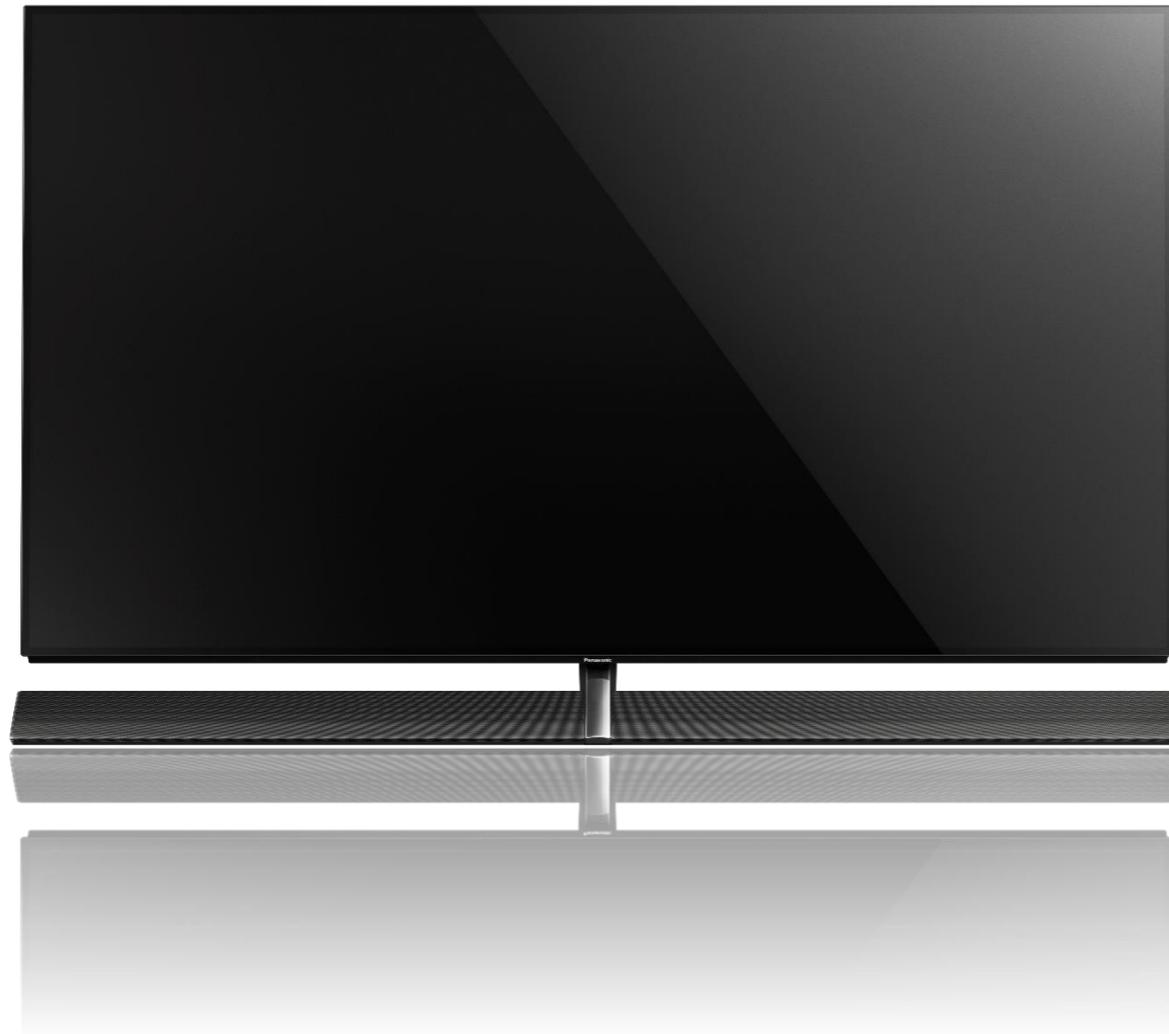


Panasonic Multimedia

Az okos TV, mint a házi multimédia rendszer központja

4K HDR OLED és LCD technológia

2018 január 24, Imre Gábor





Az első Panasonic OLED TV a CZ950 után jön a síkképernyős TX-65EZ1000

Az új készülék finomhangolásában hollywoodi koloristák is közreműködtek, és abba úgymond professzionális szintű színfeldolgozás működik. Így a márka a TV-t azokhoz a referencia monitorokhoz hasonlítja, amelyeket a hollywoodi stúdiók a filmek minőségének ellenőrzésére használnak, s ezzel a pontosabb színek és tökéletesebb árnyalati részleteket reprodukálását demonstrálja.

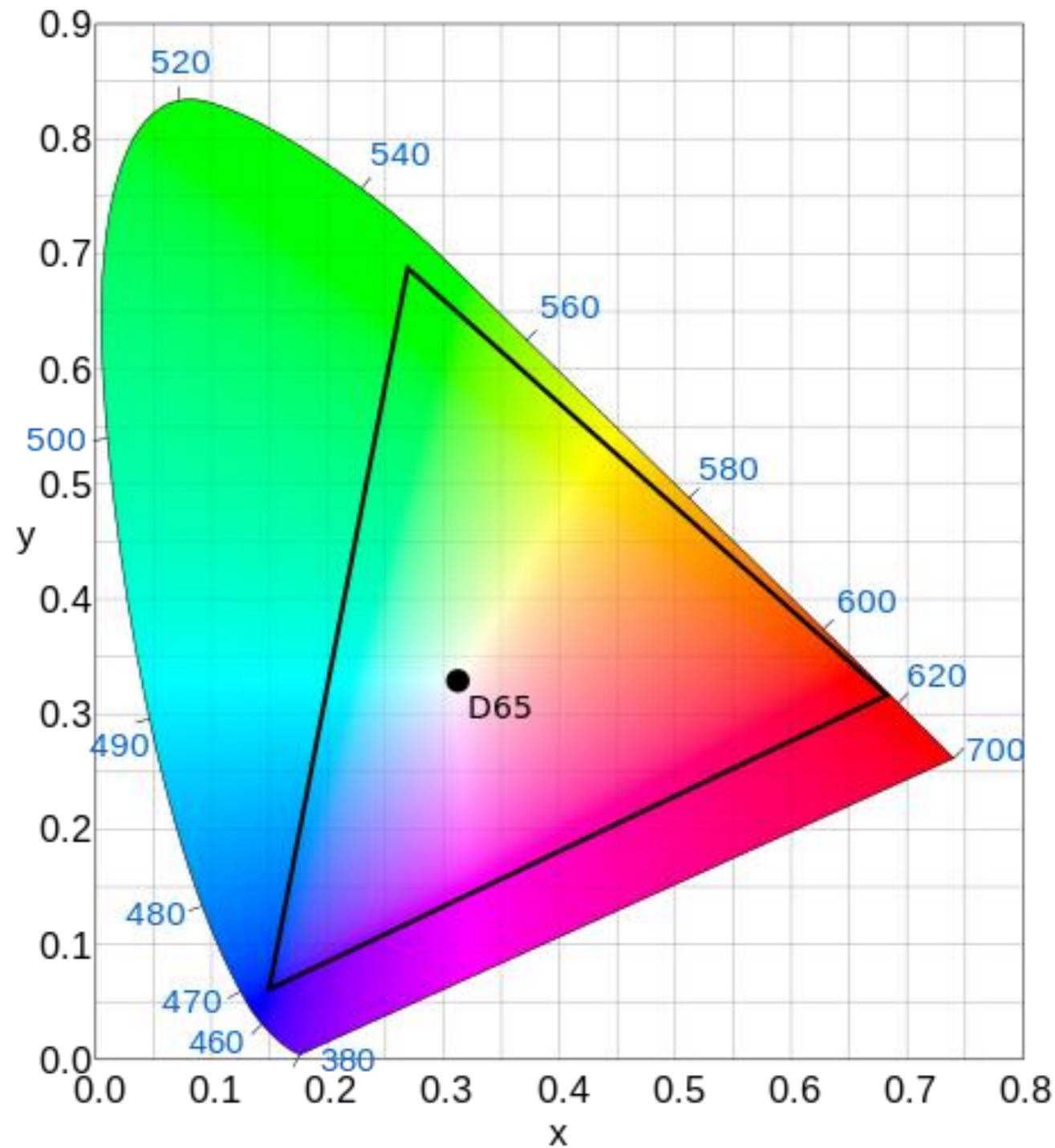


EZ1000 kb. 800 nit (cd/m^2) csúcsfényességet és szinte teljes DCI-P3 színteret tud előállítani.

A márka plazmatechnológiával szerzett tapasztalatain alapuló optimalizált OLED panelmeghajtás a teljes fekete közeli árnyalatokat is képes megjeleníteni, egy új „Absolute Black” szűrő pedig igen világos környezetben is tökéletes feketeszintet biztosít és kiiktatja a korábbi OLED képernyők zavaró magenta elszíneződést is.



New OLED TV from Panasonic



The [CIE 1931 chromaticity diagram](#) with the spectral colors and purple line along the rim. The corners of the triangle are the [primary colors](#) of the DCI-P3 color space. DCI-P3 D65 uses [Illuminant D65](#) for the [white point](#).

HOLLYWOOD TO YOUR HOME

Az EZ1000 lehetővé teszi a profi felhasználóknak, hogy saját 3D keresőtáblát tölthessenek fel SD/USB tárolóról, és olyan funkciók is az egyedülálló képpontosságot szolgálják, mint az ISF beállítások és a kompatibilitás a Portrait Displays CalMAN kalibrációs rendszerével.

A TV rendelkezik THX tanúsítvánnyal és kandidál az **ULTRA HD PREMIUM** minősítésre is.

HOLLYWOOD TO YOUR HOME

Az EZ1000 képét az új Studio Colour HCX2 képprocesszor rakja össze, mégpedig olyan színpontossággal, ami többé-kevésbé tökéletes „Delta Zero” (deltaE=0) színvisszaadást ígér. Ezt a profi film- és TV monitorokban használt 3D keresőtábla alkalmazásával érik el, ami előbb belsőleg képezi le a színeket mielőtt kitenné a képernyőre kerülnek

HOLLYWOOD TO YOUR HOME

Az **EZ1000** a **HDR10** mellett a **Hybrid Log Gamma (HLG)** formátumot támogatva képes a nagy dinamikatartományú (**HDR**) tartalmak megjelenítésére. A **Panasonic** a TV-hez a **Technics** együttműködésével egy új 80 W-os „dynamic blade” hangszugárzó rendszert fejlesztett, ami penge vékony kialakítása ellenére nyolc mély-, négy közép- és két magas-sugárzót valamint egy passzív-sugárzót tartalmaz.

4K **PRO**
HDR

Hollywood to Your Home

PICTURE QUALITY

X

Art & Interior

Designed with you in mind

DESIGN

PICTURE QUALITY

4K^{PRO} HDR

Hollywood to Your Home

EZ1000/EZ950



EX780/750



Incredible
Black
Expression

Breathtaking
Accurate
Colours

Brilliant
HDR

DESIGN

Art & Interior

Designed with you in mind



Authentic
Furniture
Material

**User
Centric**

**Switch
Design**

Hollywood to Your Home

4K PRO
HDR

**Breathtaking
Accurate
Colour**

**Incredible
Black
Expression**

**Brilliant
HDR**

**Collaboration with
Hollywood**

**Studio Colour
HCX2 Processor**

Master HDR OLED

**Cinema Display
Professional Cinema Display***

*DX900 only

TUNING

PROCESSOR

PANEL

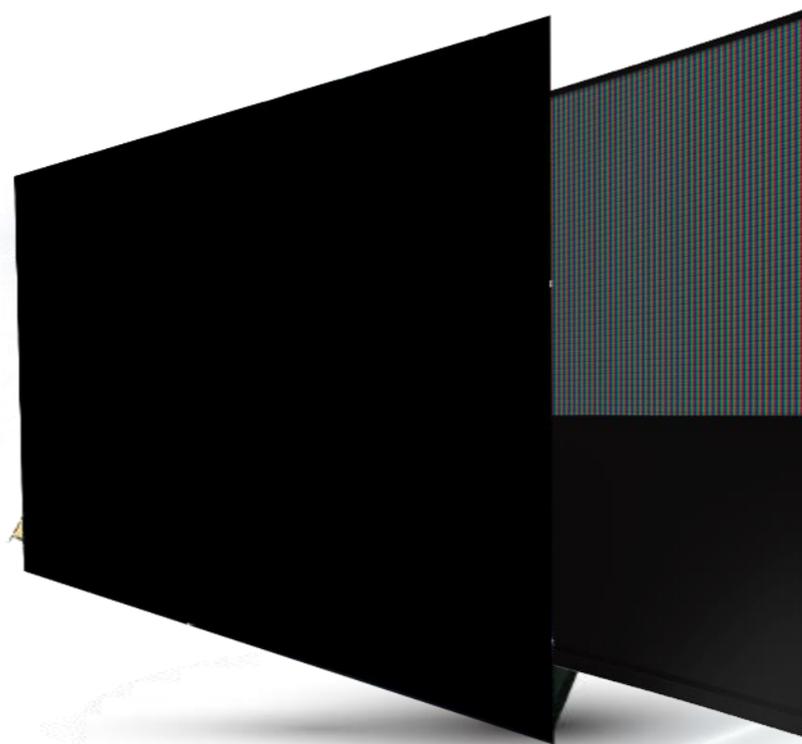
Master HDR OLED Panel

Panasonic's original drive technology and unique Absolute Black Filter maximise OLED panel advantages.

Panel Peak Brightness: Approx. 1,000 nit*

High peak brightness even with an OLED panel.

* measured in APL 3%



DCI 98%

A wide Colour Gamut and total of 1 billion Colours

Absolute Black

The characteristics of the OLED self-illuminating panel achieve zero-level black. And the effect of the Absolute Black Filter reproduces highly precise black shades.

Studio Colour HCX2 Processor **NEW**

Panasonic's Original Revolutionary Processing Technology

Panasonic Unique Accurate Processing Technology
“Delta Zero Colour Accuracy”

Panasonic
Technology and
Know-how

Hollywood
Tuning

Precise HDR Processing

Even high-brightness areas are rendered with sharp detail and no blown highlights.



Black Gradation Drive

Increases the expression of dark shades for smooth gradation.



Professional 3D LUT

Accurately reproduces colours.

Cinema Display

A high-performance LED LCD panel with a wide colour gamut and a unique, high-efficiency backlight.

- **Peak Brightness 550nit**
- **Stable Average Brightness**

The high brightness required for HDR is achieved by LED backlight technology.



DCI 94%

Covering a wide colour gamut.

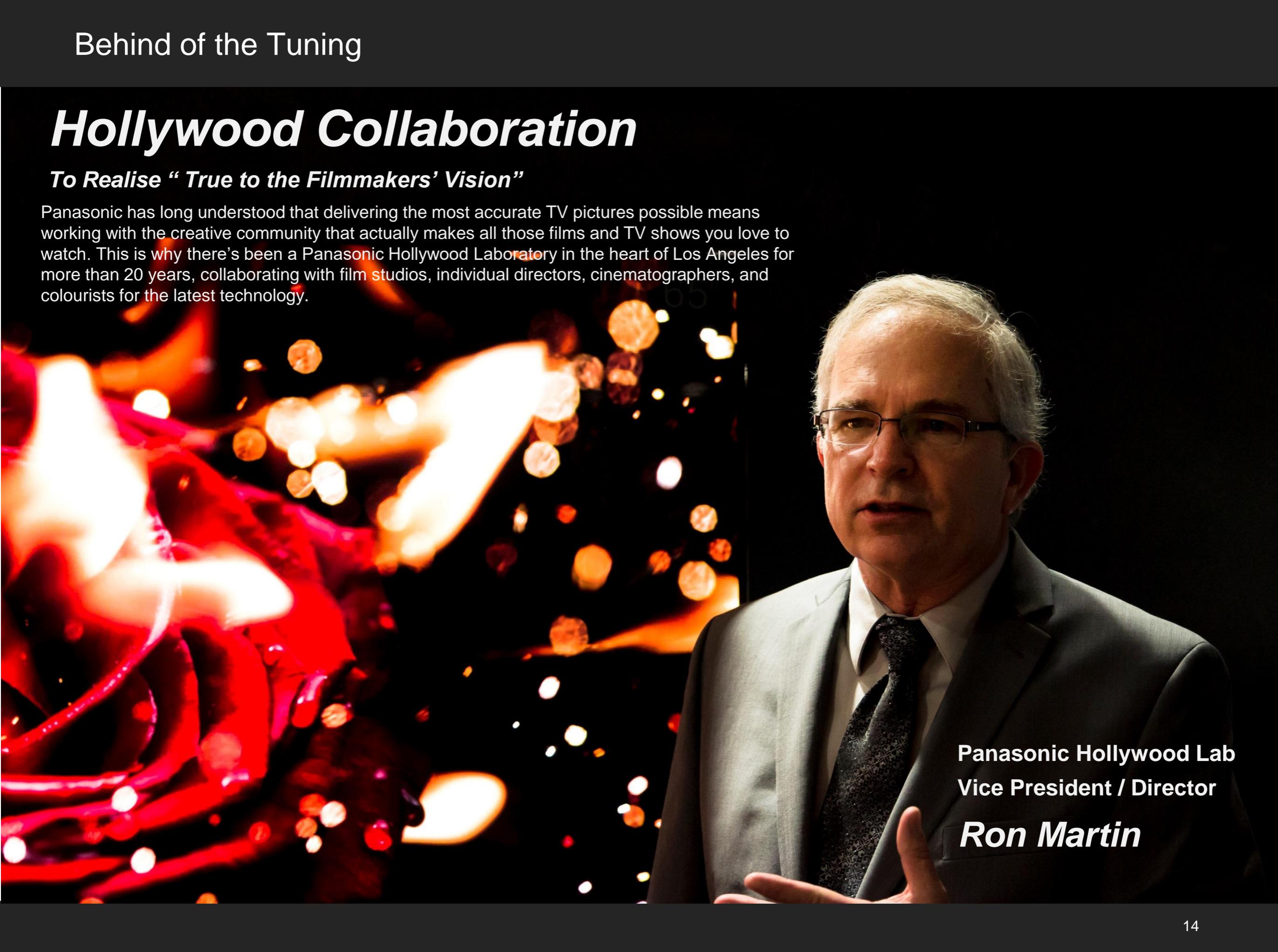
Enhanced Local Dimming

High contrast is achieved by backlight control.

