting Address: 96

← Starting Address: 192

Controller 3   **Controller 2**   **Controller 1**

Controller 1

		1	2	3	4	5	6	7	8	9	10	11	12
Width = 64	JP1	0	1	1	0	0	0	0	0	0	0	0	0
Start = 192	JP2	1	1	0	0	0	1	1	0	0	0	0	0

Controller 2

		1	2	3	4	5	6	7	8	9	10	11	12
Width = 96	JP1	0	1	0	1	0	0	0	0	0	0	0	0
Start = 96	JP2	1	0	0	0	0	1	1	0	0	0	0	1

Controller 3

		1	2	3	4	5	6	7	8	9	10	11	12
Width = 96	JP1	0	1	0	1	0	0	0	0	0	0	0	0
Start = 0	JP2	0	0	0	0	0	1	1	0	0	0	0	0

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16 x 12 m.

Transmitter Card

Width

| 96 pixels/lines | 96 pixels/lines | 96 pixels/lines | 96 pixels/lines | 96 pixels/lines | 32 pixels/lines |

Front View

J1–J16 (rows)

Net OUT1 outputs lines 0 ~ 256

RJ-45
RJ-45

Net OUT2 outputs lines 257 ~ 512

Controller 6 | **Controller 5** | **Controller 4** | **Controller 3** | **Controller 2** | **Controller 1**

J1–J8 (rows)

Controller 12 | **Controller 11** | **Controller 10** | **Controller 9** | **Controller 8** | **Controller 7**

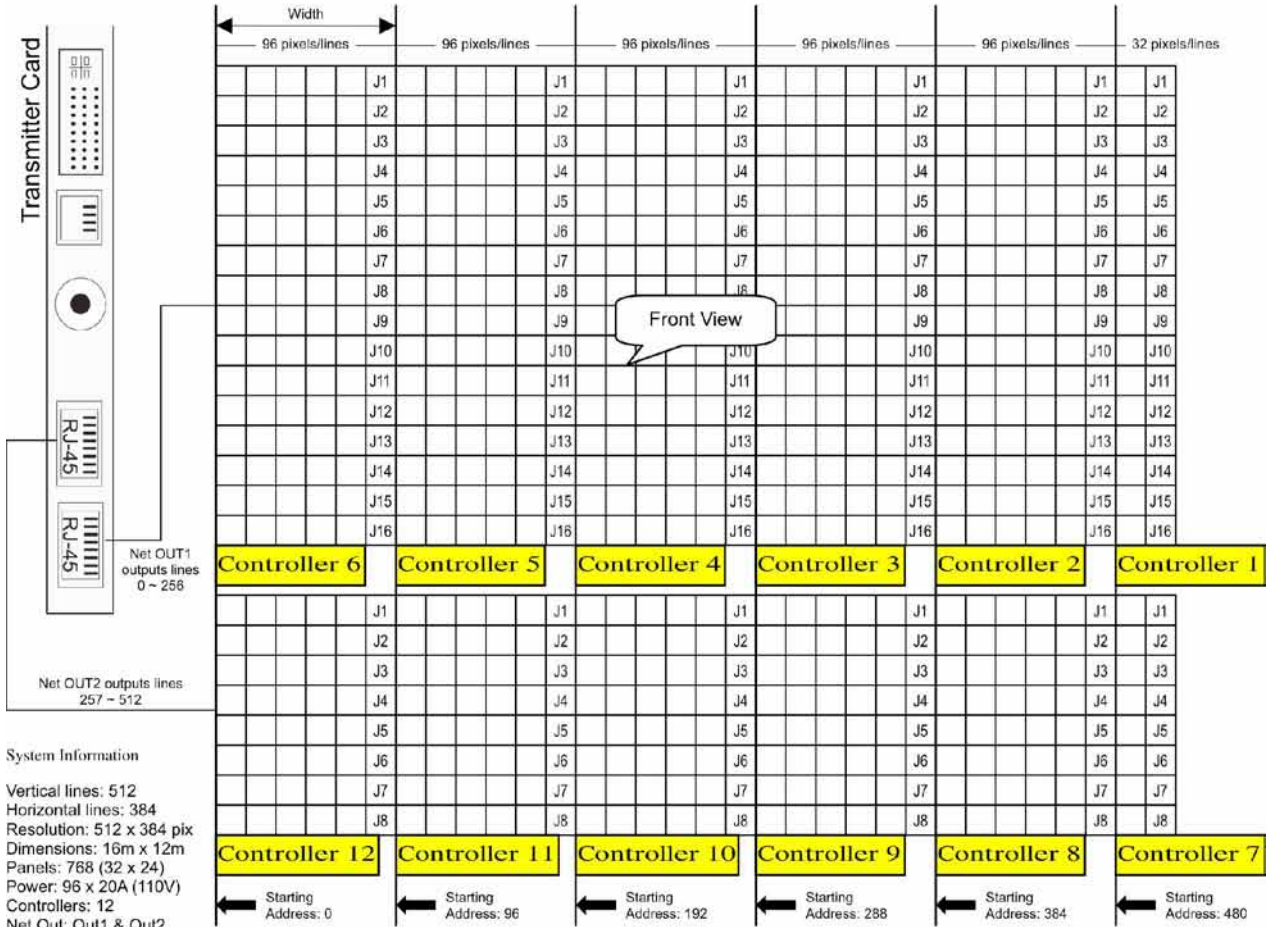Starting Address: 0 | Starting Address: 96 | Starting Address: 192 | Starting Address: 288 | Starting Address: 384 | Starting Address: 480

