

[About](#) | [Privacy Policy](#) | [Write For Us | Earn Money](#)



[Home](#) | [Buy Project Kits](#) | [Store](#) | [Advertise With Us](#) | [Write For Us](#)

[Home](#) / [Tutorials](#) / [LCD vs Plasma Display](#)

LCD vs Plasma Display

Last Updated on February 25, 2010 by john in Tutorials with 3 Comments

Buy Electronic Components

Immediate access to deep inventory. ECIA Authorized Distributor. Go to ttiinc.com

I have earlier explained the working of both the components. To know more about them, click on the following links.

TAKE A LOOK : [WORKING OF LIQUID CRYSTAL DISPLAY \(LCD\)](#)

TAKE A LOOK : [WORKING OF PLASMA DISPLAY](#)

When a person is buying a product, he always tries to buy the best one, available at the most affordable prices. This is where the proble starts for both LCD and Plasma displays. Both of them are equally good displays with some advantages as well as disadvantages. Let us compare both of them with respect to some common parameters.



Plasma

VS



LCD

Comparison between LCD and Plasma Display

Working

Liquid Crystal Displays work by filtering light when it gets an electric charge. These liquid crystal cells are placed between two glass plates and the voltage is received from a matrix composition of thin film transistors [TFT]. Though only white light is created in this manner, the monitors produce coloured images by a subtraction process. The right colour at the right spot is obtained by filtering the white colour from a spectrum of colours.

In a **plasma display**, gases like xenon and neon are excited by electric pulses produced by the electrodes. This excitation causes energy to be produced in the form of light. The display also contains millions of individual pixels which pick out the right colour from the light with the



Near Infrared Borescope

Thermal Imaging for Glass Melt Tanks

Download Engineering Brief



Get Google Chrome

Fast, simple & secure web browser for all your devices. Download now! Go to google.com/chrome

home of marketing tools

sharpvdi - adaptivní DOOH reklama dle demografie kolemjdoucích Go to sharpframes.com

Ako zlepšiť mužnosť

Existuje 1 prírodný spôsob, ktorý je údajne prospešný pre mužské zdravie Go to malecomfort-advice.com

Get Daily Updates via Email

23182 readers
BY FEEDBURNER

Categories

101-Announcements	(25)
555 Timer IC	(14)
8051	(24)
8051 projects	(19)
Amplifier Circuits	(39)
Arduino	(37)
ARM	(3)
Audio Circuits	(104)
Automotive Circuits	(28)
AVR	(15)
Basic Electricity	(1)
Basic Electronics	(6)
Battery Circuits	(23)
C plus plus	(7)

help of phosphor contained in them. These pixels also have three composite colours present in them. They are mixed together to produce the correct intensity of light.

TV Size and Cost

In the case of size, Plasma TV's are becoming more popular than LCD TV's. There are displays with a size of almost 65 inch diagonal measurement available for Plasma TV's. Recently, the Samsung company produced a huge 150 inch monitor. But, as the size increases the cost of the product also increases. But, as the size does not cause much change in its efficiency this type of a display is definitely reliable. The bigger displays intake more power than other displays. The 65 inch displays consume almost 675 watts of power. All companies have almost succeeded in producing plasma displays with lesser power. LCD screens are available to a maximum diagonal size of 60 inches. Plasma TV's with a 46 inch size is sold for a maximum of 40% discount and the 58 inch TV is sold for a 50% discount. For the same size LCD TV's are more costly.

Power Consumption

Power consumption is also an important factor to be noted because, after spending a huge amount for buying the TV, we cannot afford to spend more. The power consumption depends on the working of both the devices. As LCD works on the principle of fluorescent, they do not consume as much power as Plasma does. On the other hand, plasma TV needs to light up all the pixels used on the screen. This also includes the pixels that produce the dark images. This causes a lot of electricity to be wasted. When compared, Plasma displays consume about 30% more than LCD displays.

Screen Burn In/ Ghosting

Screen burn in is a problem associated with Plasma displays. When an image is left on the screen for a long time, the display produces a "ghost" of the image. This is called screen burn in. This actually occurs because the glass display tries to permanently etch the colour that has been displayed for a long time. This type of a problem usually occurs to plasma displays that have pixels that are old or weary. The ghost stays for days but will fade away and is not permanent.

The manufacturers of newer plasma displays have introduced the anti-burn in technology. With this process the ghosting can be stopped for almost 10 hours. For computers, screensavers helps in stopping this problem.

Picture Quality

In the case of picture quality, LCD displays are more advantageous. LCD Tv is apt for public display as well as at any time of the day. Though the viewing angle is grater for plasma TV, LCD TV has a good contrast and brightness making it suitable for any situation.