Hollywood Collaboration

To Realise “ True to the Filmmakers’ Vision”

Panasonic has long understood that delivering the most accurate TV pictures possible means working with the creative community that actually makes all those films and TV shows you love to watch. This is why there’s been a Panasonic Hollywood Laboratory in the heart of Los Angeles for more than 20 years, collaborating with film studios, individual directors, cinematographers, and colourists for the latest technology.



**Panasonic Hollywood Lab
Vice President / Director**

Ron Martin

End to End UHD Solution

Panasonic covers all aspects of the Ultra HD world

Panasonic provides an end-to-end UHD solution — from producing images and authoring Blu-ray Disc™ film titles, all the way to manufacturing home entertainment products.

Content
Production



Professional
Broadcast Equipment



Cross Value Innovation
with Professional AV Products

Authoring &
Standardization

ULTRAHD
Blu-ray



Home
Entertainment



4K Ultra HD TV



Ultra HD Blu-ray Player/ Recorder



4K Camcorder



4K Digital Camera

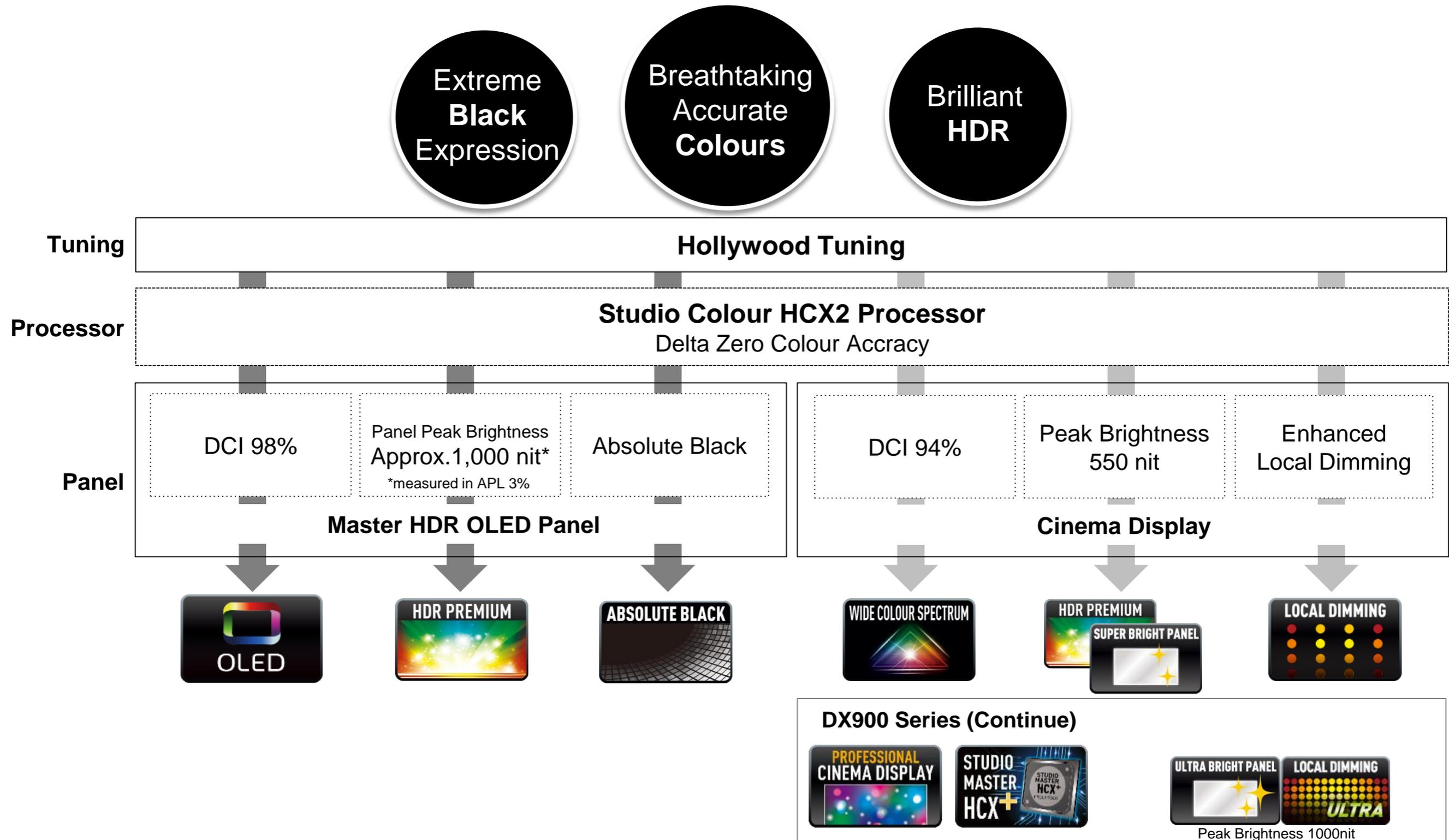


- Authoring technologies accumulated over the years have helped Panasonic to make an early start on Ultra HD Blu-ray authoring services.
- Panasonic helps to establish standards on new 4K and HDR technologies.

Bringing the original film into homes as the director intended.

Behind the Technology of Panasonic's Picture Quality

In addition to the synergistic effect of a high-performance panel and high-definition processor, the ultimate picture quality is achieved by professional Hollywood tuning.



Feature Comparison

	4K PRO HDR	4K PRO HDR	4K PRO HDR	4K PRO HDR	4K HDR	4K HDR	FULL HD 1920x1080p	FULL HD 1920x1080p	FULL HD 1920x1080p	
SERIES	EZ1000	EZ950	DX900	EX780	EX730/700	EX600	ES600	ES500	ES400	
SIZE	77"/65"	65"/55"	65"/58"	75"/65"/58"/50"	65"/58"/50"/40"	65"/55"/49"/43"/40"	32"	49"/40"/32"/24"	49"/40"/32"	
PICTURE QUALITY										
										*Except 24-inch models
				*EX780: Enhanced Local Dimming						
	OLED Superb Motion Drive									
DESIGN										
SMART FEATURES										
					*Except EX700					

Features

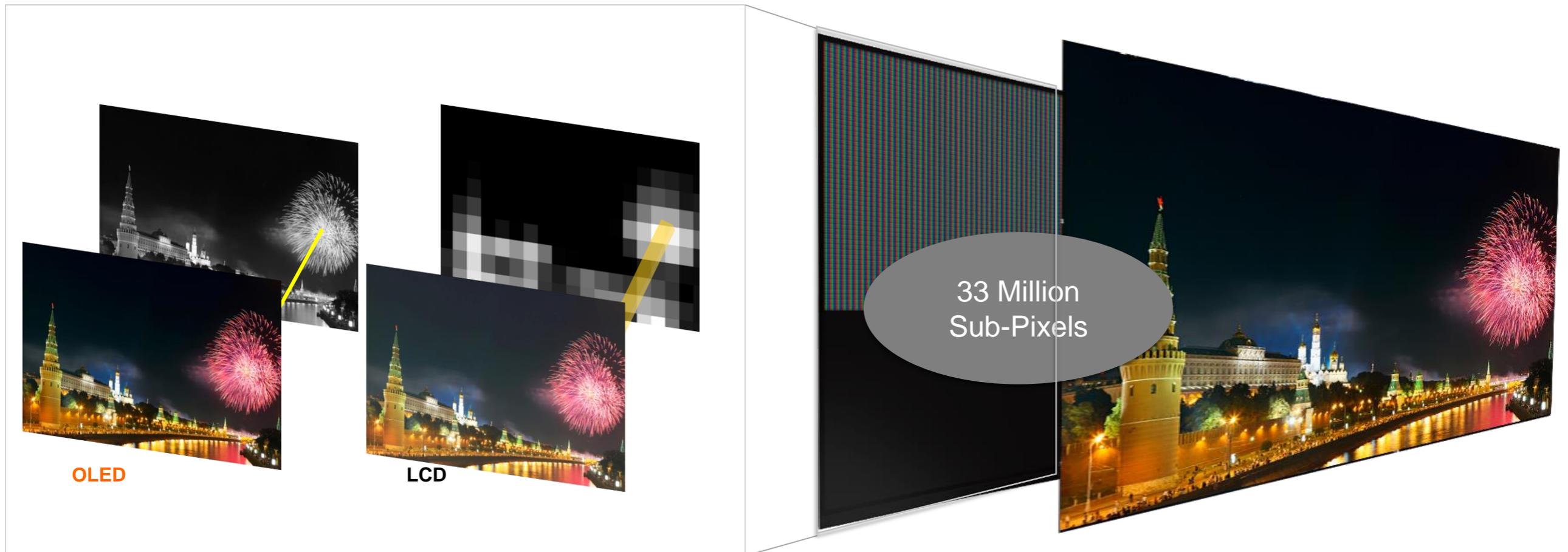
PICTURE QUALITY

What's OLED TV?

The OLED panel is a self-illuminating system that doesn't require any additional light source, such as a backlight. When an electrical current flows to the organic layer light-emitting element, the panel is illuminated.

4K OLED panel dims the lighting with 33 million sub-pixels to render highly elaborate images.

The panel also controls the intensity of the illumination based on the amount of electrical current flowing. When there is no current at all, no light is emitted, enabling stunning expression of deep, rich blacks, as well as the ultimate contrast ratio.



*All pictures and graphics are simulated images.

Other Benefits of the OLED Display

The OLED panel utilises the characteristics of self-illumination to enhance picture quality, design and ecological operation. It's the next-generation panel with the highest possible potential.

Real Black Expression



Pitch black is reproduced with zero light emission.

Wide and Vivid Colour



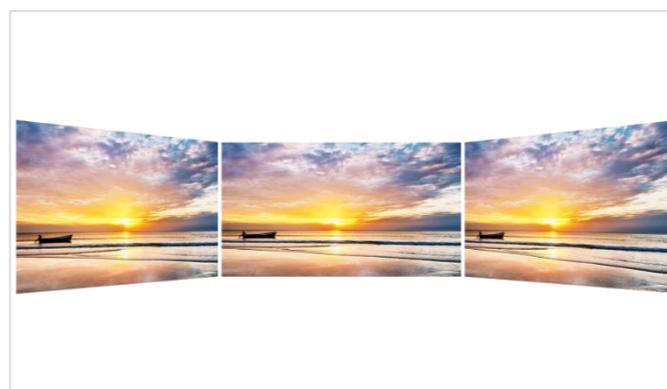
A wide colour gamut is achieved with the OLED spectrum.

Crisp Motion



Clear moving images with 1 m/sec response.

Wide Viewing Angle



The viewing angle is wide, because it's a self-illuminating panel.

Thin and Light Weight



There's no backlight, and the thin light-emitting layer serves as the light source to attain a thin profile and light weight.



Panasonic's 'Master' HDR OLED delivers the best OLED experience

Panasonic's OLED panels are dubbed 'Master' panels as they are able to produce deeper silky blacks and we are able to control them with more granularity than ever before. This means that thanks to Panasonic's renowned picture quality craftsmanship, together with input from a Hollywood Colourist, we are able to tune them to the utmost of their potential.



Technical Information

OLED panel characteristics contribute to high picture quality.

Panel Features

COLOUR

DCI Colour Space Coverage

98%

Number of Colour

1 Billion

BRIGHTNESS

Peak Brightness

Approx.

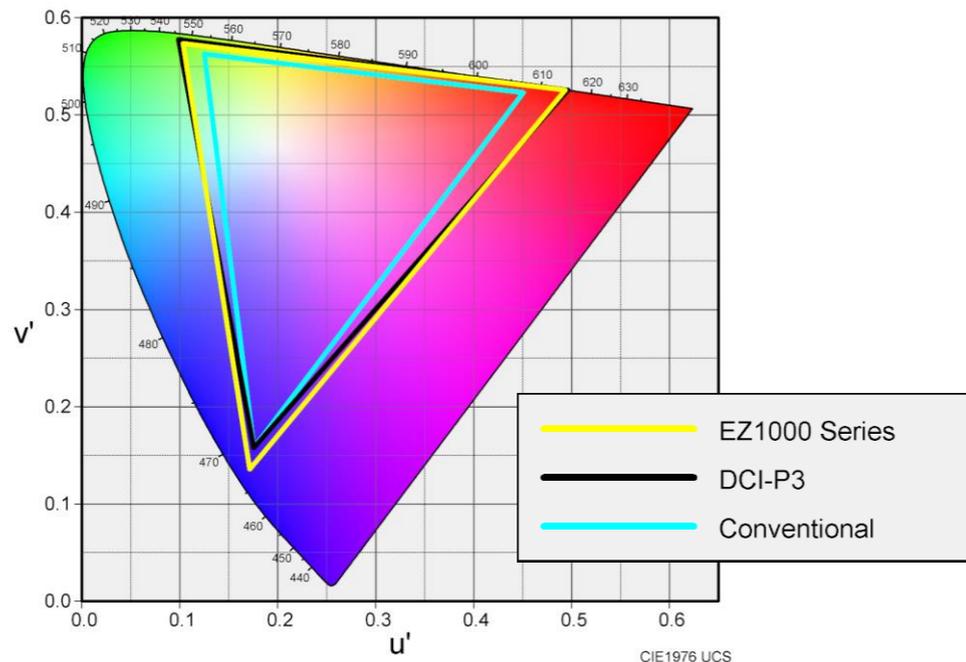
1,000 nit*

*Measured in APL 3%

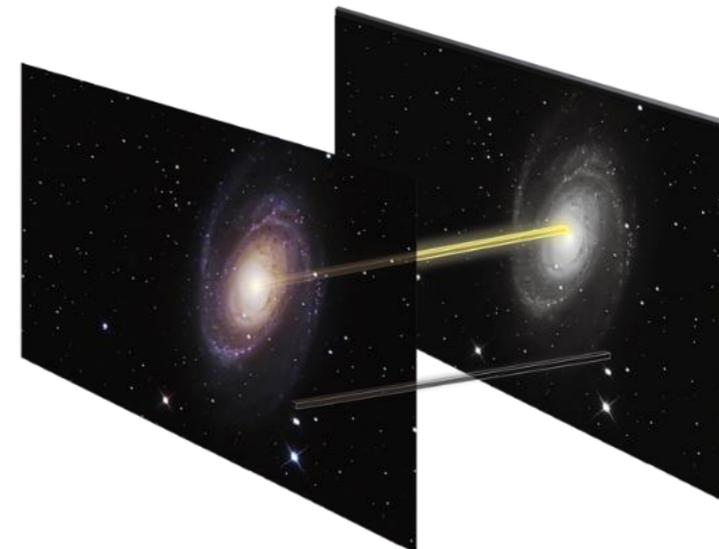
BLACK

Black level

0



*A measured value varies by individual set.