System Information

Vertical lines: 512
Horizontal lines: 384
Resolution: 512 x 384 pix
Dimensions: 16m x 12m
Panels: 768 (32 x 24)
Power: 96 x 20A (110V)
Controllers: 12
Net Out: Out1 & Out2
J Ports: Out1: J1 ~ J16
J Ports: Out2: J1 ~ J8

Net OUT1 outputs horizontal lines 0 ~ 256

Net OUT2 outputs horizontal lines 257 ~ 512

Controller 1
Width = 32 — JP1 — 1 2 3 4 5 6 7 8 9 10 11 12 / 0 1 0 0 0 0 0 0 0 0 0 0
Start = 480 — JP2 — 1 2 3 4 5 6 7 8 9 10 11 12 / 1 1 1 0 0 1 1 0 0 0 0 1

Controller 2
Width = 96 — JP1 — 1 2 3 4 5 6 7 8 9 10 11 12 / 0 1 0 1 0 0 0 0 0 0 0 0
Start = 384 — JP2 — 1 2 3 4 5 6 7 8 9 10 11 12 / 0 1 1 0 0 1 1 0 0 0 0 0

Controller 3
Width = 96 — JP1 — 1 2 3 4 5 6 7 8 9 10 11 12 / 0 1 0 1 0 0 0 0 0 0 0 0
Start = 288 — JP2 — 1 2 3 4 5 6 7 8 9 10 11 12 / 0 0 0 0 0 1 1 0 0 0 0 1

Controller 4
Width = 96 — JP1 — 1 2 3 4 5 6 7 8 9 10 11 12 / 0 1 0 1 0 0 0 0 0 0 0 0
Start = 192 — JP2 — 1 2 3 4 5 6 7 8 9 10 11 12 / 1 1 0 0 0 1 1 0 0 0 0 0

Controller 5
Width = 96 — JP1 — 1 2 3 4 5 6 7 8 9 10 11 12 / 0 1 0 1 0 0 0 0 0 0 0 0
Start = 96 — JP2 — 1 2 3 4 5 6 7 8 9 10 11 12 / 1 0 0 0 0 1 1 0 0 0 0 1

Controller 6
Width = 96 — JP1 — 1 2 3 4 5 6 7 8 9 10 11 12 / 0 1 0 1 0 0 0 0 0 0 0 0
Start = 0 — JP2 — 1 2 3 4 5 6 7 8 9 10 11 12 / 0 0 0 0 0 1 1 0 0 0 0 0

