

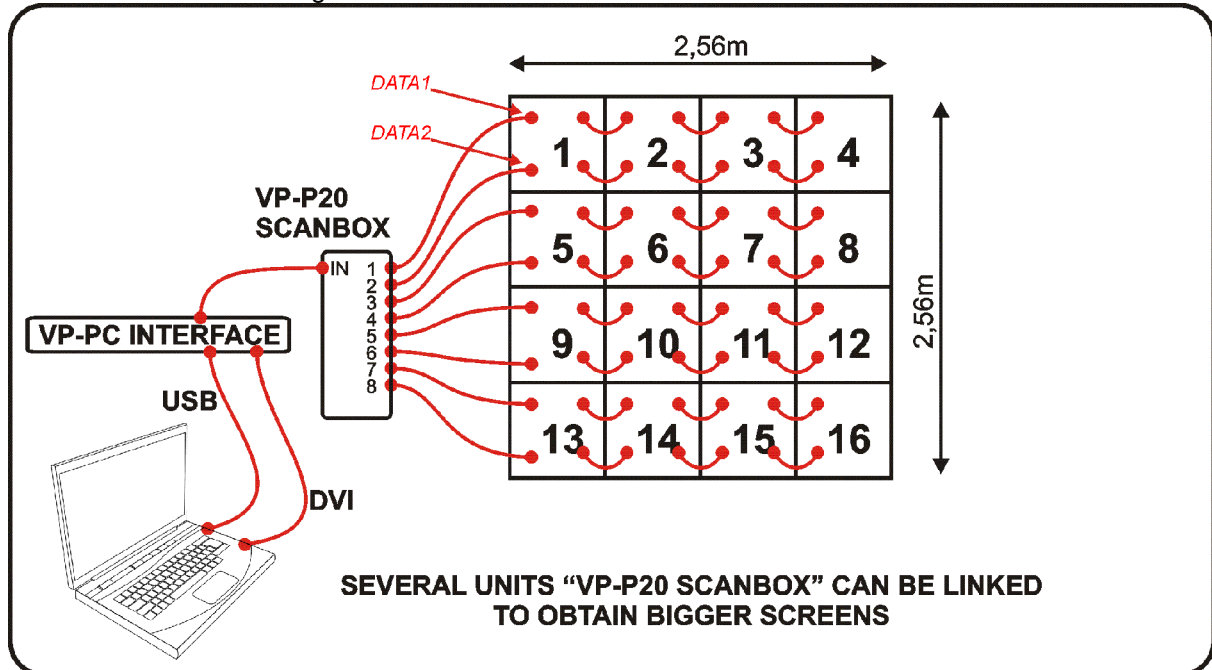
# VP-P20 preliminary setup instructions

## Mechanical screen assembly

- Put the screen together using the quick lock adapters
  - o Always fix the “VP-20 BRACKET” first: suspended to the ceiling or truss construction.
    - Make sure that the ceiling/truss construction can support the complete screen!
    - Each bracket can support a column of up to 10 panels. (screen height = 6,4m)
  - o Fix the panels in rows: first install the brackets before you start lock the upper row. This makes it easier to build the screen together.

## Electrical screen assembly

Please refer to the drawing:



**The drawing shows the screen from the BACKSIDE! This means that you should place yourself on the backside of the screen and follow the instructions below:**

- **Data (video signal)** is cabled horizontally: always from left to right, starting from the top row!
  - o The VP-P20 SCANBOX has 8 outputs, the P20 panels have 2 data connectors so each panel uses 2 outputs on the scanbox. This means that you can connect maximum 4 rows to one scanbox:
    - Output 1 is connected to In Data1 on the most left panel of the upper row. (panel1 on the drawing)
    - Output 2 is connected to In Data2 on the most left panel of the upper row. (panel2 on the drawing)
    - Output 3 is connected to In Data1 on the most left panel of the 2nd row. (panel5 on the drawing)
    - Output 4 is connected to In Data2 on the most left panel of the 2nd row. (panel5 on the drawing)
    - ...
  - o If the screen is too big for 1 scanbox, you can easily connect several scanboxes together, using the RJ45 in/out connectors and the CAT6-cable. Configuration of the setup is done in the setup software.
  - o Use the small 30cm data cables to daisy chain panels in a row.  
**Note:** VP-P20 SCANBOX supports theoretically up to 6panels (192pixels) per output but to have good performance you should limit this number to max. 4 panels per output. Since 4 rows can be connected, each with up to 4 panels, the total maximum number of panels controlled by one scanbox =  $4 \times 4 = 16$  panels.
- **Power (230Vac)** is cabled vertically: always from bottom to top.
  - o Use the small 30cm power cables to daisy chain panels in a column.