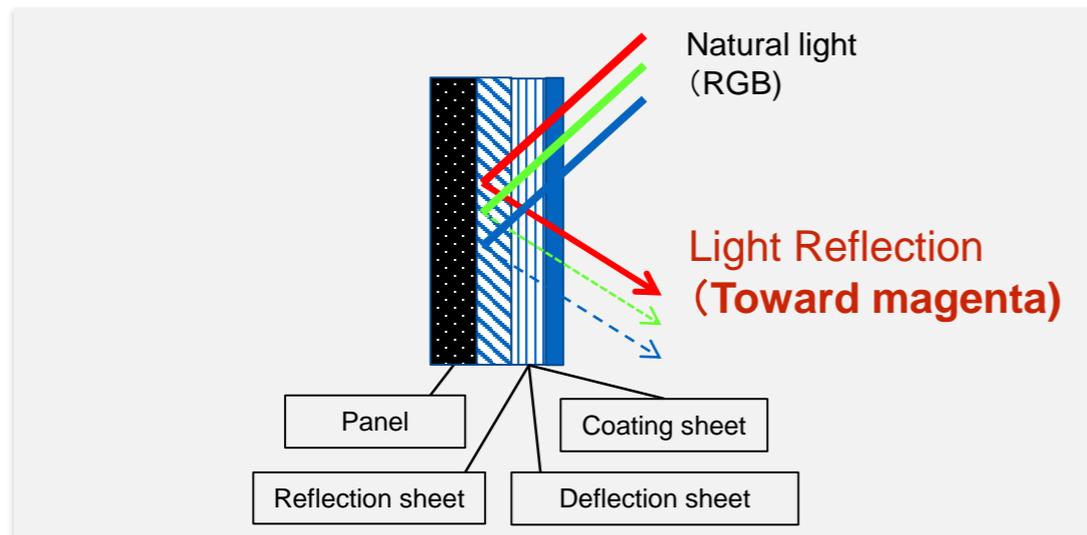
OLED is a self-illuminating panel technology which individually illuminates each pixel. As it needs no backlight like LCD TVs, when the signal level is reduced to zero, black parts of the screen are real pitch black.

Technical Information

A special, unique filter reduces external reflections to reproduce more accurate black shades.

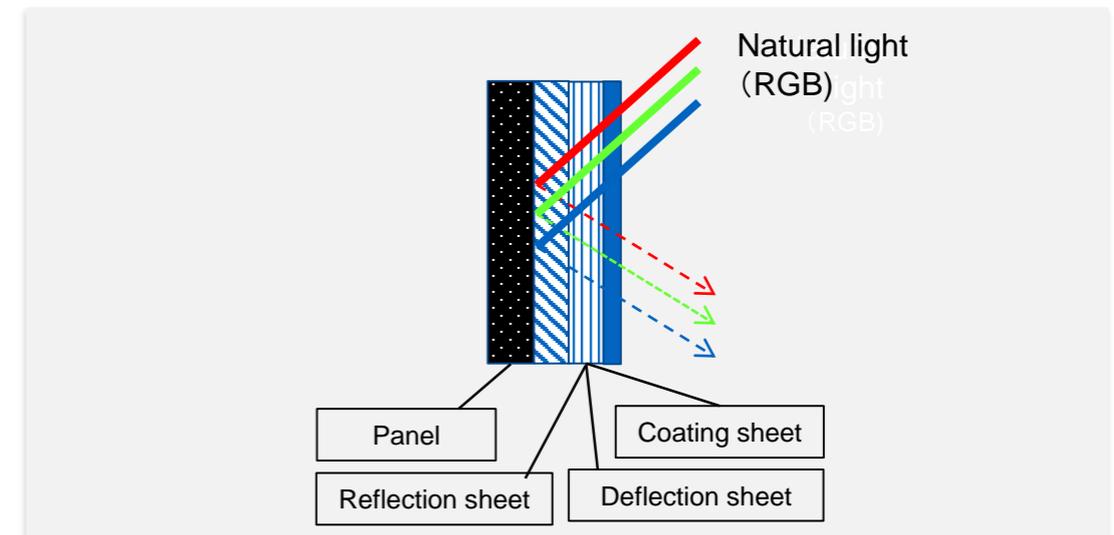
Absolute Black Filter

Without Absolute Black Filter



The colour approaches magenta.

With Absolute Black Filter



The colour of external reflections is reduced to reproduce accurate black shades.



Our Best 4K Processing with special tuning by a Hollywood Colourist

The new Studio Colour HCX2* 4K processor represents the pinnacle of Panasonic image processing. Built on colour, black level and brightness know-how learned from our reference-quality plasma TVs and professional broadcast equipment, the system has also been tuned by a Hollywood colourist to deliver picture quality true to the filmmakers' vision.



Technical Information

A colour-correcting system, called a 3D Look Up Table, that is used for master monitors, provides more precise colour reproduction.

3D LUT



Conventional



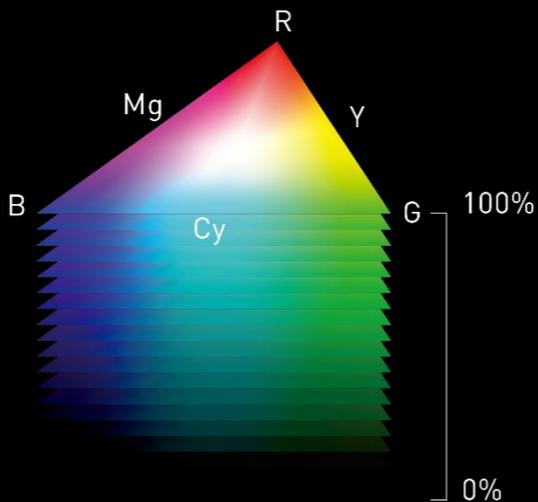
Panasonic

Details of difficult-to-reproduce shadows and highlights are precisely reproduced.

3D Lookup Tables

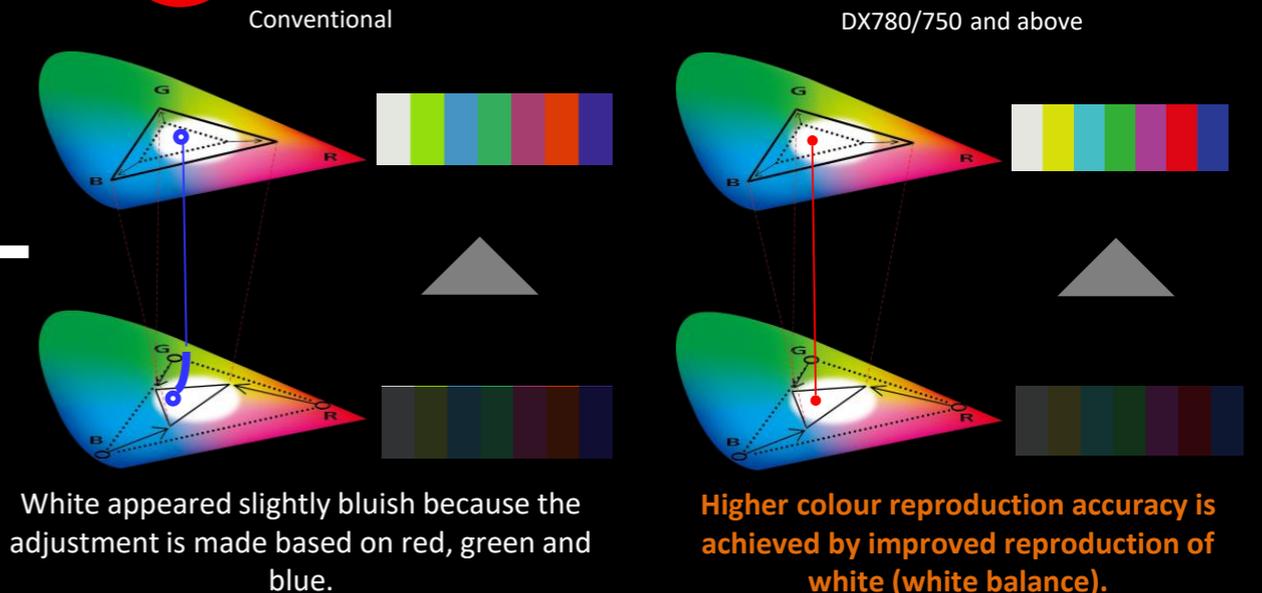


Several Thousand*
 Registry Points



White Balance Adjustment

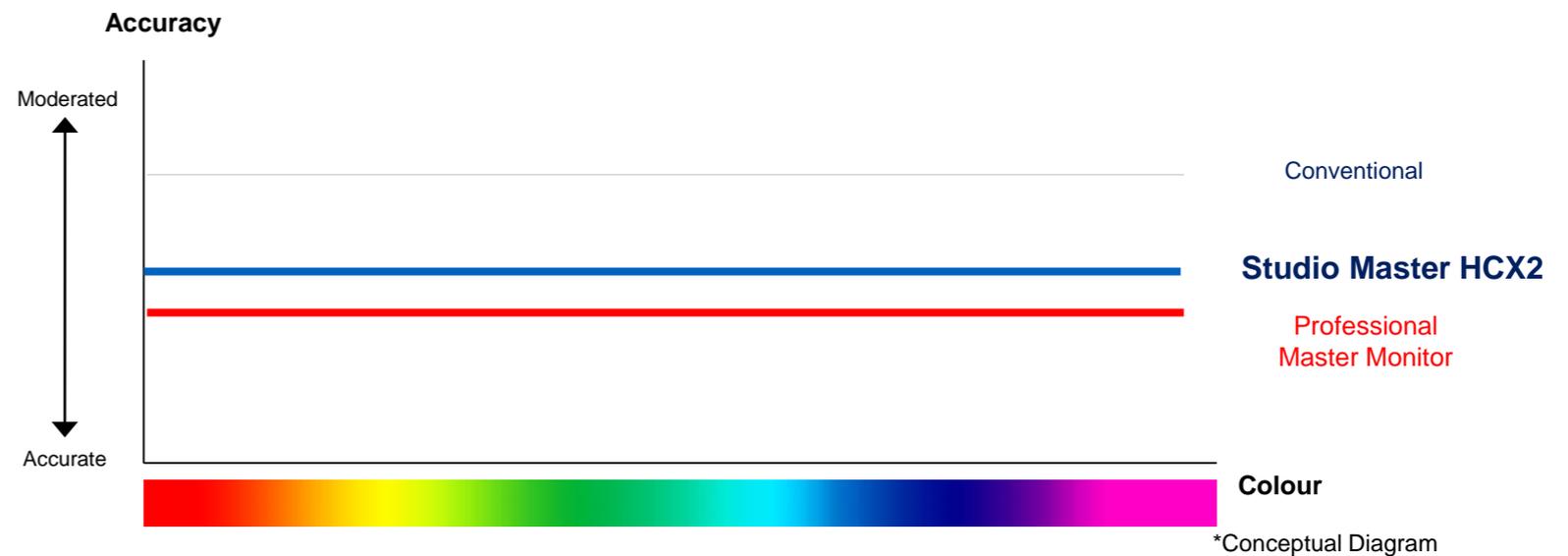
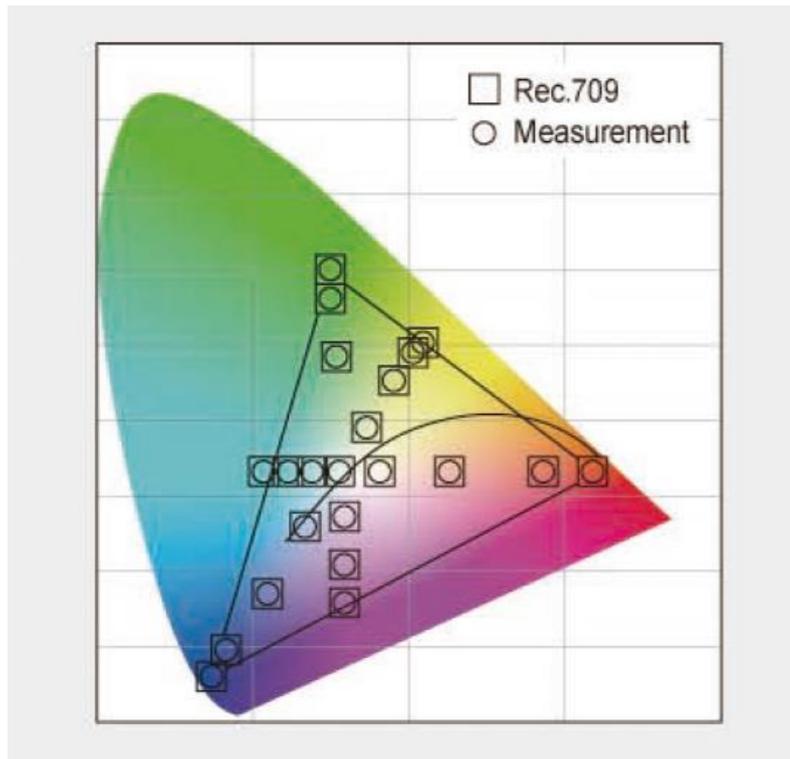
NEW



Technical Information

Panasonic's unique Delta Zero Colour Accuracy compensates picture quality to the level of a master monitor.

Delta Zero Colour Accuracy

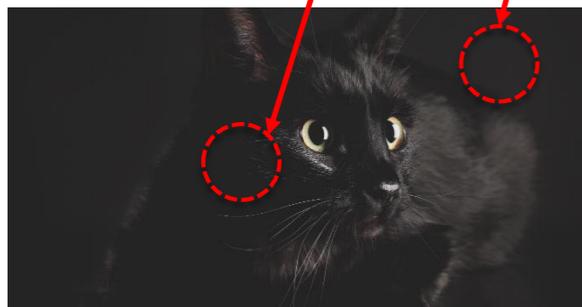
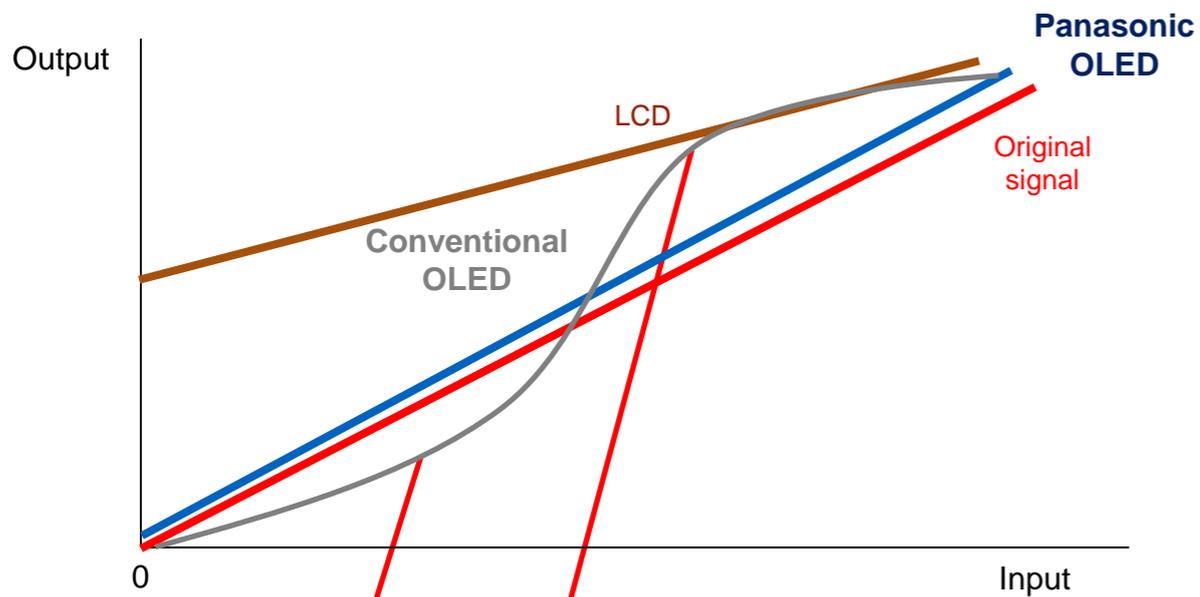


Studio Master HCX2 adjusts and corrects individual characteristic variations of colour that occur due to the nature of the LCD panel. The result is accurate, master-monitor-quality colour reproduction.

Technical Information

Original drive technology utilising Panasonic's vast accumulation of know-how precisely reproduces the details of shadows and highlights.

Low Brightness Area



Conventional

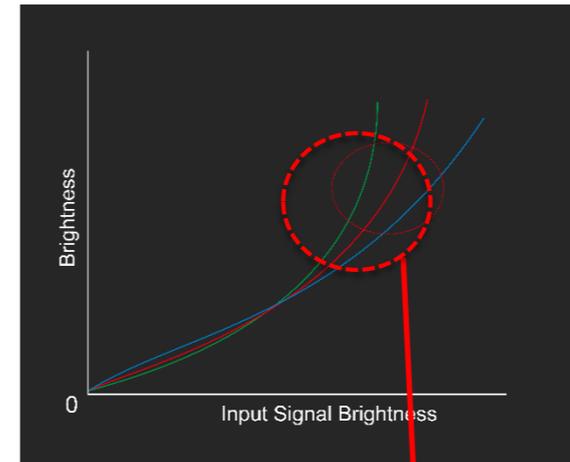


Panasonic

A much lower illuminating brightness is enabled to realise smooth gradation in very dark areas.