Controller 7
Width = 32 — JP1 — 1 2 3 4 5 6 7 8 9 10 11 12 / 0 1 0 0 0 0 0 0 0 0 0 0
Start = 480 — JP2 — 1 2 3 4 5 6 7 8 9 10 11 12 / 1 1 1 0 0 1 1 0 0 0 0 1

Controller 8
Width = 96 — JP1 — 1 2 3 4 5 6 7 8 9 10 11 12 / 0 1 0 1 0 0 0 0 0 0 0 0
Start = 384 — JP2 — 1 2 3 4 5 6 7 8 9 10 11 12 / 0 1 1 0 0 1 1 0 0 0 0 0

Controller 9
Width = 96 — JP1 — 1 2 3 4 5 6 7 8 9 10 11 12 / 0 1 0 1 0 0 0 0 0 0 0 0
Start = 288 — JP2 — 1 2 3 4 5 6 7 8 9 10 11 12 / 0 0 0 0 0 1 1 0 0 0 0 1

Controller 10
Width = 96 — JP1 — 1 2 3 4 5 6 7 8 9 10 11 12 / 0 1 0 1 0 0 0 0 0 0 0 0
Start = 192 — JP2 — 1 2 3 4 5 6 7 8 9 10 11 12 / 1 1 0 0 0 1 1 0 0 0 0 0

Controller 1
Width = 96 — JP1 — 1 2 3 4 5 6 7 8 9 10 11 12 / 0 1 0 1 0 0 0 0 0 0 0 0
Start = 96 — JP2 — 1 2 3 4 5 6 7 8 9 10 11 12 / 1 0 0 0 0 1 1 0 0 0 0 1

Controller 12
Width = 96 — JP1 — 1 2 3 4 5 6 7 8 9 10 11 12 / 0 1 0 1 0 0 0 0 0 0 0 0
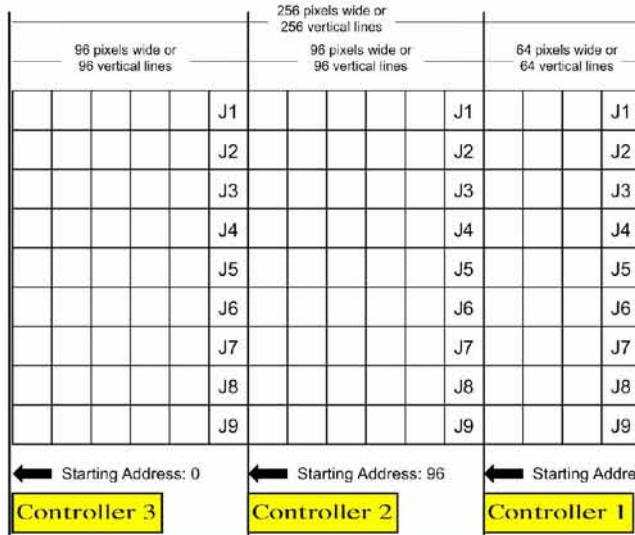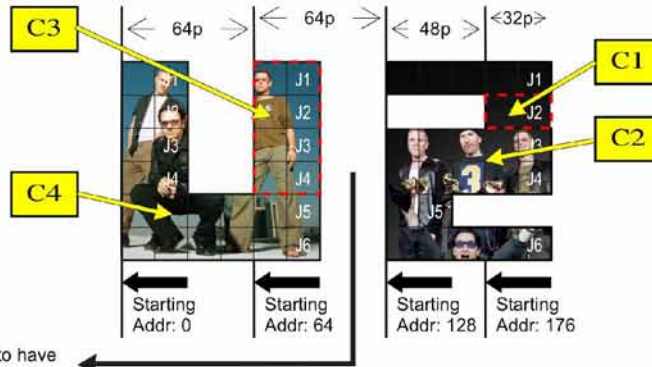Start = 0 — JP2 — 1 2 3 4 5 6 7 8 9 10 11 12 / 0 0 0 0 0 1 1 0 0 0 0 0

Aspect Ratio 16:9

8 x 4.5 m.

