

Chapter 38 of the Society of Broadcast Engineers

SBE

EL PASO - LAS CRUCES - JUÁREZ

MAY 2019

PO Box 3561 El Paso, TX 79923-3561 www.kint98.com

NEWS

4K, HDR, OLED, LED...

How to Decipher TV Technology and Compare TV Models

Is it time to upgrade your TV – or at least one or two of them? If you bought a flat-panel TV sometime in the past 15 years, it was quite an upgrade from a tube or rear-projection model in picture quality and design.

The move to the high-definition (HD) standard for over-the-air broadcast in the U.S. in 2009—and stopping analog broadcasts—accelerated the move to high-definition TV. Before that point, cable services were already offering HD programming and content.

In 2009, the Blu-ray had just won out over HD-DVD as the standard for high-definition content on DVD, further adding fuel to upgrading to HD. Also around 2009, Netflix, which until that point was known as an Internet DVD rental and subscription service, started its streaming service in HD, and it caught on rapidly.

All of these trends converged around a short period of time to drive an explosion in upgrades to high-definition television. But technology moves forward rapidly, and today we have new reasons why we might want something more current. Have you heard of 4K and HDR? How about OLED or full array dimming? These are the new buzzwords for today's TVs.

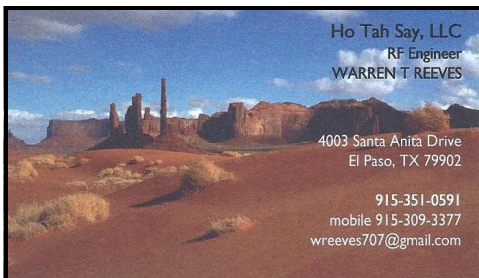
If you're considering upgrading to a new

TV in your residence, we've put together a TV comparison answering common questions so you can decide what's important for your viewing. Of course, the easiest way to sift through the options is to give us a call; we can help not only with TV selection but how to integrate it into a home theater or [media room](#) and make it easy to manage as part of an entertainment system with [smart home technology](#).

What Is 4K?

You may already know the answer, but this forms the basis for much of what's new. 4K is the new resolution standard for TV. It quadruples the resolution of TV from the 1080 pixel standard to 4096. What does it mean? Increased sharpness and detail, especially in larger screen sizes like 55 inches and above. Indeed, it's now difficult to find a TV above 40 inches in size that is not 4K resolution. Will you notice a difference? Yes, in larger screen sizes, and even in content that is not 4K, as the TV will upscale (take lower resolution content and increase detail with digital processing) to make the picture look sharper than on a 1080p (HD) set.

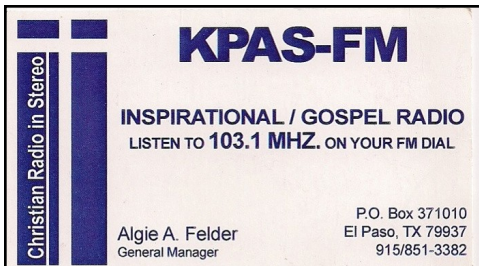
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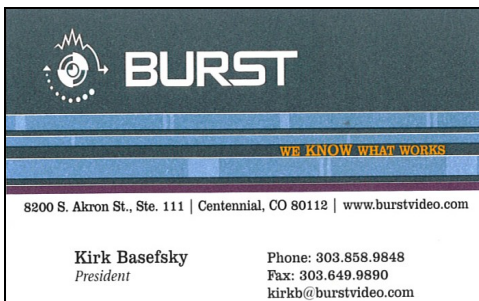


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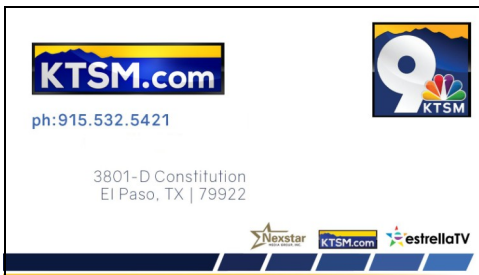
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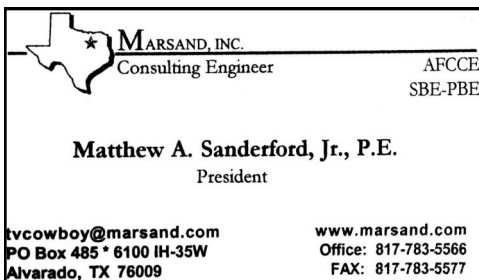


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What is HDR?

