### KD-70X690E

#### 70" class (69.5" diag) 4K HDR Ultra HD TV

Discover color, clarity and contrast like never before with 4K HDR<sup>1</sup> from Sony. Watch as 4K X-Reality Pro™ creates a realistic picture by upscaling any picture to near 4K quality. Streaming has never been easier - YouTube™ and Netflix™ are one click away.



#### **Bullets**

- The dramatic contrast, color and detail of 4K HDR<sup>1,3</sup>
- 4K X-Reality PRO provides lifelike detail and clarity
- Improved contrast with enhanced brightness and black levels
- Lifelike motion with Motionflow<sup>™</sup> XR technology
- Quick access to Netflix™ & YouTube™ with a single click
- Enhanced sound and clear dialog

#### Features

#### Uncover the detail with 4K HDR<sup>1,3</sup>

High Dynamic Range (HDR)<sup>3</sup> will change the way you look at TV. Combined with 4K Ultra HD resolution<sup>1</sup>, HDR video content delivers exceptional detail, color and contrast, with a far wider range of brightness than other video formats. The result is the most lifelike picture TVs have ever been able to create, with brilliant highlights and fine detail.

#### **Redefining realism**

The difference is clear. You'll see lifelike detail and stunning clarity, no matter what you're watching. 4K X-Reality PRO™ upscales images to near 4K clarity<sup>1</sup>. See the details appear in buildings and trees as scenes become clearer, smoother and more natural.

#### Improved contrast

Thanks to Dynamic Contrast Enhancer, experience more life, more texture and more energy in every scene with brighter highlights, deeper blacks, and more natural tonal gradation.

#### Motionflow<sup>™</sup> keeps the action smooth

TV that keeps up with real life. Sony's refresh rate technology (Motionflow™ XR) allows fast moving action sequences in sports and movies to be seen with precise motion clarity.

#### Quick access for YouTube & Netflix

Access your favorite movies and shows quicker than ever. With YouTube™ and Netflix™ buttons built into the remote, you are one click away from endless entertainment.

#### Enhanced sound and clear dialog

Make your listening as lifelike as your viewing. ClearAudio+ fine tunes TV sound for an immersive, emotionally enriching experience that seems to surround you. Hear music and dialog with greater clarity and separation.

#### **Specifications**

Audio			
Audio Power Output	10W+10W		
Bass/Treble/Balance	Balance		
DSEE/DSEE-HX	DSEE		
Speaker Configuration	2ch, Full Range (45 x 150 mm) x 2		
Speaker Position	Down Firing		
Speaker Type	Open Baffle		
Audio Features			
Advanced Auto Volume	Yes		
Alternate Audio (Digital)	Yes		
ARC Output Format	Two channel linear PCM: 48kHz 16bits,Dolby Digital,Dolby Digital Plus,DTS		
Audio Out	Fixed / Variable		
Auto Mute (on no signal)	Yes		
Auto Surround	Yes		
Clear Audio+	Yes		
Clear Phase	Yes		
Dolby audio format support	Dolby Digital,Dolby Digital Plus,Dolby Pulse		
DTS audio format support	DTS Digital Surround		
HDMI Audio Return Channel(ARC)	Yes		
HDMI input Audio format	Two channel linear PCM (32, 44.1 and 48 kHz, 16, 20 and 24 bits),Dolby Digital,Dolby Digital Plus,DTS		
Headphone/Speaker Link	Yes		
Simulated Surround Sound	S-Force Front Surround		
S-Master	S-Master Digital Amplifier		
Sound Modes	Standard, Music, Cinema, Sports		
Convenience Featu	res		
Application Store	Yes (Opera Store)		
Auto Shut-off	Yes		
Channel Block (with password)	Analog & Digital		
HDMI-CEC	Yes		
Multiple Language Display	English, Spanish, French		
On/Off Timer	Yes		
On-Screen Clock	Yes		
Parental Control	Yes		
Photo Frame Mode	Yes		