**Note:** a special power cable (VP-POWERLINE 4/30P) is available: it has a length of 4m and has 4 outputs so you can connect 4 columns and up to 30 panels.

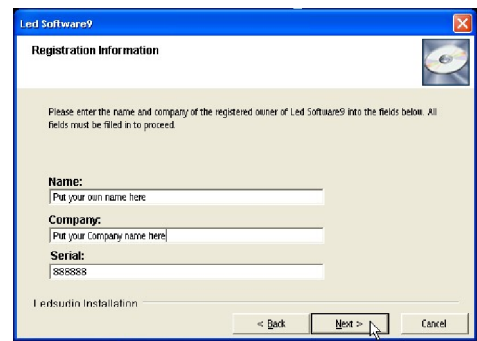
## Interface assembly

You need a Windows PC (or laptop) + “VP-PC INTERFACE” + one or more “VP-P20 SCANBOX” to setup the interface with the screen.

- **PC → VP-PC INTERFACE:**  
2 lines are needed:
  - o **USB line:** use the supplied USB-cable. **Important! Before you connect the VP-PC INTERFACE to your PC, you should install the USB-drivers! (see attached file with drivers)**
  - o **DVI line:** if your PC has an HDMI output, you can buy a simple HDMI/DVI conversion cable. If your PC only has VGA output, you will need a USB/DVI-converter. In fact this is an external video card which converts USB signals to DVI. (possible supplier: [www.manhattan-products.com](http://www.manhattan-products.com) “hi-speed USB2.0 to DVI converter”)
- **VP-PC INTERFACE → VP-P20 SCANBOX:**  
1 CAT6-cable can be connected between the U-sender output of the VP-PC INTERFACE and the RJ45 input of the VP-P20 SCANBOX. This cable can reach a length up to 100m.

## Software setup

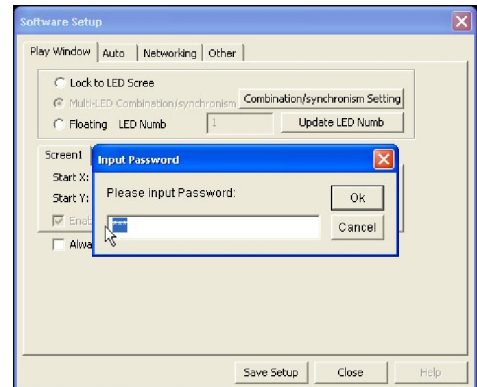
- Insert the CDROM: a window pops up → choose “installing LED play software”
- **Select ENGLISH** as installation language (don’t use another language, you will not be able to follow the instructions !!!)
- Registration information:
  - o **Name:** put your name
  - o **Company:** put the name of the venue or your company.
  - o **Serial:** just put key in → 888888
- Press the “next” button → software will be installed.



- Start LED STUDIO program
- Open the OPTION menu and select “Software setup” → a new window opens.



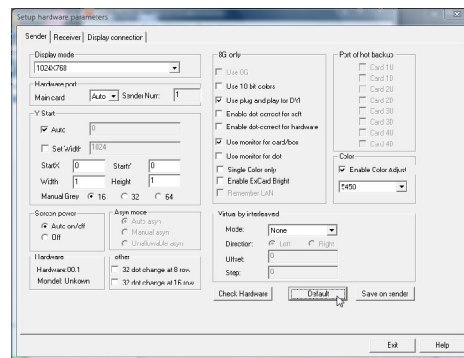
- Put the cursor (Windows arrow) somewhere in this new window (but NOT in a data input field!) and press **linsn** (you will hear some noises while typing this word but no characters appear) → a password window opens.
- Please insert the password **168** and press the OK button.



### VP PC-Interface: loading the parameters (one time operation)

Here we will setup the parameters of the VP PC-Interface.

- In the new window (setup hardware parameters): choose the option "Sender" on the top → the screen on the right appears.
- Press the button named "Default" to load the default settings.
- Press the button "Save on sender" to save these settings to the VP PC-Interface.



### DVI output on your PC: important note!

Your PC needs at least 2 screens: screen1 (main screen) is your normal PC-screen, used for your applications. Screen2 will be the LED Screen (video wall) that will be connected via the DVI-output on your PC.

Configuring the video wall with the LED Studio software is in fact nothing more than configuring the scanboxes (so they know what to do) and tell the VP PC-Interface which part (or parts) of the main screen should be captured and shown on the video wall.

In order to function well, please note that:

- Screen2 should be set to display resolution 1024x768. (default setting in the software)
- The DVI output should be switched as a "clone" (perfect copy) of the main screen: this is done in the display driver of your PC's graphic card. This part is different for each graphic card so it's difficult for us to tell you how to do this setting, please refer to the documentation of your PC. Please note that when your main screen (screen1) is cloned to screen2, your main screen will be set to the 1024x768px resolution of the video wall, this is normal because both screens are a clone from each other.