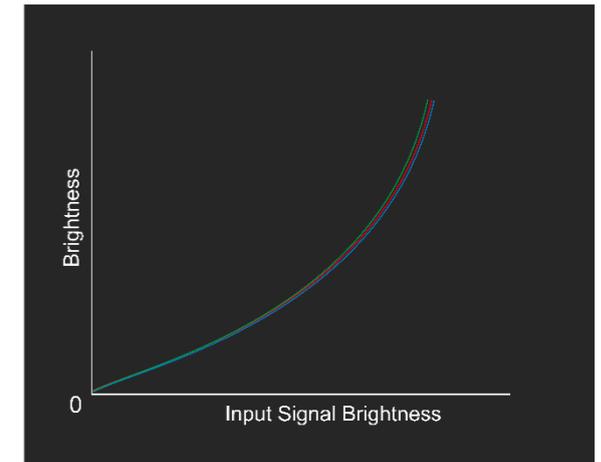
High Brightness Area

Conventional



Conventional

Panasonic



Panasonic

High-brightness gradation is appropriately expressed to precisely reproduce fine details in skylight and sunlight.

Technical Information

With its 3D LUT-Free function, the EZ1000 delivers not only superb picture quality, but also meets the needs of Hollywood image creators.

NEW

3D LUT-Free for Professional Usage

When shooting

Pregrading

When editing

4K Camera



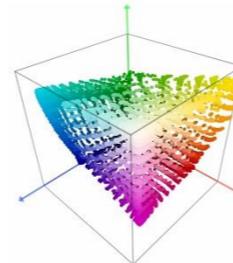
4K RAW

3D CGI

Grading System



3D LUT production



3D LUT

Grading System



Master Monitor

Colour matching

Colour matching



Master Monitor

4K RAW

SD Card or USB Memory



Loading LUT data

Loading LUT data

An LUT data file generated by the editing system is loaded via an SD/USB memory device.

* The LUT format (.cube) for use by Blackmagic Design's DaVinci Resolve.

Colour matching

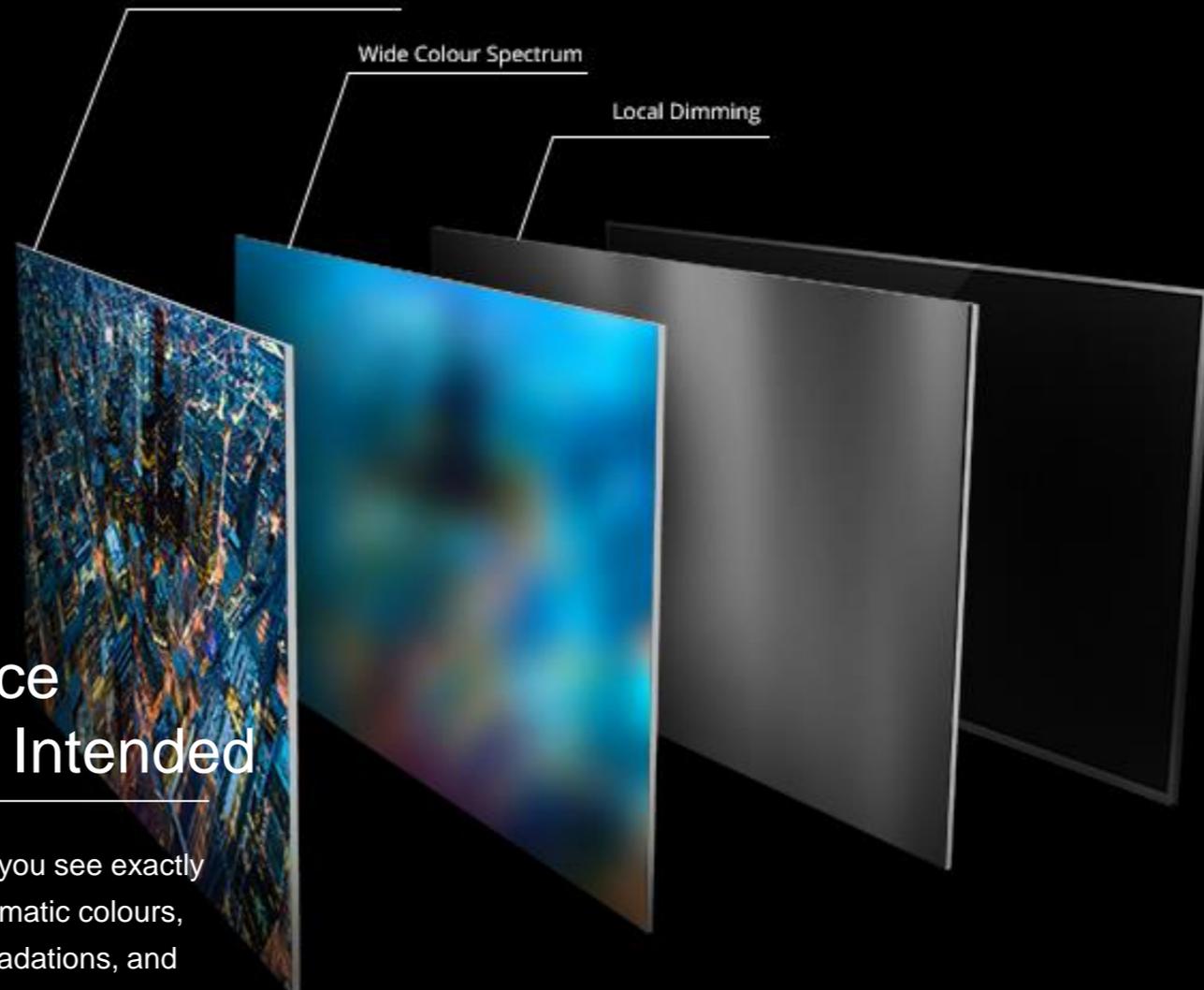
EZ1000

EZ1000

Super Bright Panel

Wide Colour Spectrum

Local Dimming



Cinema Displays Reproduce Exactly What a Filmmaker Intended

Our new Cinema Displays are designed to ensure that you see exactly what the filmmakers intended. They combine wide cinematic colours, local dimming to deliver inky blacks alongside subtle gradations, and outstanding levels of brightness.

Technical Information

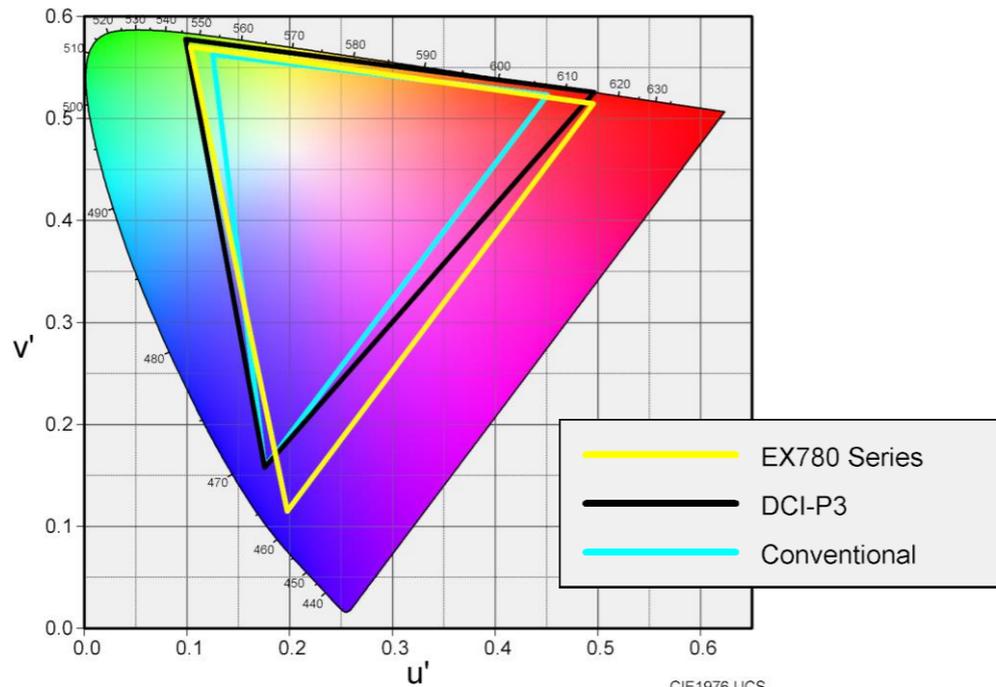
A High-Spec Display for Faithfully Reproducing the Filmmaker's Intention

Panel Features

COLOUR

DCI Colour Space Coverage

94%



*A measured value varies by individual set.

CIE1976 UCS

BRIGHTNESS

Peak Brightness

550 nit



BLACK

LOCAL DIMMING



Enhanced Local Dimming





Support for multiple HDR formats



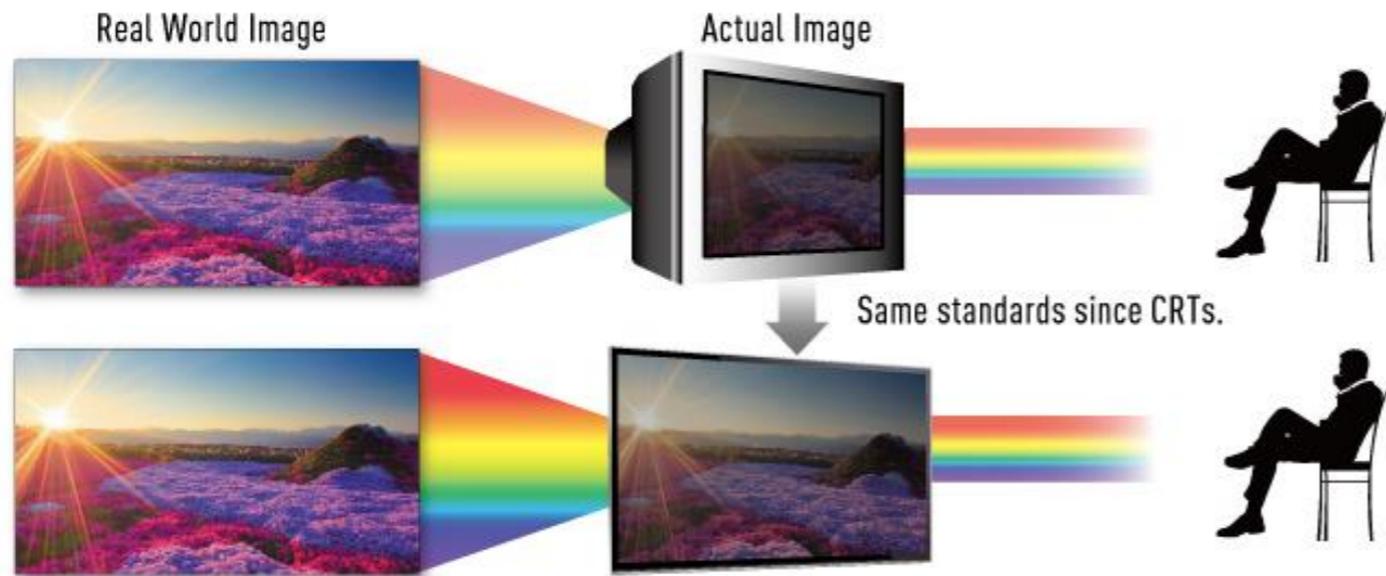
Panasonic TVs support now multiple HDR formats, such as HDR10 the standard HDR format for films and UHD Blu-ray discs, and now also Hybrid Log Gamma, the HDR format for broadcast TV developed by the BBC and Japan's NHK.

Technical Information

The expressible bright and dark parts are expanded to achieve more natural images.

What's HDR?

Before: Standard Dynamic Range



Now: High Dynamic Range



	Resolution	Colour Space	Brightness
SDR	SDTV/ HDTV	BT.709	100- 300nits
HDR	4K Ultra HD	BT.2020	1000nits *LCD/UHD Premium

Technical Information

Panasonic's HDR reproduction renders even high-brightness areas with sharp details and no blown highlights.

Advantages of Panasonic's HDR Reproduction

High-brightness area



The curve bend exceeds panel brightness, resulting in blown highlights.



Details are also reproduced in high-brightness areas.

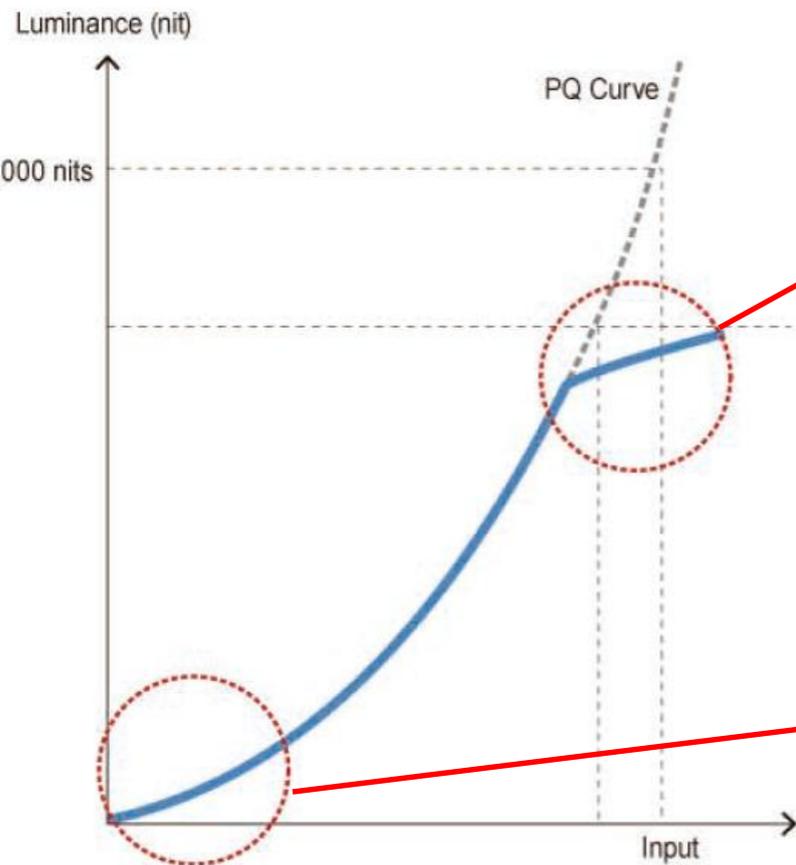
Low-brightness area



Weak in reproducing dark areas.



Dark-area gradation is precisely reproduced.



Technical Information

Reproduces more gorgeous images.

HDR Brightness Enhancer

The images in dark scenes are difficult to see in bright room conditions.



The HDR Brightness Enhancer is turned ON.



The HDR signal is forcibly raised to optimise the brightness of the low-brightness area.



Crisp, clear images with vibrant colours.



Even when switched to a bright scene, the image is analysed and optimised.

Technical Information

HDR signals, which are mainstream broadcast signals, are also compatible with Hybrid Log Gamma. You can be assured of future compatibility.

Technical Standards and Certification of HDR

Standard		Standard			Quality Certification	
		Hybrid Log Gamma	Perceptual Quantizer (PQ)		UHD Premium	
		ITU-R BT2100	HDR10	Dolby Vision		
		SMPTE ST 2084				
Simple Explanation		For Broadcasting	Most Popular	Advanced but limited devices and services are available.	Premium UHD Experience	
Main Standardizing Organization		BBC(UK), NHK(JP)	BDA	Dolby	UHD Alliance -Hollywood Studios -Content Distributors -Hardware Manufacturer	
Requirement Specification	Application Broadcasting	○	×	×		
	Streaming	△	○	○		
	UHD BD	×	○ (Mandatory)	△ (Option)		
Remarks				-Blu-ray players & titles are not available.(*) -streaming content is also available by HDR10.	-Quality certification (not standard) for TV, Blu-ray player and titles. -Requirement on display spec: LCD 1000nit / OLED 450 nit.	

*As of December 2016.



Enhanced Blacks for a More Natural Picture

The new generation of high brightness LCD panels are great for boosting colours and vibrancy. But they can only truly improve contrast if you can control their brightness in dark picture areas. Local dimming makes this possible by letting separate clusters of a TV's backlights output different brightness levels, so brightness can be reduced for dark areas without compromising the intensity of bright areas.



Technical Information

Controlling the LCD shutter sub-blocks separately from the lamp essentially increases the number of backlight control areas and raises the contrast.