Front View
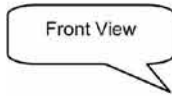
System Information

Vertical lines: 256
Horizontal lines: 144
Resolution: 256 x 144 pix
Dimensions: 8m x 4.5m
Panels: 144 (16 x 9)
Power: 18 x 20A (110V)
Drivers: 3
Net Out: Out 1
J Ports: 1 ~ 9

Starting Address: 0 — **Controller 3**
Starting Address: 96 — **Controller 2**
Starting Address: 192 — **Controller 1**

Driver 1

		1	2	3	4	5	6	7	8	9	10	11	12
Width = 64	JP1	0	1	1	0	0	0	0	0	0	0	0	0
Start = 192	JP2	1	1	0	0	0	1	1	0	0	0	0	0

Driver 2

		1	2	3	4	5	6	7	8	9	10	11	12
Width = 96	JP1	0	1	0	1	0	0	0	0	0	0	0	0
Start = 96	JP2	1	0	0	0	0	1	1	0	0	0	0	1

Driver 3

		1	2	3	4	5	6	7	8	9	10	11	12
Width = 96	JP1	0	1	0	1	0	0	0	0	0	0	0	0
Start = 0	JP2	0	0	0	0	0	1	1	0	0	0	0	0

16 x 9 m.

By now you should have a good understanding of the steps involved in configuring fairly simple sizes. The following example will not illustrate the grid but will present all dipswitch settings in a table format and relevant system information for a 16 by 9 meter matrix. J1~J8 are used for Net OUT2 only.

Driver

			1	2	3	4	5	6	7	8	9	10	11	12
1	Width = 64	JP1	0	1	0	0	0	0	0	0	0	0	0	0
	Start = 192	JP2	1	1	1	0	0	1	1	0	0	0	0	1
2	Width = 64	JP1	0	1	0	1	0	0	0	0	0	0	0	0
	Start = 192	JP2	0	1	1	0	0	1	1	0	0	0	0	0
3	Width = 64	JP1	0	1	0	1	0	0	0	0	0	0	0	0
	Start = 192	JP2	0	0	0	0	0	1	1	0	0	0	0	1
4	Width = 64	JP1	0	1	0	1	0	0	0	0	0	0	0	0
	Start = 192	JP2	1	1	0	0	0	1	1	0	0	0	0	0
5	Width = 64	JP1	0	1	0	1	0	0	0	0	0	0	0	0
	Start = 192	JP2	1	0	0	0	0	1	1	0	0	0	0	1
6	Width = 64	JP1	0	1	0	1	0	0	0	0	0	0	0	0
	Start = 192	JP2	0	0	0	0	0	1	1	0	0	0	0	0

Driver

			1	2	3	4	5	6	7	8	9	10	11	12
7	Width = 64	JP1	0	1	0	0	0	0	0	0	0	0	0	0
	Start = 192	JP2	1	1	1	0	0	1	1	0	0	0	0	1
8	Width = 64	JP1	0	1	0	1	0	0	0	0	0	0	0	0
	Start = 192	JP2	0	1	1	0	0	1	1	0	0	0	0	0
9	Width = 64	JP1	0	1	0	1	0	0	0	0	0	0	0	0
	Start = 192	JP2	0	0	0	0	0	1	1	0	0	0	0	1
10	Width = 64	JP1	0	1	0	1	0	0	0	0	0	0	0	0
	Start = 192	JP2	1	1	0	0	0	1	1	0	0	0	0	0
11	Width = 64	JP1	0	1	0	1	0	0	0	0	0	0	0	0
	Start = 192	JP2	1	0	0	0	0	1	1	0	0	0	0	1
12	Width = 64	JP1	0	1	0	1	0	0	0	0	0	0	0	0
	Start = 192	JP2	0	0	0	0	0	1	1	0	0	0	0	0

System Information

Vertical lines: 512
Horizontal lines: 384
Resolution: 512 x 384 pix
Dimensions: 16m x 9m
Panels: 768 (32 x 24)