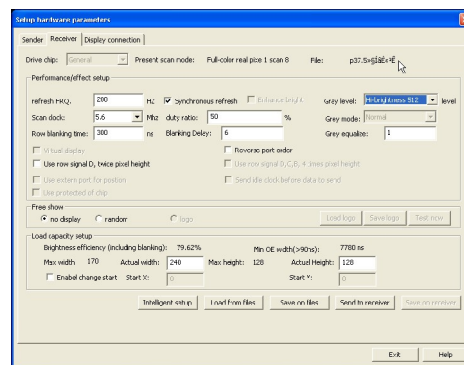
**Important:** when the DVI-output is active (sending data) and the VP PC-Interface is connected via DVI, the green led on the back of the VP PC-Interface is blinking.

### VP P20-Scanbox: loading the parameters (one time operation)

Now we will setup the parameters of the VP P20-Scanbox.

**Important:** if the installation uses several VP P20-scanboxes, these should all be configured once! To do this you should connect the different scanboxes individually (one by one!) to the VP PC-Interface. For each scanbox you must repeat the steps described below:

- In the window (setup hardware parameters): choose the option "RECEIVER" on the top → the window on the right appears.
- On the bottom press the button "Load from files" and load the file "**P20-4x4.RCG**" (configuration file, supplied with the screen) → on the upper right of the window you will see the name of the file appearing.
- Just below, please change the option "gray level" to "Normal 2048"
- On the second part of the window you will see "Load capacity setup" → here you should tell the software the exact height + width of the screen (or part of the screen) in **pixels!!!**



- One P20 panel measures 32x32 pixels so for our example screen you will have the following data:
  - o **Width:** 4panels x 32 pixels = 4 x 32 = 128pixels → fill in "128" for width
  - o **Height:** 4panels x 32 pixels = 4 x 32 = 128pixels → fill in "128" for height
- Fill in the exact data for your screen and press the button "SEND TO RECEIVER": in the new window select ALL and press OK.
- When everything works well, you still have to save the settings permanently to the scanbox. To do this, press the "SAVE TO RECEIVER" button: in the new window select ALL and press OK.

**Attention:** repeat these steps if you have to configure more than one scanbox but remember that only one scanbox should be connected to the PC-Interface!

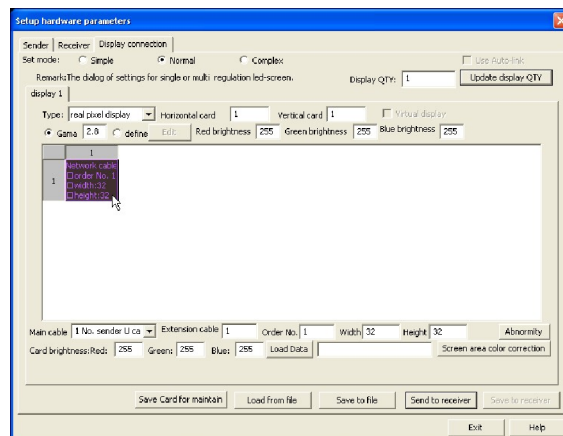
### **VP P20-Scanbox: configuring the screen (different for each new screen configuration)**

Here we will tell the scanbox (or each of the individual scanboxes in a bigger screen) what they should do and which part of the screen they should control.

- First connect the complete screen together and make sure that the on the scanbox(es) a green led is blinking. This blinking led indicates that the scanbox(es) is/are communicating with the VP PC-Interface.
- In the window (setup hardware parameters): choose the option "DISPLAY CONNECTION" on the top. → the window on the right appears.

#### **Only 1 VP-P20 SCANBOX used:**

- When only 1 VP-P20 SCANBOX is used, make sure that "Horizontal card" is set to 1 and also "Vertical card" is set to 1. → One pink box (representing the scanbox) appears.
- Press the pink box until it turns grey (almost black) and you are able to configure it on the bottom of the window, fill in:
  - o Main cable: 1 No sender U ...
  - o Extension cable: 1
  - o Order No: 1
  - o Width: width of the screen or part of the screen that should be controlled. (example: 128)
  - o Height: height of the screen or part of the screen that should be controlled. (example: 128)
- Press "SEND TO RECEIVER" button to send all the data to screen.
- When everything works well, you still have to save the settings permanently to the scanbox. To do this, press the "SAVE TO RECEIVER" button



#### **Several VP-P20 SCANBOXES used:**

When the video screen is bigger than what can be controlled by one VP-P20 SCANBOX, you will need a setup with several scanboxes. In that case each scanbox should be told which part of the screen is should control. We will make things clear with an example:

*We will make a screen measuring HxV 3,84m x 4,48m (or 192 x 224pixels). This means that we need 4 scanboxes to control the complete screen.*

- In the "display connection screen" you will need the following settings:

- Type: real pixel display

- Horizontal card: 2

- Vertical card: 2

→ 4 pink boxes (representing the scanboxes) appear.