NEW

Digitally Enhanced Local Dimming

Conventional

2017 Panasonic

Original Signal

Original Signal

Lamp Control + LCD Shutter Control

Individually controlling

Lamp Control

LCD Shutter Control

NEW

10% 30% 40%

10% 30% 40%

0%	0%	0%	30%	20%	0%
0%	0%	30%	70%	90%	30%
0%	0%	70%	90%	90%	50%
0%	0%	70%	90%	90%	50%
0%	0%	20%	80%	90%	50%
0%	0%	0%	20%	50%	50%

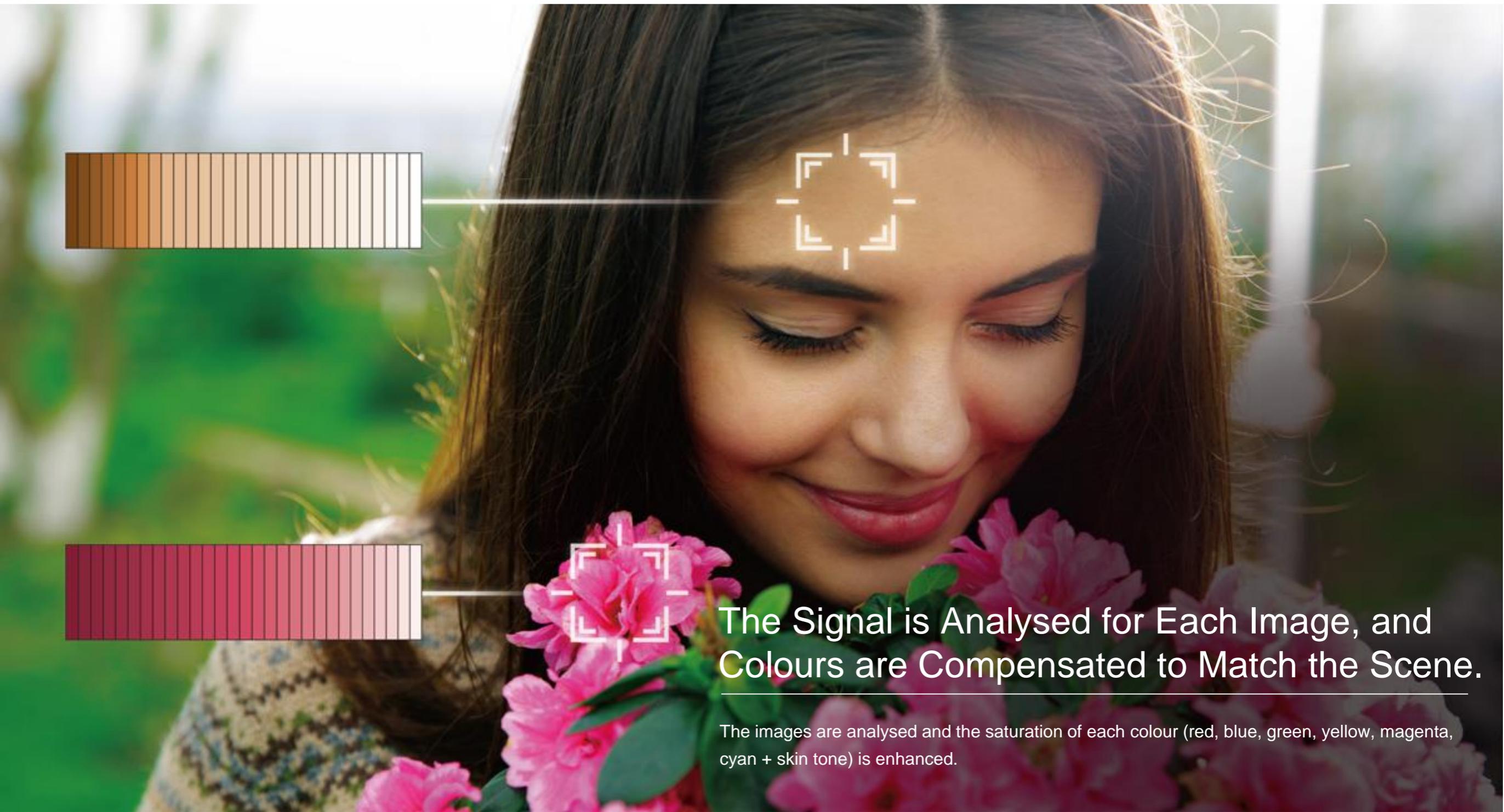
Signals are controlled in finer zones.

Picture on screen

Picture on screen



Adaptive Colour Enhancer



The Signal is Analysed for Each Image, and Colours are Compensated to Match the Scene.

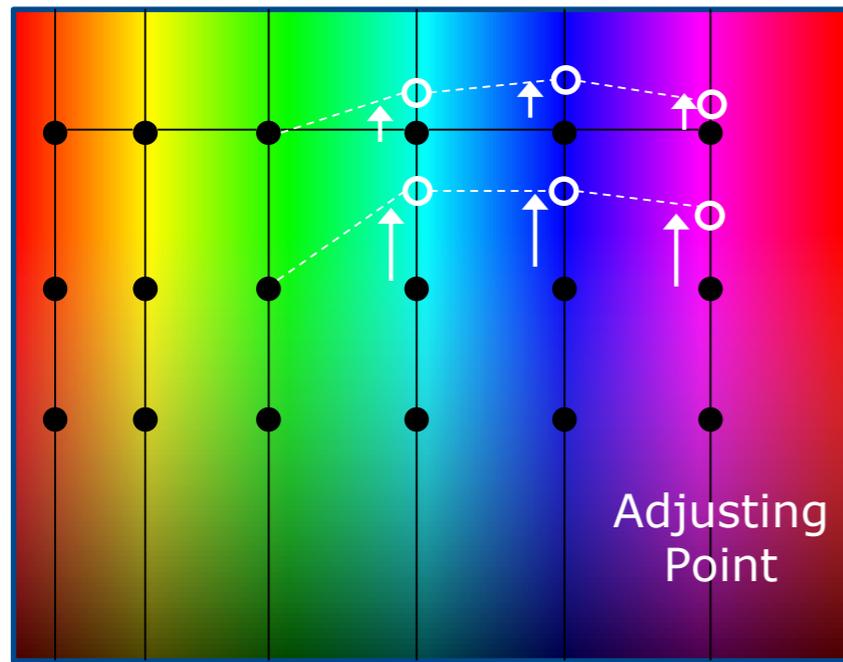
The images are analysed and the saturation of each colour (red, blue, green, yellow, magenta, cyan + skin tone) is enhanced.

Adaptive Colour Enhancer

Technical Information

The signal is analysed for each image, and colours are compensated to match the scene.

Adaptive Colour Enhancer



The images are analysed and the saturation of each colour (red, blue, green, yellow, magenta, cyan + skin tone) is enhanced to avoid oversaturation.

Conventional

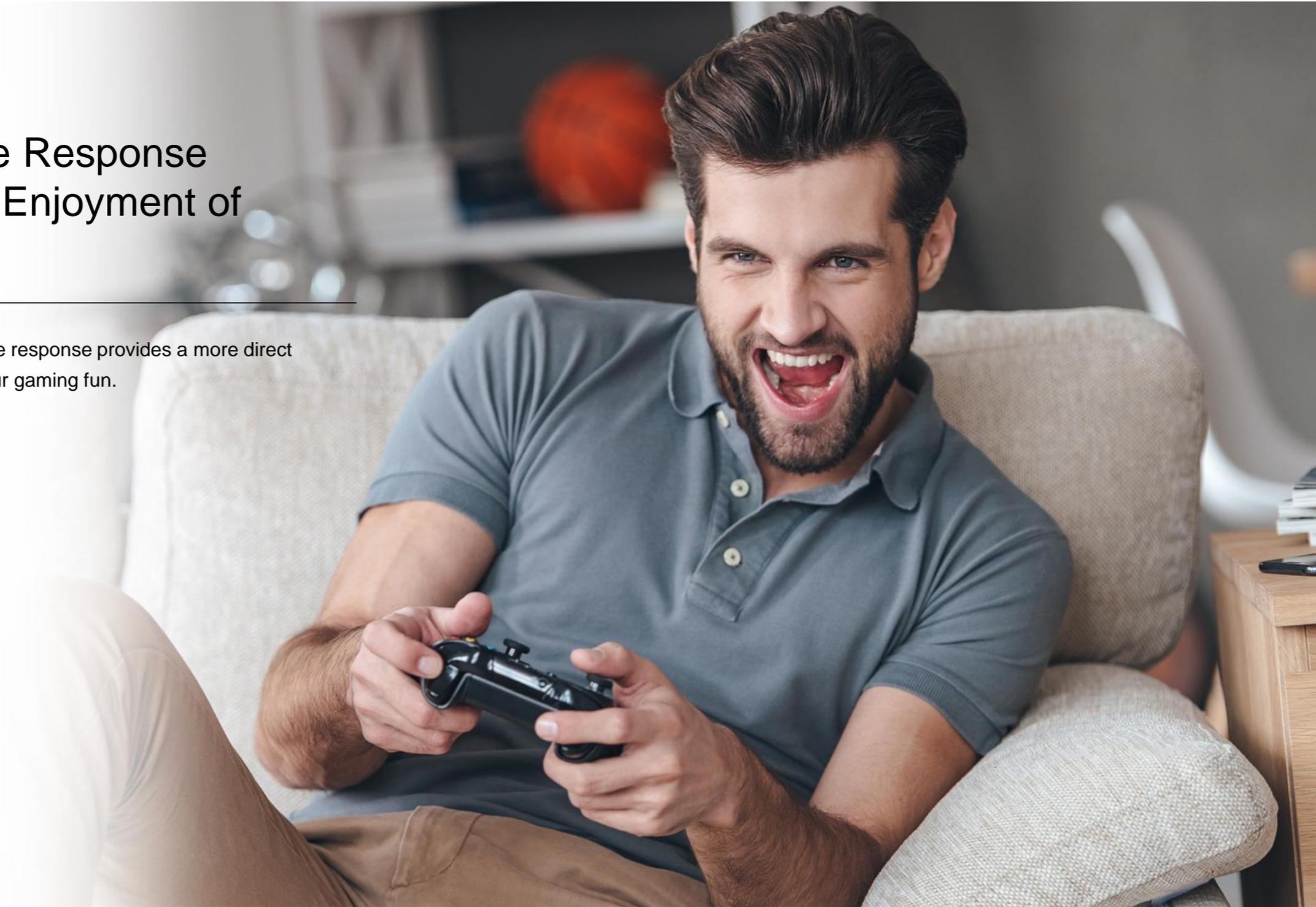


Panasonic



Quicker Image Response Increases the Enjoyment of Video Games

In Game mode, quicker image response provides a more direct playing sensation. Boosts your gaming fun.



Technical Information

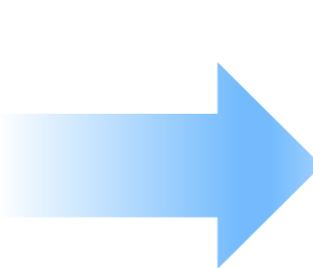
Comfortable Gaming

- Special image processing shortens the response time.
- In addition to Full-HD, crisp movement is possible on a 4K TV for thrilling, fast-action games.
- Simply select "Game Mode" from the menu screen for set-up.

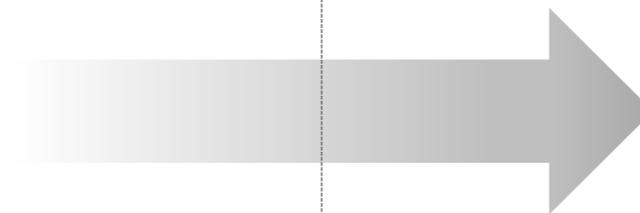
4K HDR Game Mode



Conventional



Only half the display lag*



The time from button-pressing to action

*1080 / 60P Input

SOUND QUALITY

Dynamic Blade Speakers - Tuned by Technics

Panasonic hasn't just focused on achieving stunning pictures from the EZ1000. Aiming to bring the best sound to the OLED TV, it has developed the Dynamic Blade Speaker: a deceptively slim audio system that houses no less than 14 multiple speaker units (eight woofers, four squawkers and two tweeters, plus a quad passive radiator to boost bass).

To this end, the engineers of the acclaimed audio brand Technics were also involved at every stage of the Dynamic Blade Speaker's development, from mechanical and electrical circuit design through to sound tuning.



Tuned by

Technics

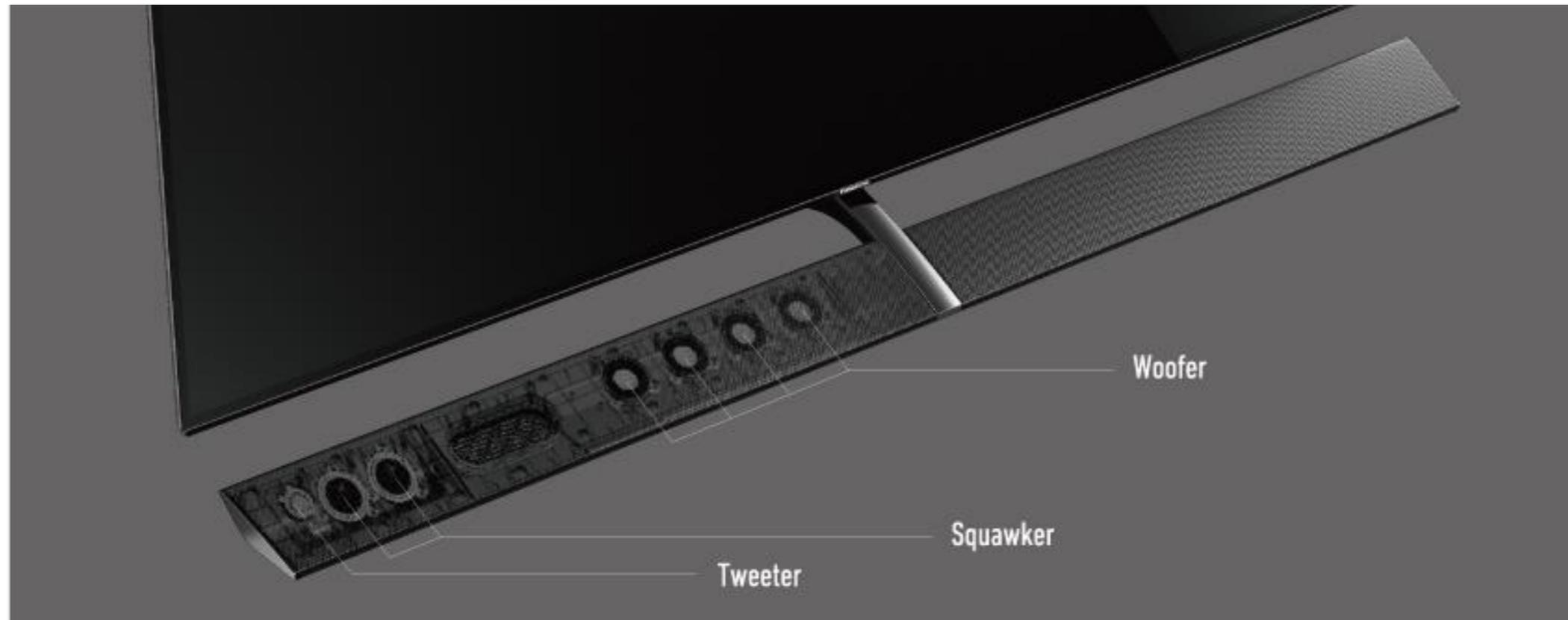
Dynamic Blade Speakers - Tuned by Technics

Technical Information

Equipped with isolated “Blade” shaped speaker system equivalent to Sound Bars for optimal sound quality.

Speaker Technology

14 Multiple Speaker Units + Quad Passive Radiator



- Tweeter x 2
- Squawker x 4
- Woofer x 8

+

Quad Passive Radiator x 2

Two passive radiators are located in front of and behind the right and left speaker units. This opposing configuration dramatically reduces vibration noise.



Full 80-watt output, even with a thin profile

+

Powerful bass

Dynamic Blade Speakers - Tuned by Technics

Design support by Technics engineers

Support for speaker design

- Driver layout
- Selection of network circuit parts
- Review of enclosure shape
- Acoustic absorption adjustment for the inside of enclosure and more

Support for electrical circuit design

- Selection of capacitors for audio amp output circuit and electrolytic capacitors for power supply circuit (Hi-Fi audio grade parts)

Sound tuning by Technics engineers

- Tuning based on common evaluation content and evaluation method
- Final approval of sound quality by Technics sound committee.



Art & Interior

With Panasonic's user centered approach, the new 2017 TV range is truly designed with you in mind and is adjustable for perfect viewing conditions. By merging the ideas of individual style with personal environments we can demonstrate how the new models are designed to seamlessly integrate with your environment — whatever your style.



EZ1000 "Hollywood to Your Home"

Art&Interior



Elegantly designed to complement even the most stylish of interiors, the Panasonic EZ1000 combines exceptional materials and expertly mastered picture quality to bring true cinematic picture experience –Hollywood to your home

EZ950 " A True Cinematic Picture Experience "



Elegantly designed to complement even the most stylish of interiors, the Panasonic EZ950 combines exceptional materials and expertly mastered picture quality to beautifully frame every scene — both on and off the screen.

EX780 " Switch Design A Contemporary Twist"



With Swivel and Lift functionality, the Panasonic EX780 always offers the perfect viewing angle. So wherever you make yourself comfortable, you'll always have the best seat in the house with our "Switch Design"

EX700 " Switch Design to Express Yourself"



Wide or narrow, subtle or bold — with four distinct styles in one Flexible Pedestal design, now you can change the look of your TV as often as you remix your room.