HDR stands for High Dynamic Range, which is a technology that increases the amount of information to the TV display about color and light. The result is much more lifelike contrast, which creates a vivid picture quality. Indeed, HDR might be more important than 4K. Sometimes it is not that easy to discern the difference between high-quality HD content (like a good Blu-ray movie) and 4K, but HDR does create a picture that noticeably "pops." There are no less than three HDR formats now: HDR 10, Dolby Vision, and HLG (Hybrid Log Gamma). We can't go into all the detail here, but suffice it to say that if a set supports HDR 10 (a widely supported open standard) and Dolby Vision (Dolby's proprietary adaptation that is gaining broader support) you would be relatively future-proof in this area for several years.

What is OLED?

OLED stands for organic light emitting diode. It is the latest panel technology for TVs, but also the most expensive. Its primary advantage is that each individual diode in the panel can control color and light. This allows for the best black levels, which affects picture quality in dark scenes and optimizes contrast and color. The technology also allows for ultra-thin and ultra-sleek panels that can look like a picture on a wall. OLED is the spiritual successor to now-dead plasma technology (you may have a plasma set), which works similarly and was the first HD TV set technology for flat-panel designs.

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EL PASO, TX SBE CHAPTER 38 MEETING MINUTE

DATE 4/09/2019 **LOCATION:** COMO'S ITALIAN REST.

MEETING CALLED TO ORDER: 12:28 PM, BY ANTONIO CASTRO.
THERE WERE 6 ATTENDANTS.

REPORT OF THE SECRETARY: MINUTES IN THE APRIL NEWSLETTER. ACCEPTED BY ANTHONY SNOW, SECONDED BY NORBERT MILES.

REPORT OF THE TREASURER: \$ 5,512.28 IN THE BANK. ACCEPTED BY OWEN SMITH, SECONDED BY ANTHONY SNOW.

REPORT OF THE CERTIFICATION COMMITTEE: GUILLERMO FRANCO RE-CERTIFIED AS CBRE

REPORT OF THE MEMBERSHIP COMMITTEE: LOCAL MEMBER, JOEY VELA, iHearthMedia CHIEF ENGINEER

REPORT OF THE FREQUENCY COORDINATOR COMMITTEE: LAST ONE IN REPACKING, KSCE-TV ON APRIL 12th, 2019

REPORT OF THE SCHOLARSHIP COMMITTEE: WAITING FOR APPLICANTS FOR THE 2019 SCHOLARSHIP.

REPORT OF THE WEBSITE COMMITTEE: 2541 HIST LAST TIME. NOW 2574= 33, MODIFIED NAME OF VICE-CHAIRMAN OFFICER.

REPORT OF THE EAS CHAIRMAN: MONTHLY TEST OF TX WERE FINE. HAVE NOT HEARD OF NM YET.

REPORT OF THE PROGRAM COMMITTEE: COLIN TESLER FROM BURST COMMUNICATIONS WILL BE AT THE MAY MEETING.

UNFINISHED BUSINESS: ENNES WORKSHOP TO BE HELD IN MAY 30.

NEW BUSINESS OR ANY ITEMS FOR THE CHAPTER INTEREST: EARS ANNUAL MEETING TO BE HELD ON JUNE 11 AT THE 911 BUILDING, 9:30 AM.

OTHER: NONE

NEXT MEETING DATE AND LOCATION: MAY 14, 2019.
TIME:NOON,AND PLACE: TAJIN ENCHILADA HOUSE.

MEETING ADJOURNED: AT 13:09 PM.

