

LED display screens have several professional terms

LED: Stands for Light Emitting Diode, referring to LEDs that emit visible wavelengths.

Pixel: The smallest unit of light emission on an LED display screen, equivalent to the pixel concept in ordinary computer monitors, composed of several display pixels, structurally independent, and able to form specific small units of an LED display screen. Typical examples are 8*8, 8*7, etc.

Here is the translation into English:

1. What is an LED? The abbreviation for Light Emitting Diode, in the display screen industry, refers to LEDs that emit visible wavelengths.
2. What is a pixel? The smallest light-emitting unit of an LED display screen, analogous to the meaning of a pixel in a regular computer display.
3. What is pixel pitch? The center distance between adjacent pixel points.
4. What is an LED display module? A specific small unit composed of several display pixels, structurally independent, and capable of forming a specific small unit of an LED display screen. Typical examples include 8*8, 8*7, etc.

5. What is DIP? DIP stands for Dual In-line Package, a type of assembly method for electronic components.

6. What is SMT? What is SMD? SMT stands for Surface Mounted Technology, which is a popular technology and process in the current electronic assembly industry; SMD stands for Surface Mounted Device.

7. What is an LED display module? A basic unit with display function determined by circuits and mounting structures, capable of achieving display screen function through simple assembly.

8. What is an LED display screen? A display screen composed of LED device arrays controlled in a certain way.

9. What is a plug-in module? What are its advantages and disadvantages? A plug-in module refers to a module made by inserting DIP-packaged lamps through the PCB board and soldering the tin into the lamp hole. Its advantages are high brightness and good heat dissipation, but its disadvantage is low pixel density.

10. What is a surface mount module? What are its advantages and disadvantages? A surface mount module, also known as SMT, is made by soldering SMT-packaged lamps on the surface of the PCB board. The lamp pins do not pass through

the PCB board. Its advantages are good display effect, large viewing angle, high pixel density, suitable for indoor viewing; its disadvantage is that the brightness is not high enough, and the lamp's own heat dissipation is not good enough.

11. What is a sub-surface mount module? What are its advantages and disadvantages? A sub-surface mount module is a product between DIP and SMT. Its LED lamp package surface is the same as SMT, but its positive and negative pins are the same as DIP. During production, it is also soldered through the PCB. Its advantages are high brightness and good display effect, but its disadvantage is that the manufacturing process is complex and maintenance is difficult.

12. What is 3-in-1? What are its advantages and disadvantages? 3-in-1 refers to vertically and parallelly arranging RGB three different color LED chips packaged in SMT lamps at a certain interval. This not only has all the advantages of 3-in-1 but also can solve various disadvantages of 3-in-1: complex process, difficult maintenance.

13. What is "three-in-one"? It refers to vertically and parallelly arranging RGB three independently packaged SMT lamps at a certain interval. This not only has all the

advantages of 3-in-1 but also can solve various disadvantages of 3-in-1.

14. What is dual-color? A full-color display screen can form different display screens with different colors of LEDs.

Dual-color is composed of red, green, or yellow-green, while full-color is composed of red, pure green, and pure blue.

15. What is luminous brightness? The intensity of light emitted per unit area of an LED display screen, measured in CD/square meter, is simply the intensity of light emitted by a one-square-meter display screen.

16. What is brightness level? The number of manual or automatic adjustments of the overall brightness of the screen from the lowest to the highest brightness.

17. What is grayscale level? Under the same brightness level, the technical processing level from the darkest to the brightest on the display screen.

18. What is maximum brightness? Under certain environmental illuminance, the maximum brightness and maximum grayscale level of each primary color of the LED display screen.

19. What is PCB? PCB stands for Printed Circuit Board.

20. What is BOM? BOM stands for Bill of Materials.

21. What is white balance? What is white balance adjustment?

White balance refers to the balance of white, i.e., the balance of the brightness ratio of the three colors RGB. White balance adjustment refers to adjusting the brightness ratio of RGB three colors and the white coordinates.

22. What is contrast? Under certain environmental illuminance, the ratio of the maximum brightness of the LED display screen to the background brightness.

23. What is color temperature? The temperature of a black body when the color emitted by the light source is the same as the radiation color of the black body at a certain temperature.

24. What is frame rate? The number of times the screen information is updated per unit time.

25. What is refresh rate? The number of times the screen image is repeated in unit time.

26. What is viewing angle? What is visible angle? What is the best viewing angle? The viewing angle is the angle at which the brightness of the viewing direction decreases to half of the brightness of the LED display screen normal line. The angle formed by two viewing directions in the same plane and the normal direction. It is divided into horizontal and vertical viewing angles; the visible angle is the direction where the

image content on the display screen can be seen just right, and it forms an angle with the normal line of the display screen. The best viewing angle is the direction where the content on the display screen can be seen just right, without color deviation, and the image content is the clearest, forming an angle with the normal line.

27. What is the best viewing distance? It is the vertical distance from the screen where the content on the display screen can be seen completely, without color deviation, and the image content is the clearest.