Power: 96 x 20A (110V)
Drivers: 12
Net Out: Out1 & Out2
J Ports: Out1: J1 ~ J16
J Ports: Out2: J1 ~ J8

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Special Applications

Pattern 1

System Information

Vertical lines: 208
Horizontal lines: 96
Resolution: 208 x 96 pix
Dimensions: 6.5m x 3m
Panels: 52 (pattern)
Power: 7 x 20A (110V)
Drivers: 4
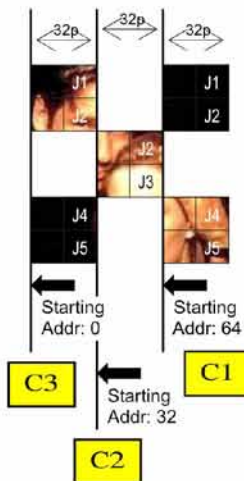Net Out: Out 1
J Ports: 1 ~ 6

This space is optional. You may choose to have the video signal displayed continuously, regardless of the gap.

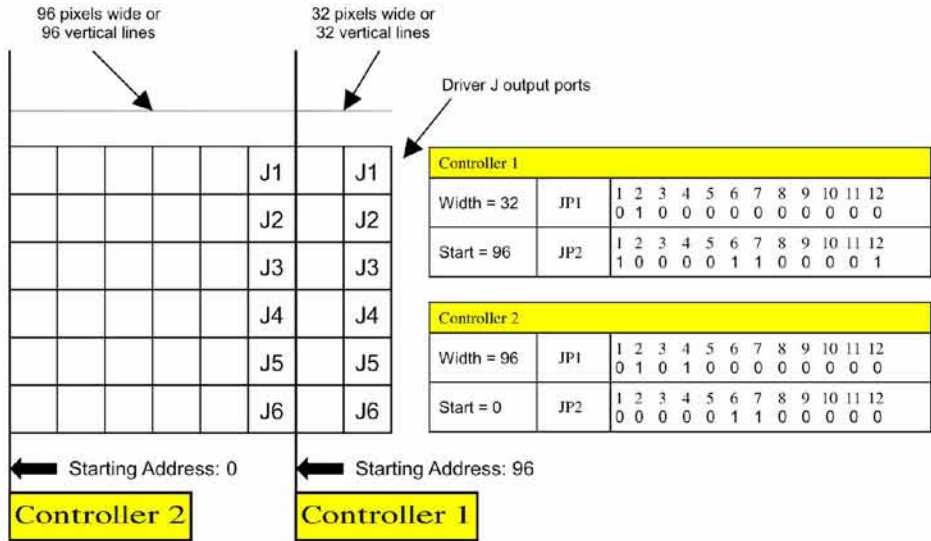| Controller				1	2	3	4	5	6	7	8	9	10	11	12
1	Width = 32	JP1		0	1	0	0	0	0	0	0	0	0	0	0
	Start = 176	JP2		1	1	1	0	0	1	1	0	0	0	0	1
2	Width = 48	JP1		0	1	0	1	0	0	0	0	0	0	0	0
	Start = 128	JP2		0	1	1	0	0	1	1	0	0	0	0	0
3	Width = 64	JP1		0	1	0	1	0	0	0	0	0	0	0	0
	Start = 64	JP2		0	0	0	0	0	1	1	0	0	0	0	1
4	Width = 64	JP1		0	1	0	1	0	0	0	0	0	0	0	0
	Start = 0	JP2		1	1	0	0	0	1	1	0	0	0	0	0

Pattern 2

System Information

Vertical lines: 96
Horizontal lines: 96
Resolution: 96 x 96 pix
Dimensions: 3m x 3m
Panels: 20 (pattern)
Power: 3 x 20A (110V)
Drivers: 3
Net Out: Out 1
J Ports: 1 ~ 5