LCD displays are also well suitable as computer screens. They show the images with full colour detail. This makes them more apt in displaying larger amounts of data. The plasma display is not so apt for computer screens as they have the problem of ghosting.

Playing Fast Moving Videos

We have discussed about the disadvantage of Plasma TV's in applications where still images are used. But, when it comes in the field of fast images, there is nothing else to compete plasma displays. As their contrast levels are way higher than any other displays they are good in displaying fast moving videos. The LCD is disadvantageous because, they have a motion blur and lesser time response. The blur causes the pixels to be out of their position causing the image to be blurred.

Usage at Higher Heights

Plasma displays cannot be used at higher heights. As they contain some rare natural gases, there occurs an air-pressure difference which either breaks down the display or causes a humming noise while using it. The maximum height that is suitable for plasma display is 6,000 feet.

As LCD TV's are not affected by heights, they are the most commonly used display in aeroplanes.

Life Span

C Programming	(14)
Cable TV Circuits	(1)
Camera Technology	(5)
Clipping and Clamping Circuits	(7)
Clocking & Timer Circuits	(2)
Conversion Circuits	(10)
Counter Circuits	(2)
Counters	(2)
Digital Electronics	(11)
Education & Training	(6)
Electronic Components	(31)
Electronic Keys & Locks	(3)
Electronics Books	(10)
Electronics Jobs	(4)
Embedded Systems	(7)
Equipment Reviews	(1)
Events	(3)
Fan Circuits	(1)
Filter Circuits	(16)
Fire Alarm	(3)
Fun & Game Circuits	(14)
Gadget Reviews	(6)
Ham Radio Circuits	(2)
High Voltage Circuits	(1)
History	(26)
Home Circuits	(35)
Industrial Circuits	(15)
Instruments	(13)
Integrated Circuits	(20)
Inverters	(5)
Lab Manuals	(20)
LED related	(3)
Light Related	(14)
Lighting Circuits	(43)
MATLAB	(3)
Microcontrollers	(7)
Mobile Phone Related	(1)
Motor Related	(14)
Nanotechnology	(14)
Oscillators	(25)
Peripheral Interface Controller	(29) (PIC)
Power Controller Circuits	(8)
Power Electronics	(2)
Power Supplies	(72)
Product Reviews	(2)
Project Ideas	(1)
Projects	(7)
Proteus	(5)
Proximity Detectors	(3)
Radio Circuits	(30)
Radio Transmitters	(19)
Raspberry Pi	(1) ▲

The life span of both LCD and plasma displays are almost 100,000 hours. That is if they remain on for four hours a day, they live for almost 6 years!!

In the case of LCD, it lives for as long as the backlight lives. That is, if the backlight bulb wears out, the LCD stops working. But, the backlight bulbs can easily be replaced. There is also a problem of aging of the backlight bulb. If this happens, the original colour starts fading. As a result, the white balance of the whole LCD will go wrong. This can only be repaired by changing the backlight bulb or replacing the entire kit.

As plasma displays use noble gases and also phosphor, there is no chance of replacing any of the materials. If they stop working just dump them. After using it for a long time, there are chances where the phosphoric elements starts to fade out. As a result, the screen will start to fade and glow less. The more you use it, the dimmer it gets.

Průhledné LCD

lednice a reklamné vitríny. Animace si hrají s produkty uvnitř. Go to sharpframes.com



Fastest PCB design tool - EasyEDA

A free online tool with schematic capture , Spice simulation ,PCB Layout

You may also like:

- [Resistor Color Code Chart - Understanding Resistance Color Coding](#)
- [How to debug in Keil Microvision](#)
- [Getting Started with Keil uVision](#)
- [Bit rate Vs Baud rate - the common misconception](#)
- [How to recover/reset admin username and password of Vbulletin forum software](#)

We recommend:

- [Characteristics of JFETS](#)
- [V-FET or Power Mosfets](#)
- [Simple LED Projects using Arduino](#)
- [Bridge Amplifier using TDA 4935](#)
- [Automatic LED Emergency Light-Modified Version](#)

3 thoughts on “LCD vs Plasma Display”

Sindura February 11, 2011 at 7:32 am

Thanks for info.

Reply

Gary January 2, 2011 at 11:55 am

Some great info thanks. My preference is plasma for the following. Deeper black levels with no uniformity issues, more shadow detail, higher contrast, lower lag, more natural image, better handling of motion and better with SD images IMO. Modern plasmas can get IR (Image retention) this can go in minutes, even seconds. Permanent screen burn is extremely unlikely with home usage of modern plasmas, a static image would need to be on screen permanently for like a week for this to happen.