	Photo / Music / Cinema / Game /	
Scene Select	Graphics / HDR / Sports / Auto	
Show/Hide Channels	Yes (Digital & Analog)	
Sleep Timer	Yes	
USB drive format support	Yes (Supported File System: FAT16/FAT32/ NTFS)	
USB playback codecs	MPEG1/MPEG2PS/ MPEG2TS/AVCHD/ MP4Part10/MP4Part2/ AVI(XVID)/ AVI(MotionJpeg)/WMV9/ MKV/WEBM/ WAV/MP3/WMA/JPEG	
Design Features		
Frame color	Black	
Stand Design	Plastic with metal	
Display Features		
Backlight dimming type	Direct LED	
Backlight Type	Frame Dimming	
Display		
Aspect Ratio	16:9	
Display Resolution	QFHD	
Display resolution (H x V, pixels)	3840 x 2160	
Screen Size (cm, measured diagonally)	152.7 cm	
Screen Size (inch, measured diagonally)	70" (69.5")	
Viewing Angle (Right/ Left)	176 (88/88) degree	
Viewing Angle (Up/ Down)	176 (88/88) degree	
Energy Saving & Effic	ciency	
Dynamic Backlight Control	Yes	
Power Saving Modes	Yes	
General Features		
Closed Captions (CC)	Analog Digital	
Demo Mode	Yes	
Hotel Mode Menu	Yes	
Inputs and Outputs		
4K 60P High-Quality formats	Up to 18Gbps:4K 60p 4:4:4(8bit), 4:2:2(8,10,12bit), 4:2:0(8,10bit) HDR included for HDMI 2/3	
AC Power Input	1 (Rear)	
Analog Audio Input(s) (Total)	1 (Rear)	

	Audio / Headphone Output(s)	1 (Side) Hybrid w/ HP Out, Audio Out and Subwoofer Out)
	Component Video (Y/ Pb/Pr) Input(s)	1 (Rear Hybrid w/ Composite)
	Composite Video Input(s)	1 (Rear Hybrid w/ Component)
	Digital Audio Input(s)	1 (Rear)
	Ethernet Connection(s)	1 (Rear)
	HDCP	HDCP2.2 (for HDMI1/2/3)
	HDMI inputs total	3 (2 Side/1 Rear)
/	HDMI PC Input Format	640 x 480 (31.5kHz,60Hz), 800 x 600 (37.9kHz,60Hz), 1024 x 768 (48.4kHz,60Hz), 1280 x 1024 (64.0kHz,60Hz), 1152x864 (67.5kHz,75Hz), 1600 x 900 (55.9kHz,60Hz), 1680 x 1050 (65.3kHz,60Hz), 1920 x 1080 (67.5kHz,60Hz)
	HDMI Signal	4096 x 2160p (24,60Hz), 3840 x 2160p (24,30,60Hz), 1080p (30,60Hz), 1080/24p, 1080i (60Hz), 720p (30,60Hz), 720/24p, 480p, 480i
	Headphone Output(s)	1 (Side) Hybrid w/ HP Out, Audio Out and Subwoofer Out)
	RF Connection Input(s)	1 (Side) (Terrestrial/ Cable)
		1 (Side) Hybrid w/ HP
	Subwoofer Out	Out, Audio Out and Subwoofer Out)
	Subwoofer Out USB Port(s)	
		Subwoofer Out)
	USB Port(s)	Subwoofer Out)
	USB Port(s) Network Features Codec for Home	Subwoofer Out) 3 (Side) MPEG1/MPEG2TS/ AVCHD/ MP4/AVI/WMV/LPCM/
	USB Port(s) Network Features Codec for Home Network	Subwoofer Out) 3 (Side) MPEG1/MPEG2TS/ AVCHD/ MP4/AVI/WMV/LPCM/ MP3/WMA/JPEG Home Network Client /
	USB Port(s) Network Features Codec for Home Network Home Network Feature	Subwoofer Out) 3 (Side) MPEG1/MPEG2TS/ AVCHD/ MP4/AVI/WMV/LPCM/ MP3/WMA/JPEG Home Network Client / Home Network Renderer
	USB Port(s) Network Features Codec for Home Network Home Network Feature Opera Apps (System) Photo Sharing Plus / Photo Share Screen mirroring(Miracast™)	Subwoofer Out) 3 (Side) MPEG1/MPEG2TS/ AVCHD/ MP4/AVI/WMV/LPCM/ MP3/WMA/JPEG Home Network Client / Home Network Renderer Yes