Controller				1	2	3	4	5	6	7	8	9	10	11	12
1	Width = 32	JP1		0	1	0	0	0	0	0	0	0	0	0	0
	Start = 176	JP2		1	1	1	0	0	1	1	0	0	0	0	1
2	Width = 48	JP1		0	1	0	1	0	0	0	0	0	0	0	0
	Start = 128	JP2		0	1	1	0	0	1	1	0	0	0	0	0
3	Width = 64	JP1		0	1	0	1	0	0	0	0	0	0	0	0
	Start = 64	JP2		0	0	0	0	0	1	1	0	0	0	0	1

Front View

96 pixels wide or 96 vertical lines

32 pixels wide or 32 vertical lines

Driver J output ports
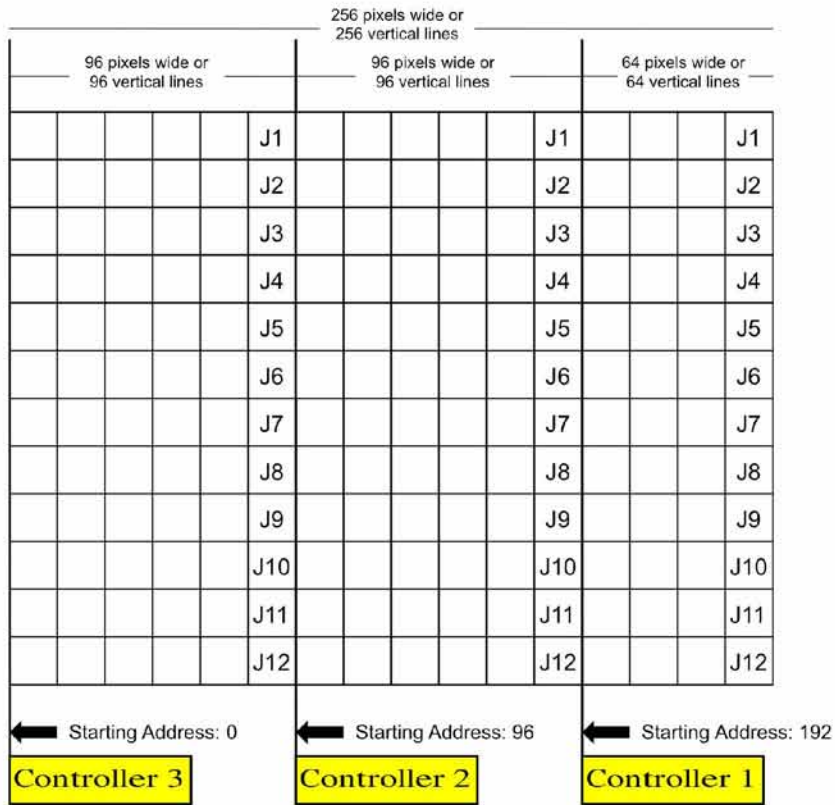
System Information

Vertical lines: 128
Horizontal lines: 96
Resolution: 128 x 96 pix
Dimensions: 4m x 3m
Panels: 48 (8 x 6)
Power: 6 x 20A (110V)
Drivers: 2
Net Out: Out 1
J Ports: 1 ~ 6

J1 J1
J2 J2
J3 J3
J4 J4
J5 J5
J6 J6

← Starting Address: 0

← Starting Address: 96

Controller 2

Controller 1

Controller 1		1	2	3	4	5	6	7	8	9	10	11	12
Width = 32	JP1	0	1	0	0	0	0	0	0	0	0	0	0
Start = 96	JP2	1	0	0	0	0	1	1	0	0	0	0	1

Controller 2		1	2	3	4	5	6	7	8	9	10	11	12
Width = 96	JP1	0	1	0	1	0	0	0	0	0	0	0	0
Start = 0	JP2	0	0	0	0	0	1	1	0	0	0	0	0

Front View

256 pixels wide or 256 vertical lines

96 pixels wide or 96 vertical lines

96 pixels wide or 96 vertical lines

64 pixels wide or 64 vertical lines

System Information

Vertical lines: 256
Horizontal lines: 192
Resolution: 256 x 192 pix
Dimensions: 8m x 6m
Panels: 192 (16 x 12)
Power: 24 x 20A (110V)
Drivers: 3
Net Out: Out 1
J Ports: 1 ~ 12