Reply

Ibrahim April 17, 2010 at 2:34 am

LCD is better than plasma from my own points of view with this advantage and disadvantage I foreseen. If somebody want to buy a Television is better for him to buy LCD by far. thanks

Reply

Relays	(3)
Remote Circuits	(12)
Reviews	(5)
Robotics	(6)
RTOS	(2)
Security & Safety	(16)
Sensor Circuits	(16)
Signal Conditioners	(11)
Signal Generators	(13)
Speed Controller Circuits	(1)
State space analysis	(2)
Switching Circuits	(6)
Tech News	(87)
Telephone Related	(9)
Television Related	(4)
Temperature Related	(3)
Test & Measurement Circuits	(38)
Testing Components	(9)
Three phase circuits	(1)
Timer Circuits	(3)
Tone generator circuits	(20)
Tools and Softwares	(6)
Transmitters	(7)
Tutorials	(158)
UPS	(2)
USB Circuits	(3)
Videos	(5)
VLSI	(36)
Voltage Regulators	(15)

Latest Articles

[Drag and Drop IoT Project Builder myDevices partner with Arduino](#)

[Analog Oscilloscopes/CRO Online Buying Guide](#)

[GSM and GPRS Modem/Module - Price and Buying Guide](#)

[How is ARM Programming Different?](#)

[Proteus Tutorial - Using Dot Matrix Displays](#)

[How to Make an LED Scrollbar](#)

[Heart rate monitor with sms alert.](#)

[Proteus Tutorial - Using Single and Multiple Digit Segment Displays](#)

[Proteus Tutorial - Light Emitting Diode \(LED\) and Bar Graph Display](#)

[How to Install and Setup Compiler with Development Environment for ARM7](#)

[Like Us on Facebook](#)

Leave a Reply

Your email address will not be published. Required fields are marked *

Comment

Name *

Email *

Website

Post Comment



Stránka sa mi páči [Nakupovať](#)

Buďte prvý z priateľov, komu sa to páči

Recent Comments

AB on Few LM317 voltage regulator circuits

Shanjedul Hassan on Digital Code Lock using Arduino with LCD Display and User Defined Password

Mark Harder on How is ARM Programming Different?

jojo on Burglar Alarm using Arduino and PIR Sensor- with SMS Alarm using GSM Module

jojo on Burglar Alarm using Arduino and PIR Sensor- with SMS Alarm using GSM Module

jojo on Burglar Alarm using Arduino and PIR Sensor- with SMS Alarm using GSM Module

jojo on GSM and GPRS Modem/Module – Price and Buying Guide

mohanraj on GSM and GPRS Modem/Module – Price and Buying Guide

Noel on Burglar Alarm using Arduino and PIR Sensor- with SMS Alarm using GSM Module

kay xaveriuz on How to Make an LED Scroll-bar

Karthikeyan on Digital Door Lock – Password based Electronic Code Lock using 8051

Guru on Digital Count Down Timer using PIC Microcontroller

jane on How to Interface GSM Module to Arduino-Send and Receive SMS

suresh on Digital voltmeter using ICL7107

msdava on Car battery charger

Pages

[About](#)

[Advertise With Us](#)

[Authors](#)

[Buy Project Kits](#)

[CT Home](#)

[Datasheets](#)

[Disclaimer](#)

[Electronic Circuit Symbols](#)

[Lab Manuals](#)

- [Electronic Circuits Lab](#)

- [Microcontroller lab](#)

- [Microprocessor Lab](#)

[Privacy Policy](#)

[Project Contests](#)

[Recent Posts](#)

[Resistor Color Code Calculator](#)

[Sitemap](#)

[Testing Components](#)

[Write For Us](#)

Popular Tags

[2N2222](#) [555 IC](#) [555 timer](#) [8085 lab manual](#) [arduino circuits](#) [Audio Amplifier Circuits](#) [Audio circuits](#) [circuit design](#)
[circuit diagram](#) [Digital Electronics](#) [Electronic Circuits](#) [Electronic Components](#) [Electronic Instruments](#) [Electronic Projects](#)
[Filter Circuits](#) [FM transmitter](#) [History of Electronics](#) [hobby circuits](#) [hobby projects](#) [Home Circuits](#) [IC](#) [IC Audio Amplifier](#)
[Integrated Circuits](#) [Invention Stories](#) [Light Related](#) [microprocessor lab manual](#) [Most Popular Circuits](#) [Nanotechnology](#)
[NE555 timer](#) [Oscillators](#) [PIC](#) [PLL](#) [Power Amplifiers](#) [Power Supplies](#) [Radio Circuits](#) [Robotics](#) [SCR](#) [Simple Electronics Projects](#)
[Tech News](#) [Thyristors](#) [Timer IC](#) [Tutorials](#) [VLSI](#) [voltage converter](#) [Voltage Regulators](#)