- Press the pink box in the upper left corner (representing scanbox1) until it turns grey.

You are able to configure it on the bottom of the window, fill in:

- Main cable: 1 No sender U ...

- Extension cable: 1

- Order No: 1 (scanbox1)

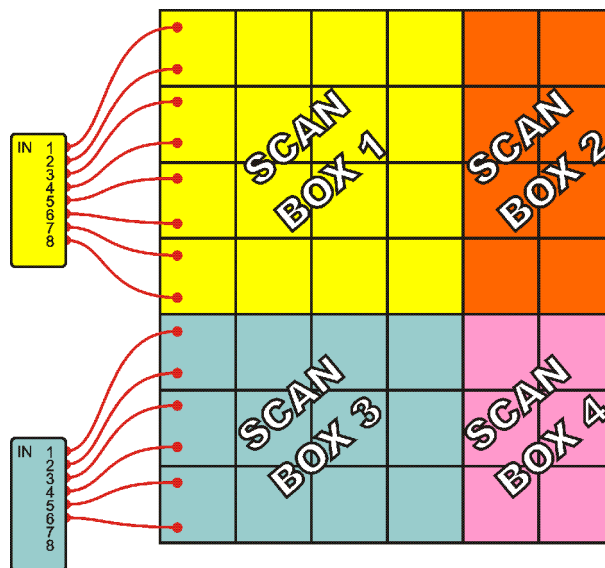
- Width: number of horizontal pixels that should be controlled, here 128px (4 panels)

- Height: number of vertical pixels that should be controlled, here 128px (4 panels)

- Press the pink box in the upper right corner (representing scanbox2) until it turns grey. You are able to configure it on the bottom of the window, fill in:

- Main cable: 1 No sender U ...

- Extension cable: 1

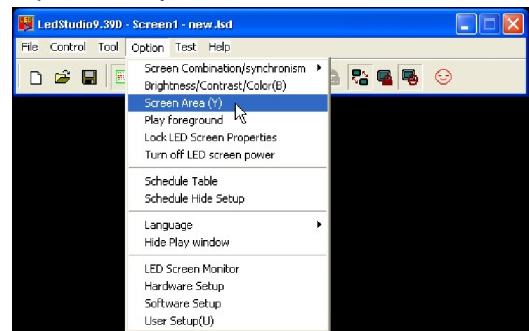


- Order No: 2 (scanbox2)
- Width: number of horizontal pixels that should be controlled, here 64px (2 panels)
- Height: number of vertical pixels that should be controlled, here 128px (4 panels)
- Press the pink box in the lower left corner (representing scanbox3) until it turns grey. You are able to configure it on the bottom of the window, fill in:
  - Main cable: 1 No sender U ...
  - Extension cable: 1
  - Order No: 3 (scanbox3)
  - Width: number of horizontal pixels that should be controlled, here 128px (4 panels)
  - Height: number of vertical pixels that should be controlled, here 96px (3 panels)
- Press the pink box in the lower right corner (representing scanbox4) until it turns grey. You are able to configure it on the bottom of the window, fill in:
  - Main cable: 1 No sender U ...
  - Extension cable: 1
  - Order No: 4 (scanbox4)
  - Width: number of horizontal pixels that should be controlled, here 64px (2 panels)
  - Height: number of vertical pixels that should be controlled, here 96px (3 panels)
- For all scanboxes the card brightness for red+green+blue should be 255.
- When all boxes are set, press "SEND TO RECEIVER" button to send all the data to screen.
- When everything works well, you still have to save the settings permanently to the scanboxes. To do this, press the "SAVE TO RECEIVER" button
- If you want to save the current setup for use in the future: press the "Save to file" button and give the file a name that corresponds to the screen configuration.
- Press EXIT button until come back to the main screen of the program.

#### **Location of the screen capture area:**

The screen works simply by sending the contents (copy) of a portion of your PC-screen to the video screen. So the output of any program you drag in this area will be shown on the screen. Of course you need to know which part of the screen is copied to the screen. To make this part visible, do the following:

- Open the Option screen and select "Screen area (Y)"  
→ a small part of the screen is marked by a red square. All windows dragged inside this square will be copied to the video screen.
- You can choose which part of the screen is captured by using different values for the start-X and Start-Y parameters.
- On the bottom of this window you can choose to put the square permanently on the screen: easy to find the captured screen area.



***Please note that this is a first draft which is not finished yet,  
we apologize for any inconvenience caused.***