*two style for 40EX700

EX600 " Switch Design to Express Yourself"



Wide or narrow, subtle or bold — with four distinct styles in one Flexible Pedestal design, now you can change the look of your TV as often as you remix your room.

*two style for 40EX600 and 43EX600

Features

SMART FEATURES

Customisable Home Screen for Easier Content Access

Enjoy content with "1-step access". my Home Screen 2.0 can be customised to let you reach the content you frequently use. You can design your own home screen with Live TV, your favourite apps, web bookmarks, and frequently used devices.

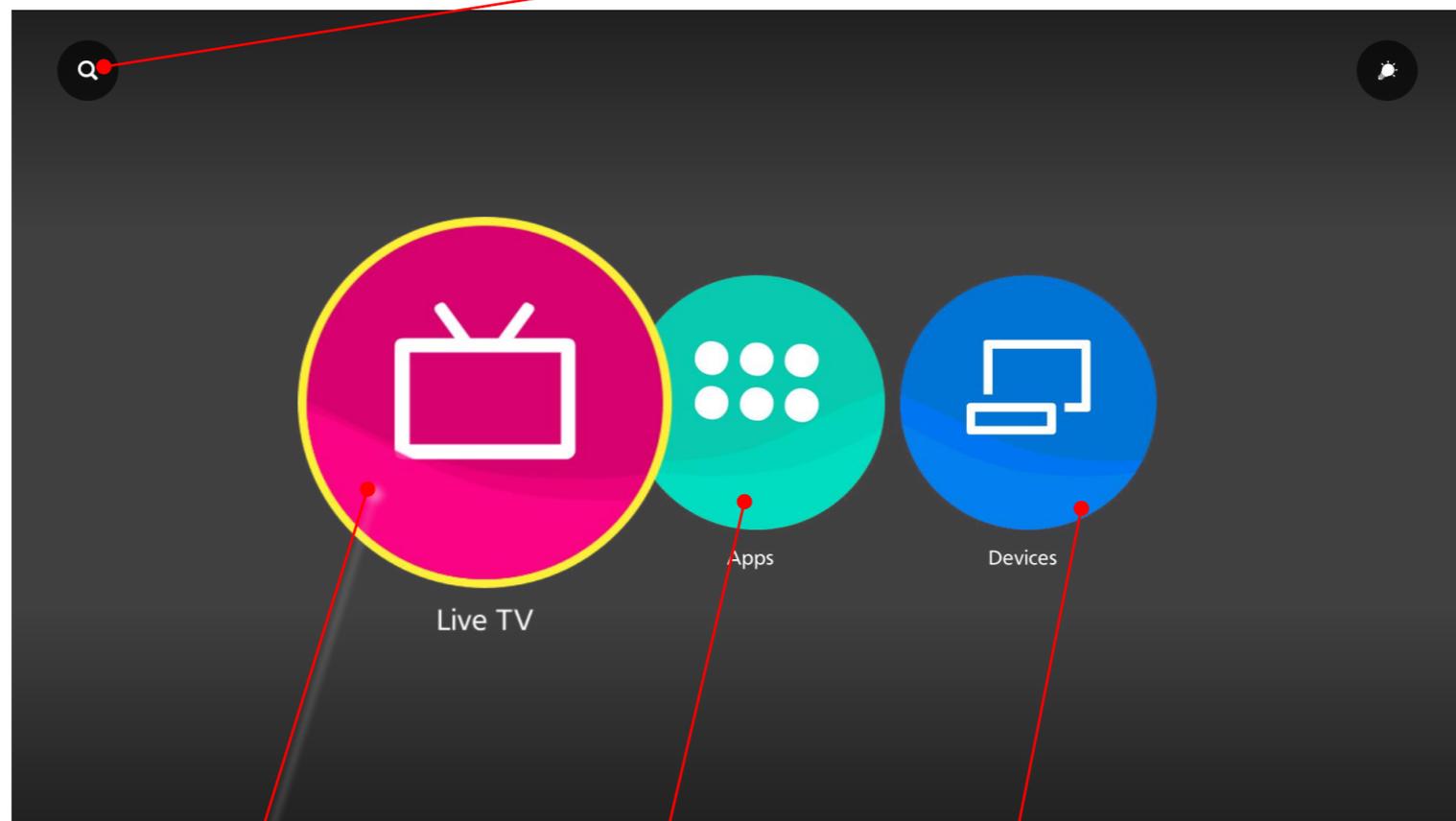


Technical Information

Intuitive operation of the simple home screen enables hassle-free viewing.

Simple, Intuitive New GUI

Content Search



Live TV Deck

Apps Deck

Devices Deck

Technical Information



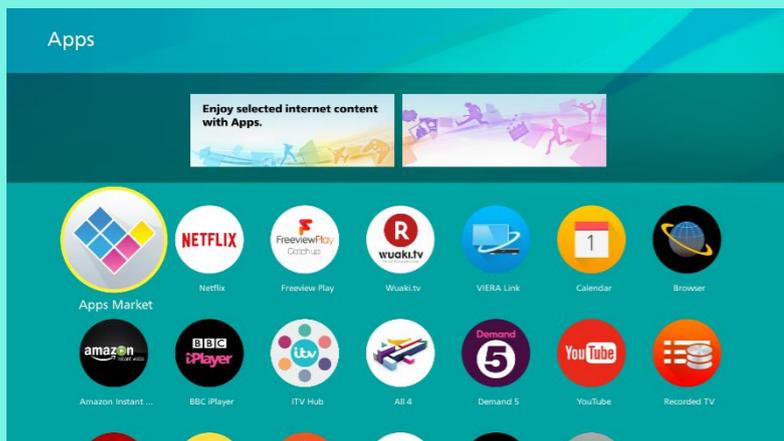
Live TV Deck

Switch to a programme being broadcast. You can also add frequently watched TV stations to your home.



Apps Deck

Switch to an Apps Deck. Enjoy a wide range of apps, such as VOD and SNS.



You can also move with the "APPS" button on the remote control.

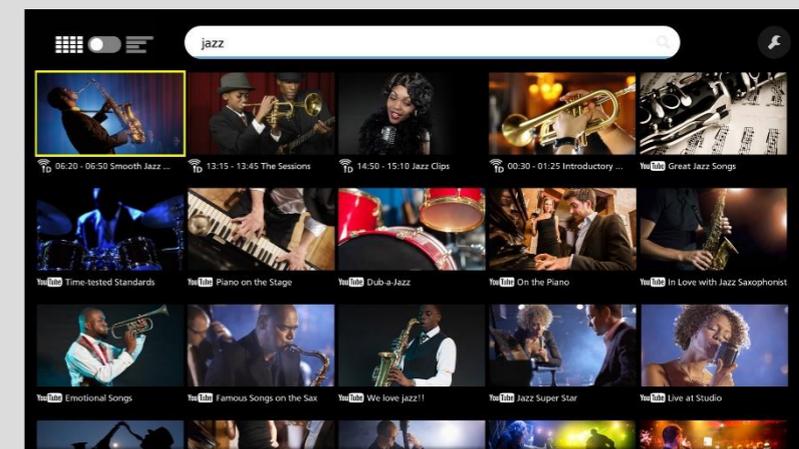
Devices Deck

Display devices connected to the TV by wire or wireless. Easily access the device you want to use.



Content Search

Newly developed search function enables cross search thru Internet Video and Other Devices.



Technical Information

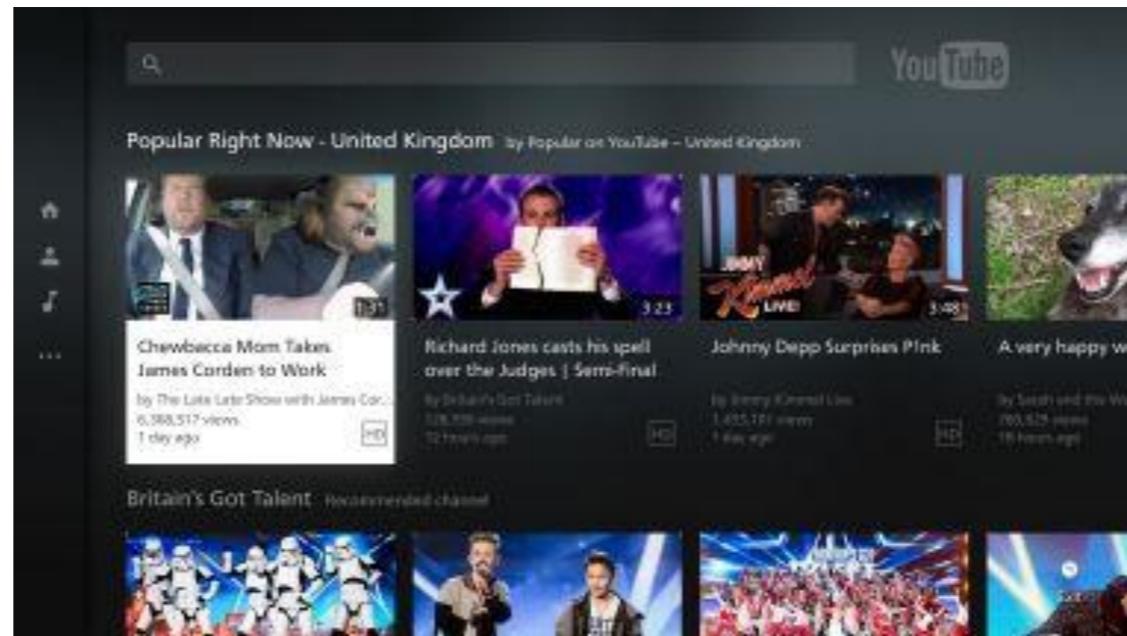
Frequently used apps can be quickly found by pressing a single button.

NEW

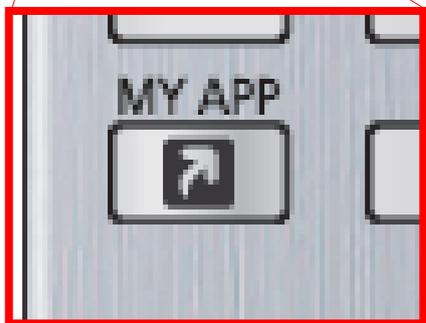
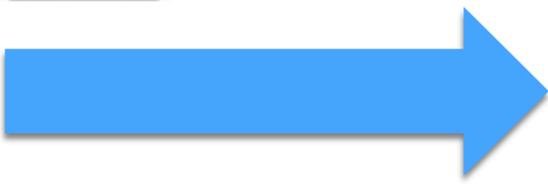
“MY APP” app

The user can assign only 1 application to “MY APP.”

For example, when YouTube is registered to “MY APP”...



The My App badge is added to the icon.



Quickly access registered MY APP applications with a single remote control button.

Technical Information

“MY APP” registration is also easy.



“MY APP” Setting

4K Models

Apps> “MY APP Setting

This app's position is the end of the Apps list. (TBD)

Press “OK”

The My App badge is moved to the selected app.

FHD Models

Main Menu> Setup >“MY APP Setting

MY APP Setting

Unselected	Web Browser	Mirroring
YouTube	Media Player	Media Server
Amazon		

Select

Store Select RETURN

If “OK” is pressed while focusing on other App, the selected App is stored for the MY APP key. (This panel just disappears.)

Your own favourite Apps are easily assigned with the My App Setting.

Easily Control Your TV by Integrating with A Home Automation System

Panasonic TV can be controlled by Home Automation System over IP home network, allowing customer to control TV via Home Automation System for easy operation.



*Depending on the network condition and broadcasts, this function may not be available.

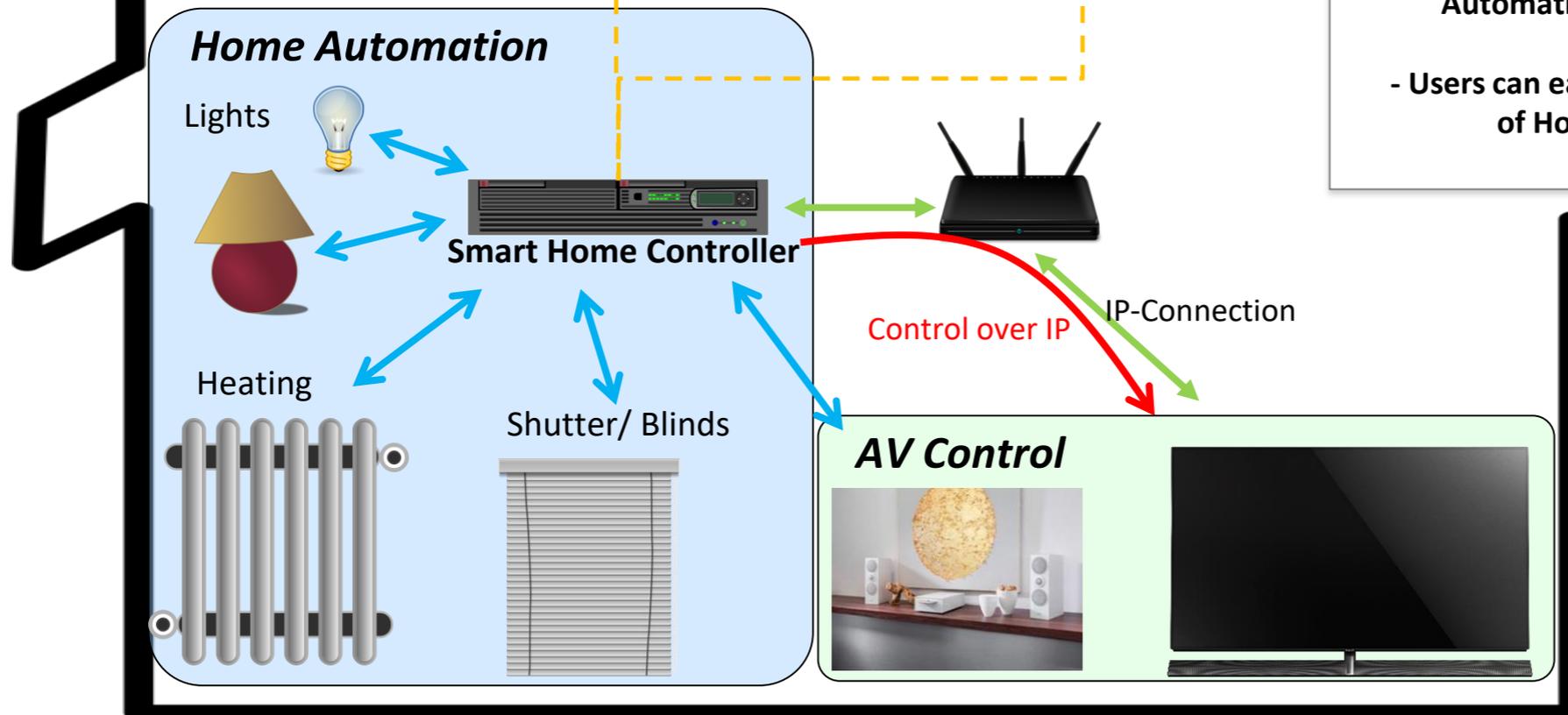
Technical Information

IP Control means the ability to control Panasonic TVs from central controlled smart home environments.