	USB Port(s) Network Features Codec for Home Network Home Network Feature Opera Apps (System) Photo Sharing Plus / Photo Share Screen mirroring(Miracast™) Wi-Fi Certified	Subwoofer Out) 3 (Side) MPEG1/MPEG2TS/ AVCHD/ MP4/AVI/WMV/LPCM/ MP3/WMA/JPEG Home Network Client / Home Network Renderer Yes Yes Yes
	USB Port(s) Network Features Codec for Home Network Home Network Feature Opera Apps (System) Photo Sharing Plus / Photo Share Screen mirroring(Miracast™)	Subwoofer Out) 3 (Side) MPEG1/MPEG2TS/ AVCHD/ MP4/AVI/WMV/LPCM/ MP3/WMA/JPEG Home Network Client / Home Network Renderer Yes Yes
	USB Port(s) Network Features Codec for Home Network Home Network Feature Copera Apps (System) Photo Sharing Plus / Photo Share Screen mirroring(Miracast™) Wi-Fi Certified Wi-Fi Direct Wi-Fi Frequency	Subwoofer Out) 3 (Side) MPEG1/MPEG2TS/ AVCHD/ MP4/AVI/WMV/LPCM/ MP3/WMA/JPEG Home Network Client / Home Network Renderer Yes Yes Yes
	USB Port(s) Network Features Codec for Home Network Home Network Feature Copera Apps (System) Photo Sharing Plus / Photo Share Screen mirroring(Miracast™) Screen Mi-Fi Certified Wi-Fi Irequency Wi-Fi Standard	Subwoofer Out) 3 (Side) AVCHD/ MPEG1/MPEG2TS/ AVCHD/ MP4/AVI/WMV/LPCM/ MP3/WMA/JPEG Home Network Client / Home Network Renderer Yes Yes Yes Yes Yes 2.4GHz only b/g/n
	USB Port(s) Network Features Codec for Home Network Home Network Feature Copera Apps (System) Photo Sharing Plus / Photo Sharing Plus / Screen mirroring(Miracast™) Wi-Fi Certified Wi-Fi Direct Wi-Fi Standard Wireless LAN	Subwoofer Out) 3 (Side) MPEG1/MPEG2TS/ AVCHD/ MP4/AVI/WMV/LPCM/ MP3/WMA/JPEG Home Network Client / Home Network Renderer Yes Yes Yes Yes Yes 2.4GHz only
	USB Port(s) Network Features Codec for Home Network Home Network Feature Copera Apps (System) Photo Sharing Plus / Photo Share Screen mirroring(Miracast™) Screen Mi-Fi Certified Wi-Fi Irequency Wi-Fi Standard	Subwoofer Out) 3 (Side) AVCHD/ MPEG1/MPEG2TS/ AVCHD/ MP4/AVI/WMV/LPCM/ MP3/WMA/JPEG Home Network Client / Home Network Renderer Yes Yes Yes Yes Yes 2.4GHz only b/g/n
	USB Port(s) Network Features Codec for Home Network Home Network Feature Copera Apps (System) Photo Sharing Plus / Photo Sharing Plus / Screen mirroring(Miracast™) Wi-Fi Certified Wi-Fi Direct Wi-Fi Standard Wireless LAN	Subwoofer Out) 3 (Side) AVCHD/ MPEG1/MPEG2TS/ AVCHD/ MP4/AVI/WMV/LPCM/ MP3/WMA/JPEG Home Network Client / Home Network Renderer Yes Yes Yes Yes Yes 2.4GHz only b/g/n
	USB Port(s) Network Features Codec for Home Network Home Network Feature Copera Apps (System) Photo Sharing Plus / Photo Share Screen mirroring(Miracast™) Wi-Fi Certified Wi-Fi Direct Wi-Fi Standard Wi-Fi Standard Wireless LAN Power Annual Power	Subwoofer Out) 3 (Side) AVCHD/ MPEG1/MPEG2TS/ AVCHD/ MP4/AVI/WMV/LPCM/ MP3/WMA/JPEG Home Network Client / Home Network Renderer Yes Yes Yes Yes 2.4GHz only b/g/n Integrated