J1 J1 J1
J2 J2 J2
J3 J3 J3
J4 J4 J4
J5 J5 J5
J6 J6 J6
J7 J7 J7
J8 J8 J8
J9 J9 J9
J10 J10 J10
J11 J11 J11
J12 J12 J12

← Starting Address: 0

← Starting Address: 96

← Starting Address: 192

Controller 3

Controller 2

Controller 1

Controller 1		1	2	3	4	5	6	7	8	9	10	11	12
Width = 64	JP1	0	1	1	0	0	0	0	0	0	0	0	0
Start = 192	JP2	1	1	0	0	0	1	1	0	0	0	0	0

Controller 2		1	2	3	4	5	6	7	8	9	10	11	12
Width = 96	JP1	0	1	0	0	0	0	0	0	0	0	0	0
Start = 96	JP2	1	0	0	0	0	1	1	0	0	0	0	1

Controller 3		1	2	3	4	5	6	7	8	9	10	11	12
Width = 96	JP1	0	1	0	0	0	0	0	0	0	0	0	0
Start = 0	JP2	0	0	0	0	0	1	1	0	0	0	0	0

Maintenance

The operator has to make sure that safety-relating and machine-technical installations are to be inspected by an expert after every four years in the course of an acceptance test.
The operator has to make sure that safety-relating and machine-technical installations are to be inspected by a skilled person once a year.

The following points have to be considered during the inspection:
1. All screws used for installing the device or parts of the device have to be tightly connected and must not be corroded.
2. There may not be any deformations on housings, fixations and installation spots.
3. Mechanically moving parts like axles, eyes and others may not show any traces of wearing.
4. The electric power supply cables must not show any damages or material fatigue.

The Showtec LED Pixelboard requires almost no maintenance. However, you should keep the unit clean. Otherwise, the fixture's light-output will be significantly reduced. Disconnect the mains power supply, and then wipe the cover with a damp cloth. Do not immerse in liquid. Wipe lens clean with glass cleaner and a soft cloth. Do not use alcohol or solvents. Keep connections clean. Disconnect electric power, and then wipe the connections with a damp cloth. Make sure connections are thoroughly dry before linking equipment or supplying electric power.

Troubleshooting

This troubleshooting guide is meant to help solve simple problems.
If a problem occurs, carry out the steps below in sequence until a solution is found. Once the unit operates properly, do not carry out following steps.
1. If the device does not operate properly, unplug the device.
2. Check the fuse, power from the wall, all cables etc.
3. If all of the above appears to be O.K., plug the unit in again.
4. If you are unable to determine the cause of the problem, do not open the LED Pixelboard, as this may damage the unit and the warranty will become void.
5. Return the device to your Showtec dealer.

No Light

This troubleshooting guide is meant to help solve simple problems. If a problem occurs, carry out the steps below in sequence until a solution is found. Once the unit operates properly, do not carry out following steps. If the light effect does not operate properly, refer servicing to a technician.
Response: Suspect three potential problem areas: the power supply, the LEDs or the fuse.
1. Power supply. Check that the unit is plugged into an appropriate power supply.
2. The LEDs. Return the LED Pixelboard to your Showtec dealer.
3. The fuse. Replace the fuse.

Replacing the Fuse

Power surges, short-circuit or inappropriate electrical power supply may cause a fuse to burn out. If the fuse burns out, the product will not function whatsoever. If this happens, follow the directions below to do so.
1. Unplug the unit from electric power source.
2. Insert a screwdriver into the slot in the fuse cover. Turn the screwdriver to the left, at the same time gently push a bit (Turn and Push). The fuse will come out.
3. Remove the used fuse. If brown or unclear, it is burned out.
4. Insert the replacement fuse into the holder where the old fuse was. Reinsert the fuse cover. Be sure to use a fuse of the same type and specification. See the product specification label for details.