ENNES WORKSHOP IS FOR MAY 30th, MAKE YOUR REGISTRATION NOW AT sbe.org/education/ElPaso

MAY PROGRAM

FOR APRIL, DUE TO LAS VEGAS NAB, WE HAD ONLY OUR REGULAR CHAPTER MEETING AT THE COMO'S ITALIAN RESTAURANT.

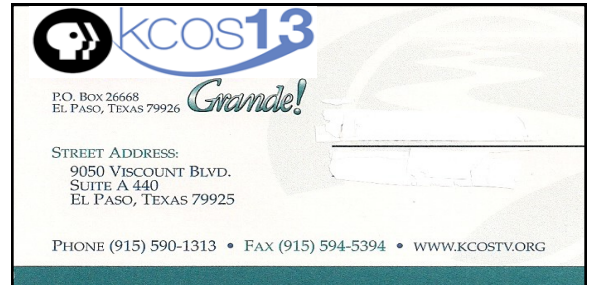
FOR THIS MONTH, WE ARE GOING TO HAVE ALSO OUR REGULAR MEETING, BUT THIS TIME IS GOING TO BE AT THE TAJIN ENCHILADA HOUSE RIGHT AT THE MESA INN, 4151 N. MESA.

IT IS VERY IMPORTANT TO ATTEND AND ENJOY THE FOOD !!.

WHEN:
TUESDAY MAY 14, 2019.

PLACE:TAJIN ENCHILADA HOUSE

TIME: NOON



What is LED?

OLED sets are steadily coming down in price thanks to Sony and LG investing in the technology but **LED** (light emitting diode) sets dominate the industry. LED usurped plasma as they could be produced at lower cost and also provide excellent picture quality. LED sets are LCD panels backlit by LED lighting, either edge-lit or fully backlit. The latest in LED-backlit sets—which are the majority of models—is full array backlighting. In those models, multiple zones of the screen can be controlled for backlighting. The more zones, the better control of black levels and contrast. The best array-dimming sets have over 100 dimmable zones and approach the picture quality of OLED sets but at a lower cost.

What is Refresh Rate?

Refresh rate is something that may or may not matter to you, but is worth understanding. It refers to the rate at which the TV panel refreshes its image, and is a number expressed in hertz, like 60hz or 120hz. For films and other normal TV viewing, a 60hz panel is fine. If you watch a lot of fast-moving sports, a panel that refreshes at 120hz may give you a smoother picture. If you like video gaming, a faster refresh rate is likely to be noticeable for certain games. One interesting point about these numbers is that some TV set manufacturers use digital processing to promise higher refresh rates – like 240hz – when the panel itself only natively works at 60hz or 120hz. If watching sports or video gaming are important to you, you will likely want a TV with a higher native refresh rate, which most upper-end models support.

What is Contrast Ratio?

Contrast ratio is a number that is hard to compare, representing the difference between the darkest black and the whitest white a TV set can display. The higher the number, the better the contrast. The problem is that there is no standard for manufacturers to express this number, so vendors like Samsung and Sony have different ways to measure it. You are better off not paying too much attention to it, and other technologies like HDR or full array dimming are better ways to judge contrast capability.

What is the best Smart TV System?

We should start by defining a smart TV. Virtually all the TVs available today come with a smart system and applications much like smartphones. Samsung and Vizio have their own, Sony has Android TV, and LG has WebOS. Other brands like TCL are building in the Roku system for U.S. models. Like smartphones, these TV systems offer built-in apps for popular content services like Netflix, Hulu, and HBO, as well as app stores where you can download other content services and even games.

We could write another entire article about smart TV interfaces. Suffice it to say that most of them cover the bases with access to major content services. Some interfaces are easier to use than others, and some have more apps than others. However, you are not stuck with any of these with a new TV. If you buy a Sony and are not a fan of Android TV, you can add a 4K Roku or Apple TV device easily via an open HDMI port and just not use the built-in system. Smart TV systems are software and can change or upgrade quickly, so the advantages and disadvantages of each will change over time. Choose a TV based on the picture quality and other criteria, as this one is easy to replace at a very low cost in comparison to the cost of the TV.

Are there more things to consider in comparing TVs? Of course, but also think about what the most critical aspects are for you, whether the TV is for a media room or your master bedroom.