Power Consumption (in Standby) Power Requirements (frequency) Power Requirements (voltage) Regulation and Sta VESA® Hole Pitch VESA® Hole Spacing Compatible Service and Warrant Limited Warranty Term TV System Channel Coverage (Analog)	0.50W 60Hz for UL cUL 50/60Hz for other AC 120 V ndards Compliance 15 6/8 x 15 6/8 inch (400 x 400 mm) Yes hty Information 12 Months	Video Processing Wide Mode Weights and Measu Dimensions (Approx.)	4K X-Reality PRO Wide / Normal / Full / Zoombr Normal / Full1 / Full2 for PC Irements TV only: 61 3/4 x 35 5/8 x 3 3/4 in (1567.28 x 902.32 x 93 mm) TV with stand: 61 3/4 x 37 1/2 x 12 1/8 in (1567.28 x 951 x 304.8 mm)
Power Requirements (frequency) Power Requirements (voltage) Regulation and Sta VESA® Hole Pitch VESA® Hole Spacing Compatible Service and Warrant Limited Warranty Term TV System Channel Coverage	for other AC 120 V ndards Compliance 15 6/8 x 15 6/8 inch (400 x 400 mm) Yes	Weights and Measu	Zoombr Normal / Full1 / Full2 for PC TV only: 61 3/4 x 35 5/8 x 3 3/4 in (1567.28 x 902.32 x 93 mm) TV with stand: 61 3/4 x 37 1/2 x 12 1/8 in (1567.28 x
(voltage) Regulation and State VESA® Hole Pitch VESA® Hole Spacing Compatible Service and Warrant Limited Warranty Term TV System Channel Coverage	ndards Compliance 15 6/8 x 15 6/8 inch (400 x 400 mm) Yes hty Information		TV only: 61 3/4 x 35 5/8 x 3 3/4 in (1567.28 x 902.32 x 93 mm) TV with stand: 61 3/4 x 37 1/2 x 12 1/8 in (1567.28 x
Regulation and Sta VESA® Hole Pitch VESA® Hole Spacing Compatible Service and Warrant Limited Warranty Term TV System Channel Coverage	15 6/8 x 15 6/8 inch (400 x 400 mm) Yes hty Information		TV only: 61 3/4 x 35 5/8 x 3 3/4 in (1567.28 x 902.32 x 93 mm) TV with stand: 61 3/4 x 37 1/2 x 12 1/8 in (1567.28 x
VESA® Hole Pitch VESA® Hole Spacing Compatible Service and Warran Limited Warranty Term TV System Channel Coverage	15 6/8 x 15 6/8 inch (400 x 400 mm) Yes hty Information	Dimensions (Approx.)	3 3/4 in (1567.28 x 902.32 x 93 mm) TV with stand: 61 3/4 x 37 1/2 x 12 1/8 in (1567.28 x
Compatible Service and Warran Limited Warranty Term TV System Channel Coverage	nty Information	Dimensions (Approx.)	1/2 x 12 1/8 in (1567.28 x
Limited Warranty Term TV System Channel Coverage			701 × 004.0 11111)
TV System Channel Coverage	12 Months		Stand Width: 24 31/32 in (633.55 mm) AC Cable Lenght:
Channel Coverage			
· · ·			1500mm
	VHF: 2-13/UHF: 14-69/ CATV: 1-135	Packaging (Approx.)	Carton dimensions: 71 1/4 x 40 1/4 x 7 7/8 in (1809 x 1020 x 200 mm) Carton weight: 86lbs
Color System	NTSC		
Number of Tuners (Terrestrial/Cable)	1 (Digital / Analog)	Wolght (America)	(39 kg) TV only: 61 lbs (27.7 kg)
On-board Storage (GB)	4GB	Weight (Approx.)	TV with stand: 63.7lbs (28.9 kg)
OS	Linux	Accessories	
Tuner Channel Coverage (Digital Cable)	CATV: 1-135	Supplied Accessories	Remote Control (RMT- TX300U) Batteries (R03) AC Power Cord (2pin, Pigtail, US type, straight plug shape Connector) Operating Instructions (US,FR) Quick Setup Guide / Supplement CUE (GA) Table Top Stand (Separate, assemble required)
Tuner Channel Coverage (Digital Terrestrial)	VHF: 2-13/UHF: 14-69		
TV System (Analog)	Μ		
TV System (Digital Cable)	Clear QAM		
TV System (Digital Terrestrial)	ATSC		
Video Features			
Video Signal (analog)	1080p(60Hz), 1080i(60Hz), 720p(60Hz), 480p, 480i		
24p True Cinema	Yes		
4:3 Default	Yes		
Auto Wide	Yes		
Blinking Type	Frame Blinking		
Dynamic Contrast Enhancer	Yes		
HDR (High Dynamic Range) compatiblity	Yes		
Live Color™ Technology	Yes		
Mastered in 4K	Yes		
Motionflow™ XR Technology	Motionflow XR		
Panel Refresh Rate (Native Hertz)	60Hz		
Picture Modes	Vivid,Standard,Custom,C inema,Sports, Photo-Vivid,Photo- Standard,Photo-Custom, Game,Graphics,HDR Vivid,HDR Video		

1. 3,840 x 2,160 pixels.

2. Broadband speed of at least 2.5 Mbps recommended for SD services, 10 Mbps for HD streaming or 4K downloads, 20 Mbps for 4K Ultra HD streaming. Wireless connectivity requires 802.11 home network (802.11n recommended). Network services, content, and the operating system and software of this Product may be subject to individual terms and conditions and changed, interrupted or discontinued at any time and may require fees, registration and credit card information.

3. Requires HDR compatible content from supported streaming services, such as Netflix™ and YouTube™.

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