28. What are dead pixels? How many types are there? Pixels that do not match the control requirements for light emission are called dead pixels. Dead pixels are divided into three types: blind spots (also known as dead spots), constant light spots (or dark spots), and flashing spots.

29. What is static driving? What is scanning driving? What is the difference between the two? Static driving refers to "point-to-point" control from the output pin of the driving IC to the pixel point, while scanning driving refers to "point-to-column" control from the output pin of the driving IC to the pixel point. Scanning driving requires row control circuitry: it can be clearly seen from the driving board that

static driving does not require row control circuitry, has higher cost, but better display effect, stability, and lower brightness loss, while scanning driving requires row control circuitry, has lower cost, poor display effect, and greater brightness loss.

31. What is non-linear correction? If the digital signal output by the computer is displayed on the LED display screen without correction, color distortion will occur. Therefore, in the system control circuit, the original signal output by the computer is calculated through a non-linear function to obtain the signal required by the display screen. Because the relationship between the front and back signals is nonlinear, we often call it non-linear correction.

32. What is the rated operating voltage? What is the operating voltage? What is the supply voltage? The rated operating voltage refers to the voltage when the electrical appliance is operating normally; the operating voltage refers to the voltage value when the electrical appliance is operating within the rated voltage range: the supply voltage is divided into AC and DC supply voltages, our actual AC supply voltage is generally AC220V---240V, and the DC supply voltage is generally 5VDC or 12VDC.

33. What is color distortion? It refers to the difference in the sensory visual perception of the same object between the natural environment and on the display screen.

34. What is a synchronous system and what is an asynchronous system? Synchronous and asynchronous are relative to the computer. The so-called synchronous system refers to the LED display screen control system that synchronously displays the content displayed on the display screen with the computer monitor; an asynchronous system refers to storing the display data edited by the computer in advance in the display screen control system. After the computer is turned off, it will not affect the normal display of the LED display screen. This type of control system is called an asynchronous control system.

35. What is blind spot detection technology? Through upper-level software and lower-level hardware, it can detect blind spots (LED open circuits and short circuits) on the display screen and generate a report to inform the LED screen manager. This technology is called blind spot detection technology.

36. What is power detection? Through upper-level software and lower-level hardware, it can detect the working status of

various power supplies on the display screen and generate a report to inform the LED screen manager. This technology is called power detection technology.

37. What is brightness detection? What is brightness adjustment? The brightness in brightness detection refers to the ambient brightness where the LED display screen is located. Through a light sensor, the current ambient brightness of the display screen is detected. This detection method is called brightness detection. The brightness mentioned in brightness adjustment refers to the brightness emitted by the LED display screen. The detected data is fed back to the LED display screen control system or control computer, and then the brightness of the display screen is adjusted according to this data, which is called brightness adjustment.

38. What is a physical pixel? What is a virtual pixel? What are the different types of virtual pixels? What is pixel sharing? A physical pixel refers to a one-to-one relationship between the physical pixel count on the display screen and the actual displayed pixel points. The actual number of points that can be displayed on the display screen is the same as the number of points displayed. A virtual pixel refers to a one-to-N ($N=2, 4$)

relationship between the physical pixel count of the display screen and the actual displayed pixel count. It can display image pixels twice or four times as many as the actual pixels of the display screen. Virtual pixels can be classified into software virtual and hardware virtual according to the virtual method: they are classified into 2x virtual and 4x virtual according to the multiplication relationship, and they are classified into 1R1G1B virtual and 2R1G1B virtual according to the lamp arrangement on a module; the definition of virtual pixel display: 1. The red, green, and blue display components of each point in the display unit are evenly distributed to match the color mixing effect of the pixel; 2. The representative color of the virtual display point is composed of adjacent red, green, and blue pixels. 3. The points of virtual pixels are scattered, while those of physical pixels are condensed. 4. The light-emitting points of virtual pixels are between lamp tubes, while those of physical pixels are on lamp tubes. 5. The red light is controlled individually, unlike physical pixels, which are connected in series. Why use virtual pixels? 1. It can improve display performance: Under the same number of lamp tubes, virtual pixel display is equivalent to four times the effect of physical pixel display. 2.

It can greatly reduce the cost of the whole screen: using virtual pixel large screens can reduce the number of lamp tubes by three quarters under the same resolution, and can achieve the same visual effect as physical pixels with fewer lamp tubes. Using virtual pixels can reduce the fatigue of viewers, because the more evenly distributed the light-emitting points are on the LED large screen, the more evenly the light is emitted on the same area, so the lower the fatigue of viewers when watching.

39. What is remote control? When is it used? The so-called remote control is not necessarily long-distance. Remote control includes two situations: the main control end and the controlled end are in the same local area network, and the spatial distance is not far; and the main control end and the controlled end are in a relatively far spatial distance. When customers require or the control position exceeds the distance directly controlled by optical fiber, remote control is used.