Overview



- Compatibility with Home Automation System (e.g. Control4)
- TV set is controlled by Home Automaton System over the in-home IP network
- Custom installers can build up systems by combining Home Automation System and other products including TVs
- Users can easily control their TVs by using interface device of Home Automation System , e.g. Touch Pad



Technical Information

Example of Use*

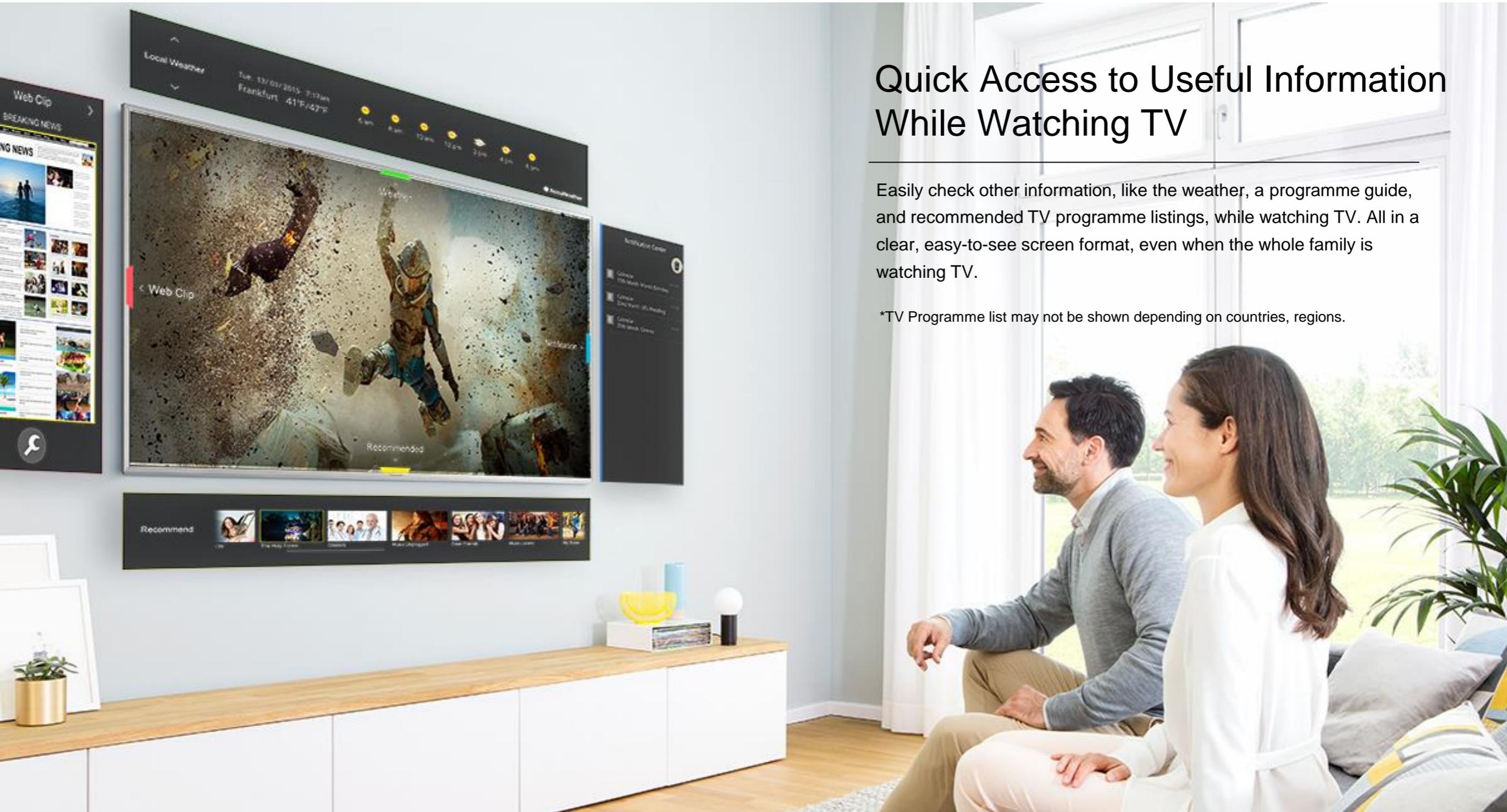


- Shut the window blinds
 - Dim some lights
 - Shut off other lights
- Set thermostat to nice temperature
 - Start the TV
- Start the Home Cinema Audio Setting
- Set multi room audio to Surround setup
 - Set the TV to HDMI input of BD



The press of a single button creates an ideal viewing environment.

*An actual control depends on an available home automation product.



Quick Access to Useful Information While Watching TV

Easily check other information, like the weather, a programme guide, and recommended TV programme listings, while watching TV. All in a clear, easy-to-see screen format, even when the whole family is watching TV.

*TV Programme list may not be shown depending on countries, regions.

Technical Information

Useful Information

Clock / Weather Information

Web Clips



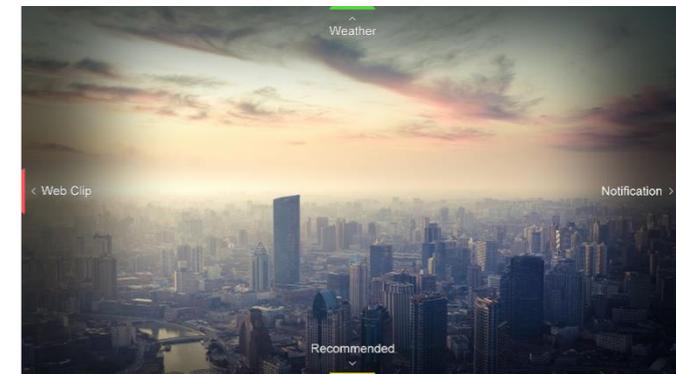
Content Recommendation

Notification

Easy Access

Power On or Long press on "HOME" button on remote

[Info Frame]



Quick Access for Checking
Many Information

Technical Information

Quick Access to Useful Information

Clock/Weather Information

The time and weekly weather are displayed by simply registering the user's home location.

Notification

Notification messages delivered from Firefox apps and TV native apps are listed.



Web Clipping

Cut Out your favorite part of Website, in any portion to check latest info.

Content Recommendation

The user's recommended programmes are automatically displayed according to the viewing history.

Use a Smartphone or Tablet to Watch and Record from Outside the Home

This innovative feature lets you access your TV from a tablet or phone regardless of where in the world you might be. You can use the system to set recordings on your TV or, even better, you can stream live broadcasts or recorded content from your TV to your smart device - even if you're outdoors. All you need is an internet connection and "Panasonic Media Center App" in your smart device.

*Depending on the network condition and broadcasts, this function may not be available.
** Panasonic Media Center App will be available in iTunes and Google Play from 2015 Spring.

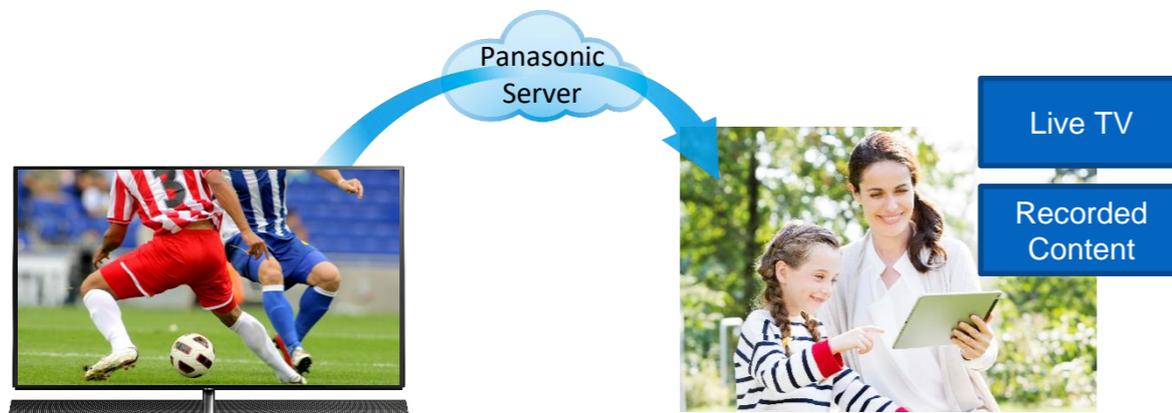


Technical Information

Watching from Outside the Home

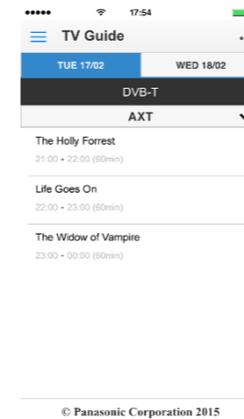
Transfer TV broadcasts or recorded programs to a smartphone or tablet device. Then watch them from anywhere you wish.

*Live broadcasts cannot be transferred if the data is encoded.



Recording from Outside the Home

Recording setting can be done from outside the home. If something urgent prevents you from coming home on time, you won't miss your program.



Choose the program you want to record, from the EPG list



Automatically start to record the program on time

Technical Information

The Panasonic Media Center App makes the TV Anytime recording and watching functions even easier to operate.

*Requires iOS 7.0. or later, and Android 4.0.3 or later.

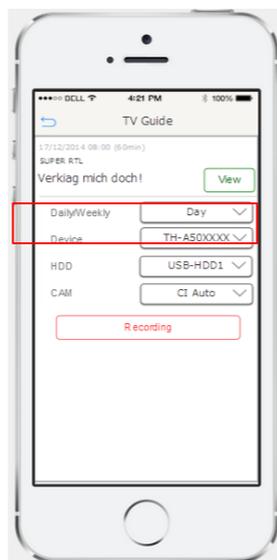
*Except for LD6 models.

Panasonic Media Center App for TV Anytime

■ Cross Device Function

Operate several recording devices with a single smartphone.

The Media Center App lets you centrally control playback and timer-recording for several recording devices. Programmes set for timer recording can also be searched on several devices, to save the time of having to search each device separately.



■ Swipe & Share

Enjoy easy wide-screen playback when you come home.

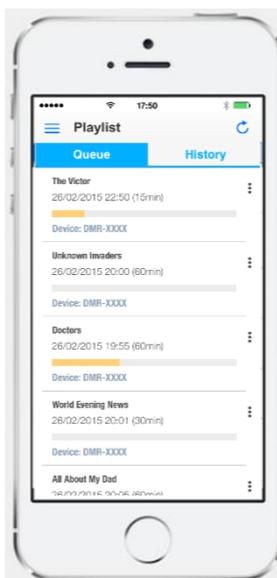
Recorded programmes can be easily played with a Swipe motion. Content being played with a smartphone or tablet can also be swiped. Also, in addition to playback, the content can be added to a Playlist.



■ Watch Later

Pick up only the programmes you want to watch.

You can add the recorded programmes to a playlist (Watch Later), so you won't forget to watch them. They can also be registered in a playback history and controlled by a Resume Playback function, to smoothly watch the remainder of programmes interrupted midway.



■ 150kbps Picture Quality Mode

High picture quality and smooth playback.

Unique Panasonic technology gives you high-quality images. This is especially effective when watching over a 3G/4G or LTE network. Multiple picture quality settings are provided for your selection to match the communication conditions.

Picture quality settings	Resolution	Bitrate
watching at home	360p	1.5Mbps
	180p	400Kbps
watching away from home	360p	1.5Mbps
	360p	650Kbps
	180p	400Kbps
	180p	150Kbps



Use a Smartphone or Tablet to Watch and Record from Outside the Home

This innovative feature lets you access your TV from a tablet or phone regardless of where in the world you might be. You can use the system to set recordings on your TV or, even better, you can stream live broadcasts or recorded content from your TV to your smart device - even if you're outdoors. All you need is an internet connection and "Panasonic Media Center App" in your smart device.





Technical Information

The Media Player function was revamped for easier use. Each day and month can be displayed, like a smartphone, so desired images and videos can quickly be found.



Easy-to-use GUI Design and Folder Structure

Easy List View

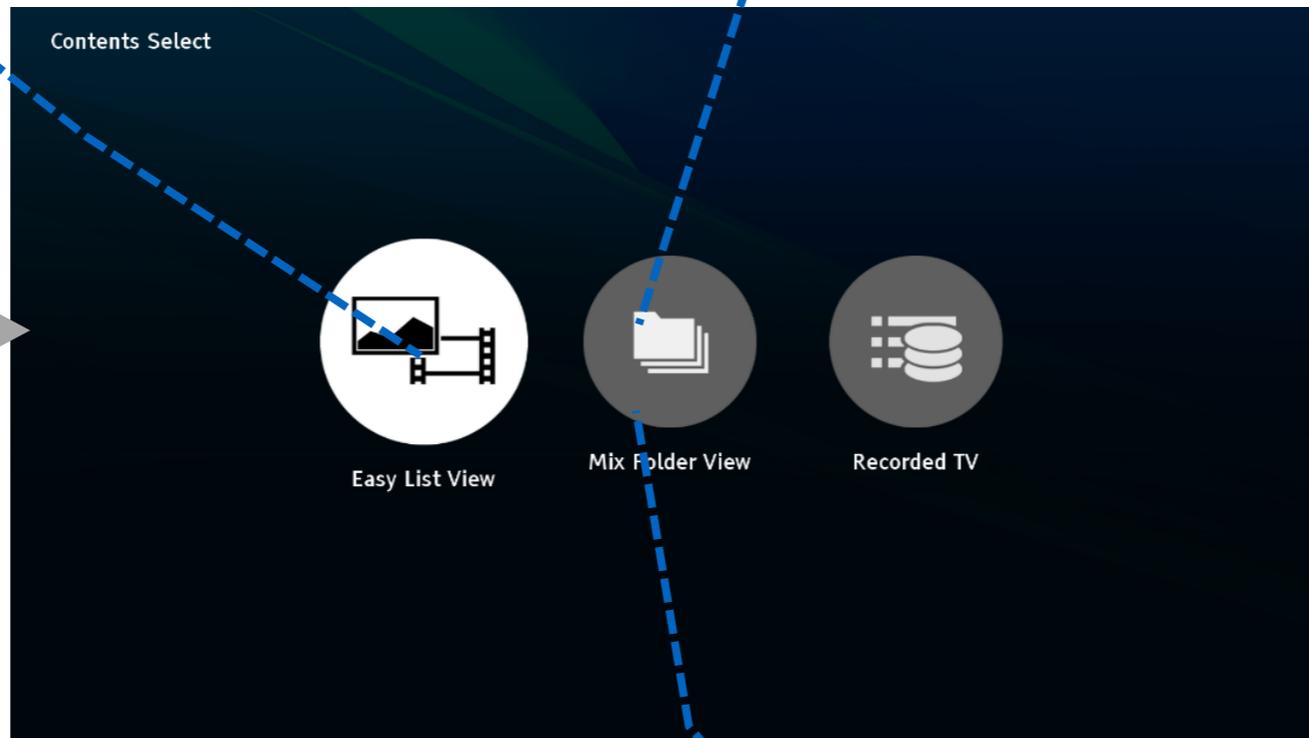
Photo/ Video

Photo /Video integrated as new View

Mix Folder

Photo/ Video/ Sound

"New Mix Folder View added



No Music view.(Mix shows music)

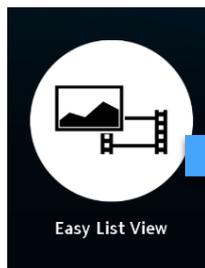
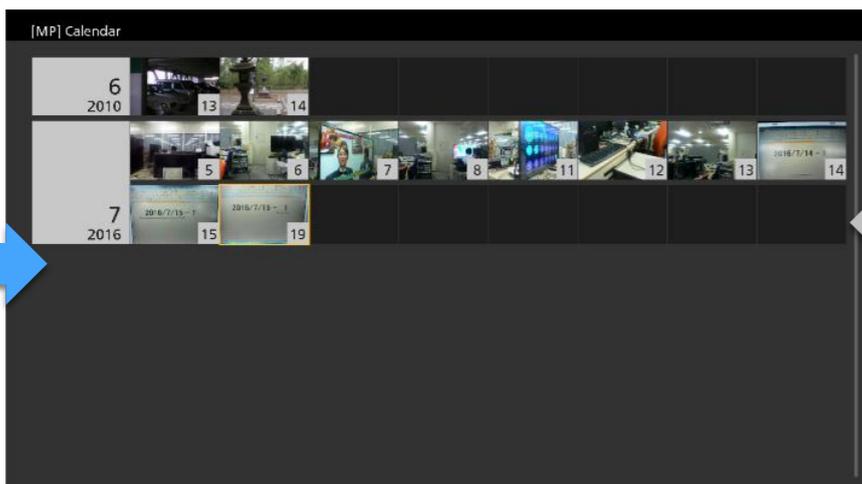
Technical Information

The Media Player function was revamped for easier use. Each day and month can be displayed, like a smartphone, so desired images and videos can quickly be found.