Product Specification

Model: Showtec LED Pixelboard
Gray Scale: Red/Green/Blue 256 grade(8 BIT)
Colors: 256 x 256 x 256 = 16M Colors
Supports Display: 640 X 480 / 800 X 600 / 1024 X 768
Supports Display Card: DVI Connector Display Card
Interface Cards (1 set): Data Collection Card 1pcs
Range: 768 X 512
Dimmer: Hardware 16 grade,Software 256 grade
Frequency: 16Mhz 12Mhz 8Mhz 6Mhz(Adjustable)
Sweeping Frequency: >90HZ
Scan mode: 16 rows/area
Output Port: 2x50
Signal Cable: 5-core Net Cable
Maximum Signal Transmission Distance: High Speed>100m(no breaks)
Common Power: +5V
Dimensions: 406x254x228mm (LxWxH)
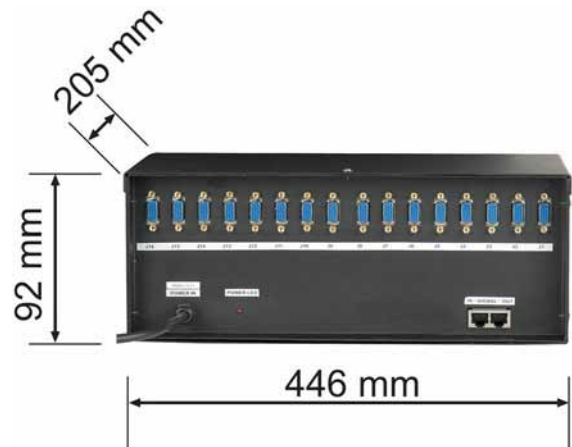Weight: 5,79 kg
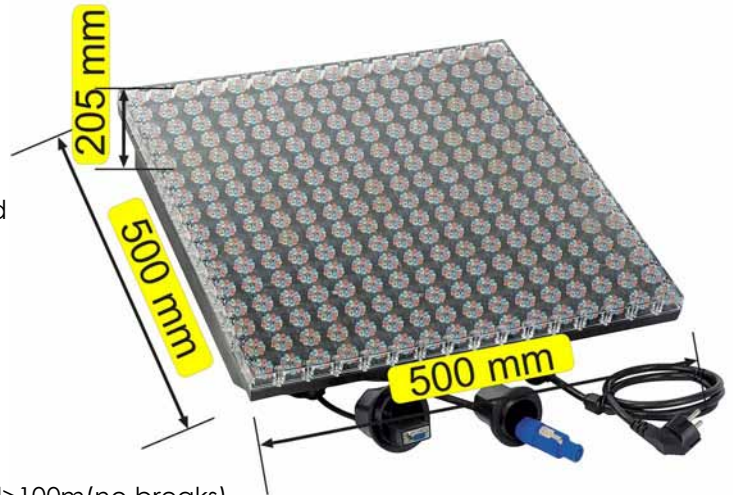
LAMPS: ELC3 (24V 250W)

PHOTO OPTIC
Beam Angle: 11°
Pan: 510°
Tilt: 260°
Illuminance: (2,330fc or 25,070lux) @ 1 meter

FUSE:
Main 20mm Glass 7A Fast Blow

CONTROL & PROGRAMMING
Data input: locking 3-pin XLR male socket
Data output: locking 3-pin XLR female socket
Data pin configuration: pin 1 shield, pin 2 (-), pin 3 (+)
Protocols: DMX-512 USITT
DMX Channels: 7

Design and product specifications are subject to change without prior notice.

CE

HIGHLITE
INTERNATIONAL BV

Other Showtec LED Products:

LED Deco-Tile Basic (41111) and LED Deco-Tile Pro (41112)

LED Pixel Wash (42201)

LED Pixel Track (42200)

Quadra 20 (30984)

Octopod 30 (30985)

Trackpod 30 (30986)

Octopod 90 (30987)

Trackpod 90 (30988)

Riva 90 (30989)

LED Panel (41070)

LED Wallpainter (41200)

Aquapainter (41220)

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