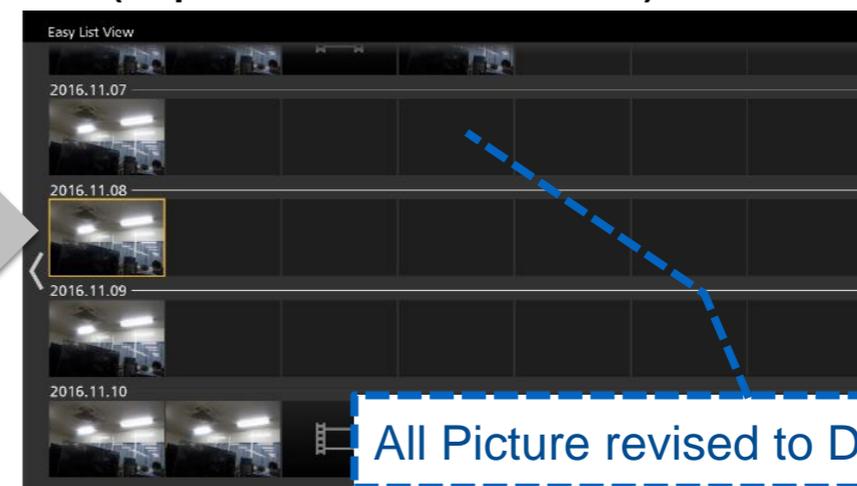


Easy-to-use GUI Design and Folder Structure

Month

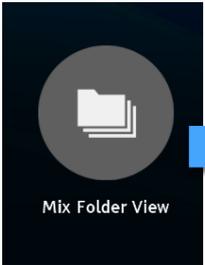
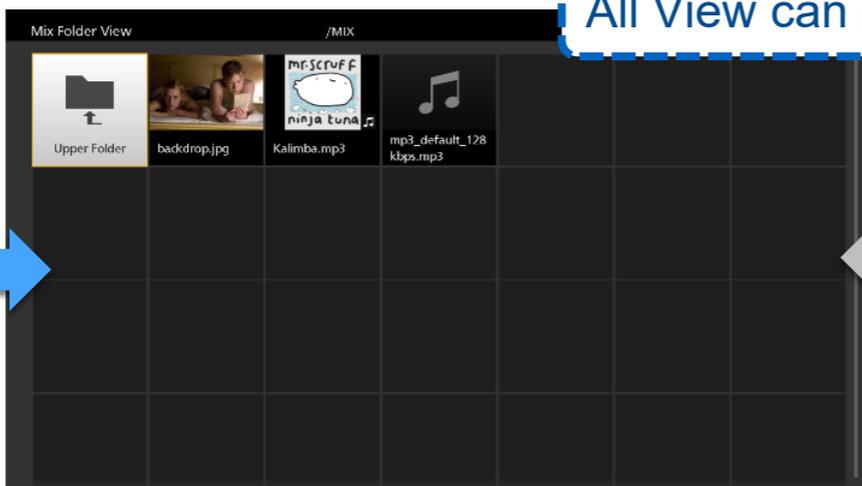


Date (all photo/movie/o Folder Tree)



View Change

All Picture revised to Date view



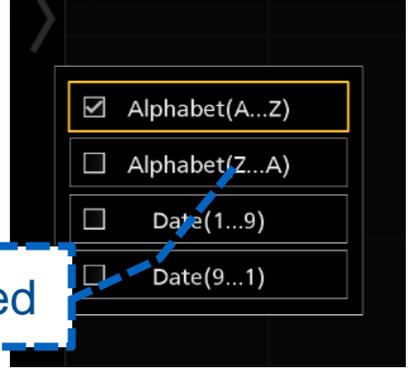
All View can perform "Loop Selected"

View Change

	更新日時	種類	サイズ
IMG_0514	2008/03/19 11:50	JPEG イメージ	1,362 KB
IMG_0515	2008/03/19 11:51	JPEG イメージ	1,314 KB
IMG_0516	2008/04/06 10:06	JPEG イメージ	2,090 KB
IMG_0517	2008/04/06 10:13	JPEG イメージ	2,981 KB
IMG_0518	2008/04/06 10:38	JPEG イメージ	2,789 KB
IMG_0519	2008/04/06 10:39	JPEG イメージ	
IMG_0521	2008/04/06 14:04	JPEG イメージ	
IMG_0522	2008/04/25 15:54	JPEG イメージ	
IMG_0523	2008/04/29 14:23	JPEG イメージ	
IMG_0524	2008/04/29 14:27	JPEG イメージ	

Detail

A Sort function was added



Technical Information

Videos captured with HDR are automatically recognised and played. HDR images you took yourself can also be viewed in all their gorgeous beauty in the living room.

NEW

Compatible HDR Images Reproduction



When Playing back HDR, “HDR Logo” appears on the screen. (4K only)

PRODUCT LINEUP

Ultimate Picture Quality True to the Filmmakers' Vision



Touch Pad Remote Included

4K PRO HDR Tuned by
Technics



Short Description

Tuned by real filmmakers, this 4K PRO HDR model combines a Studio Colour HCX2 Processor and the OLED next-generation panel to deliver outstanding colour clarity, contrast, and brightness. Its Art & Interior is designed to seamlessly integrate with your environment.

*HCX stands for Hollywood Cinema experience

HIGH QUALITY PICTURE

- 4K PRO HDR
- Master HDR OLED
- Studio Colour HCX2
- Picture Tuned in Hollywood
- Multi HDR Support
- DCI 98% Coverage
- Absolute Black Filter
- OLED Superb Motion Drive
- Dynamic Range Remaster
- 4K Pure Direct
- ISFccc Calibration Mode*
- THX 4K Certified Display
- VR-Audio True Surround+

SMART NETWORKING

- my Home Screen 2.0
- Info Frame
- Quad-Core Pro
- IP Home Network (Control4/ Cretron)
- Voice Assistant
- TV Anywhere*
- In-House TV Streaming (Server / Client)
- Panasonic Media Centre App
- Easy Mirroring
- 4K Swipe & Share
- TV Remote App
- Internet Apps
- Web Browser
- 4K Media Player 2.0*
- Smart Calibration
- Touch Pad Remote Included
- Twin Tuner
- HEVC Decoder
- VP9 Decoder
- USB HDD Recording
- Wireless LAN Built-In
- DLNA
- Bluetooth® Compatible (Keyboards/Mouses)
- 4 HDMI Terminals (4K 60P Input with HDCP 2.2)
- 3 USB Terminals
- SD Card Slot
- Hbb TV

4K PRO HDR Next-generation Ultimate Picture Quality True to the Filmmakers' Vision
4K PRO HDR

MASTER HDR OLED Panasonic's 'Master' HDR OLED Delivers the Best OLED Experience
Master HDR OLED Display

STUDIO COLOUR HCX2 Our Best 4K Processing with Special Tuning by a Hollywood Colourist
Studio Colour HCX2

DESIGN

- Art & Interior

Experience Superior 4K OLED with Super Razor Slim Design



Touch Pad Remote Included



Next-generation Ultimate Picture Quality True to the Filmmakers' Vision

4K PRO HDR



Next-generation OLED Technology, True to the Filmmakers' Vision

OLED TV



Our Best 4K Processing with Special Tuning by a Hollywood Colourist

Studio Colour HCX2

Short Description

Tuned by real filmmakers, this 4K PRO HDR model combines a Studio Colour HCX2 Processor and the OLED next-generation panel to deliver outstanding colour clarity, contrast, and brightness. Its Art & Interior is designed to seamlessly integrate with your environment.

*HCX stands for Hollywood Cinema experience

HIGH QUALITY PICTURE

- 4K PRO HDR
- OLED TV
- Studio Colour HCX2
- Picture Tuned in Hollywood
- Multi HDR Support
- DCI 98% Coverage
- OLED Superb Motion Drive
- Dynamic Range Remaster
- 4K Pure Direct
- ISFccc Calibration Mode*
- THX 4K Certified Display
- VR-Audio True Surround+

SMART NETWORKING

- my Home Screen 2.0
- Info Frame
- Quad-Core Pro
- IP Home Network (Control4)
- Voice Assistant
- TV Anywhere*
- In-House TV Streaming (Server / Client)
- Panasonic Media Centre App
- Easy Mirroring
- 4K Swipe & Share
- TV Remote App
- Internet Apps
- Web Browser
- 4K Media Player 2.0*
- Smart Calibration
- Touch Pad Remote Included
- Twin Tuner
- HEVC Decoder
- VP9 Decoder
- USB HDD Recording
- Wireless LAN Built-In
- DLNA
- Bluetooth® Compatible (Keyboards/Mouses)
- 4 HDMI Terminals (4K 60P Input with HDCP 2.2)
- 3 USB Terminals
- SD Card Slot
- Hbb TV

DESIGN

- Art & Interior

EX780 Premium Picture Quality with Innovative Flexible Design for Any Living Space



Short Description

With Swivel^{*1} and Lift^{*2} functionality of "Switch Design", Panasonic EX780 always offers the perfect viewing angle. Panasonic's 4K PRO HDR technology, meanwhile, is on hand to make sure that pictures look exactly as the filmmakers' vision.

HIGH QUALITY PICTURE

- 4K PRO HDR
- Studio Colour HCX2
- Picture Tuned in Hollywood
- Multi HDR Support
- Enhanced Local Dimming
- Super Bright Panel
- Wide Colour Spectrum
- 2400Hz BMR 4K IFC
- Dynamic Range Remaster
- 4K Pure Direct
- 3D TV
- VR-Audio True Surround

SMART NETWORKING

- my Home Screen 2.0
- Info Frame
- Quad-Core Pro
- IP Home Network (Control4)
- Voice Assistant
- TV Anywhere*
- In-House TV Streaming (Server / Client)
- Panasonic Media Centre App
- Easy Mirroring
- 4K Swipe & Share
- TV Remote App
- Internet Apps
- Web Browser
- 4K Media Player 2.0*
- Twin Tuner
- HEVC Decoder
- VP9 Decoder
- USB HDD Recording
- Wireless LAN Built-In
- DLNA
- Bluetooth® Compatible (Keyboards/Mouses)
- 4 HDMI Terminals (4K 60P Input with HDCP 2.2)
- 3 USB Terminals
- Hbb TV

DESIGN

- Switch Design (Up & Down)^{*2}
- Swivel^{*1}

*1 Except 75-inch model

*2 Except 75/65-inch model

Next-generation Ultimate Picture Quality True to the Filmmakers' Vision
4K PRO HDR

Our Best 4K Processing with Special Tuning by a Hollywood Colourist
Studio Colour HCX2

Realistic Image Reproduction Thanks to Screen Uniformity.
Picture Tuned in Hollywood

Vivid 4K HDR images meet Elegance and Flexibility



**4K
HDR**



**4K
HDR**

Accurate Lifelike Colours Through Enhanced Picture Processing

4K HDR

**HDR
MULTI HDR SUPPORT**

Support for Multiple HDR Formats

HDR Multi Support

SWITCH DESIGN

Adjustable Pedestal is Designed to Suit Any Environment

Switch Design

Short Description

The EX730 series delivers amazing and vivid 4K HDR images and a smart TV experience with the Twin Tuner functionality. Simple content sharing enhances the viewing experience, while the flexible "Switch Design" allows to suit any environment.

HIGH QUALITY PICTURE

- 4K HDR
- Multi HDR Support
- Local Dimming
- Bright Panel
- Wide Colour Spectrum
- 1600Hz BMR 4K IFC
- Dynamic Range Remaster
- 4K Pure Direct
- VR-Audio True Surround

SMART NETWORKING

- my Home Screen 2.0
- Info Frame
- Quad-Core Pro
- IP Home Network (Control4)
- Voice Assistant
- TV Anywhere*
- In-House TV Streaming (Server / Client)
- Panasonic Media Centre App
- Easy Mirroring
- 4K Swipe & Share
- TV Remote App
- Internet Apps
- Web Browser
- 4K Media Player 2.0*
- Twin Tuner
- HEVC Decoder
- VP9 Decoder
- USB HDD Recording
- Wireless LAN Built-In
- DLNA
- 4 HDMI Terminals
- (4K 60P Input with HDCP 2.2)
- 3 USB Terminals
- Hbb TV

DESIGN

- Switch Design

Vivid 4K HDR images meet Elegance and Flexibility



**4K
HDR**



**4K
HDR**

Accurate Lifelike Colours Through Enhanced Picture Processing

4K HDR

**HDR
MULTI HDR SUPPORT**

Support for Multiple HDR Formats

HDR Multi Support

SWITCH DESIGN

Adjustable Pedestal is Designed to Suit Any Environment

Switch Design

Short Description

The EX700 series delivers amazing 4K HDR images and a smart TV experience. Simple content sharing enhances the viewing experience, while the flexible "Switch Design" allows to suit any environment.

HIGH QUALITY PICTURE

- 4K HDR
- Multi HDR Support
- Local Dimming
- Bright Panel
- Wide Colour Spectrum
- 1600Hz BMR 4K IFC
- Dynamic Range Remaster
- 4K Pure Direct
- VR-Audio True Surround

SMART NETWORKING

- my Home Screen 2.0
- Info Frame
- Quad-Core Pro
- IP Home Network (Control4)
- Voice Assistant
- TV Anywhere*
- In-House TV Streaming (Client)
- Panasonic Media Centre App
- Easy Mirroring
- 4K Swipe & Share
- TV Remote App
- Internet Apps
- Web Browser
- 4K Media Player 2.0*
- HEVC Decoder
- VP9 Decoder
- USB HDD Recording
- Wireless LAN Built-In
- DLNA
- 4 HDMI Terminals
- (4K 60P Input with HDCP 2.2)
- 3 USB Terminals
- Hbb TV

DESIGN

- Switch Design

Upgrade to Brilliant 4K HDR Images and Design of Choice



Accurate Lifelike Colours Through Enhanced Picture Processing

4K HDR



Support for Multiple HDR Formats

HDR Multi Support



Quick, Intuitive Access to Just the Content You Want

my Home Screen 2.0

Short Description

The EX600 series delivers vibrant 4K HDR images and a smart TV experience, while the flexible "Switch Design" allows to suit any environment.

HIGH QUALITY PICTURE

- 4K HDR
- Multi HDR Support
- Adaptive Backlight Dimming
- Bright Panel
- 1300Hz BMR 4K IFC
- Dynamic Range Remaster
- 4K Pure Direct
- VR-Audio True Surround

SMART NETWORKING

- my Home Screen 2.0
- Info Frame
- Quad-Core Pro
- IP Home Network (Control4)
- Voice Assistant
- TV Anywhere*
- In-House TV Streaming (Client)
- Panasonic Media Centre App
- Easy Mirroring
- 4K Swipe & Share
- TV Remote App
- Internet Apps
- Web Browser
- 4K Media Player 2.0*
- HEVC Decoder
- VP9 Decoder
- USB HDD Recording
- Wireless LAN Built-In
- DLNA
- 3 HDMI Terminals
- (4K 60P Input with HDCP 2.2)
- 2 USB Terminals
- Hbb TV

DESIGN

- Switch Design

Smart TV Offering Immersive Full-HD Quality



Short Description

The ES600 gives you great Full-HD pictures packed with clarity and vivid colours, while its smart features make it easy to find and share content.

HIGH QUALITY PICTURE

- Full HD TV
- Adaptive Backlight Dimming
- Bright Panel
- 800Hz BMR
- 1080p Pixel Direct
- VR-Audio True Surround

SMART NETWORKING

- my Home Screen
- IP Home Network (Control4)
- Voice Assistant
- In-House TV Streaming (Client)
- Easy Mirroring
- Swipe & Share
- TV Remote App
- Internet Apps
- Web Browser
- Media Player*
- VP9 Decoder
- USB HDD Recording
- Wireless LAN Built-In
- DLNA
- 2 HDMI Terminals
- 2 USB Terminals
- Hbb TV



Quick, Intuitive Access to Just the Content You Want

my Home Screen



Delivers Both Deep Blacks in Dark Scenes and Plenty of Punch in Bright Scenes

Adaptive Backlight Dimming



Watch TV Broadcasts in Any Room without Needing An Aerial Socket

In-House TV Streaming (Client)

Discover High Contrast Pictures and Modern Smart Features



Short Description

The ES500 series uses a bright panel and adaptive backlight dimming to produce beautiful picture quality in Full-HD.* It also boasts great smart networking and content sharing features.

*Depending on screen size, 24" and 32":HD Ready

HIGH QUALITY PICTURE

- Full HD TV*1
- Adaptive Backlight Dimming
- Bright Panel*2
- 600Hz BMR
- 1080p Pixel Direct*1
- VR-Audio True Surround



SMART NETWORKING

- my Home Screen
- IP Home Network (Control4)
- Voice Assistant
- In-House TV Streaming (Client)
- Easy Mirroring
- Swipe & Share
- TV Remote App
- Internet Apps
- Web Browser
- Media Player*
- VP9 Decoder
- USB HDD Recording
- Wireless LAN Built-In
- DLNA
- 2 HDMI Terminals
- 2 USB Terminals
- Hbb TV



Quick, Intuitive Access to Just the Content You Want

my Home Screen



Delivers Both Deep Blacks in Dark Scenes and Plenty of Punch in Bright Scenes

Adaptive Backlight Dimming



Watch TV Broadcasts in Any Room without Needing An Aerial Socket

In-House TV Streaming (Client)

*1 Depending on screen size, 24" and 32":HD Ready

*2 Except 24" model

Get Started with Smart TV for Great Entertainment



Short Description

With its bright picture and easy-to-use smart features, the ES400 offers great entertainment.

HIGH QUALITY PICTURE

- Full HD TV*1
- Adaptive Backlight Dimming
- Bright Panel
- 400Hz BMR
- 1080p Pixel Direct*1
- V-Audio



SMART NETWORKING

- my Home Screen
- IP Home Network (Control4)
- In-House TV Streaming (Client)
- Easy Mirroring
- Swipe & Share
- TV Remote App
- Internet Apps
- Web Browser
- Media Player*
- VP9 Decoder
- USB HDD Recording
- Wireless LAN Built-In
- DLNA
- 2 HDMI Terminals
- 2 USB Terminals
- Hbb TV



Quick, Intuitive Access to Just the Content You Want

my Home Screen



Delivers Both Deep Blacks in Dark Scenes and Plenty of Punch in Bright Scenes

Adaptive Backlight Dimming



Watch TV Broadcasts in Any Room without Needing An Aerial Socket

In-House TV Streaming (Client)

*1 Depending on screen size, 32":HD Ready

Panasonic

Köszönöm a figyelmet!