JVC

4K Memory Card Camera Recorder

GY-HC550

The Ultimate Live-Over-IP

4K 4:2:2 10-bit Recording Handheld Camcorder

Product photo shown with optional microphone.

CONNECTED CAM™

4K HDR High Dynamic Range ProRes MPEG-2 SDHC SDXC

CONNECTED CAM™

Stay in Touch with Your Audience

Connect breaking news with your audience immediately and wirelessly. The GY-HC550 CONNECTED CAM offers built-in MIMO based wireless LAN with Zixi error correction for high-level connectivity in a compact, handheld camcorder. There's no compromise in image quality, thanks to a 1-inch CMOS, integrated 20x lens, and advanced auto focus technologies. Media options include SSD (solid state drive) and SDHC/SDXC card – and on SSD you can record in 10-bit Apple ProRes 422 at 4K UHD resolution and 60p/50p frame rates. While shooting, your crew can view return video and receive IFB from your facility. Quality, connectivity, versatility, reliability – everything you need to seize the moment and deliver it as it happens.

Product photo shown with optional microphone.

Superb Camera Performance

1" CMOS 4K Image Sensor

The GY-HC550 features a 1-inch CMOS 4K image sensor for uncompromised image quality. This large sensor delivers a superior dynamic range, high S/N ratio and high sensitivity (F11 at 2000lx). Details are crisp and accurate throughout the entire image plane.

1-Inch CMOS

20x Optical/40x Dynamic Zoom Lens with Manual Functions

The GY-HC550 is equipped with a newly developed wide-angle 20x optical zoom lens to offer flexible magnification for shooting. When shooting in HD mode, Dynamic Zoom combines optical zoom and pixel mapping from a 4K image sensor to create seamless and lossless 40x zoom. Take total control of the scene with triple large rings for zoom, focus, and iris for smooth shooting. Other features include an optical image stabilizer and chromatic aberration correction.

20x Zoom Lens

Original image at wide end

20x Optical Zoom

4K UHD 60p/50p Apple ProRes 422 10-bit Recording

The GY-HC550 can record in Apple ProRes 422 for attention-grabbing 4K 60p/50p image creation. Apple ProRes 422 HQ offers virtually lossless intra-frame compression, which speeding up post-production. Footage is recorded in native file formats that are understood by most major editing applications without transcoding. This is helpful for efficient workflow of editing and post process. The 4:2:2 format also provides richer color information and 10-bit recording delivers rich gradations—a definite advantage for grading work after recording.

ProRes

Estimated recording time

(Approx. min.)

4K UHD 60p/50p (at highest bit rate)	SSD Capacity		
	2TB	1TB	500GB
Apple ProRes 422 HQ	151/180	75/90	38/45
Apple ProRes 422	226/271	113/135	56/68
Apple ProRes 422 LT	324/388	162/194	81/97

Note:
Apple ProRes 422 recording requires SSD media and the optional KA-MC100G media adapter.

SSD Enables Extended Time 4K UHD 60p/50p Shooting

Large-capacity, readily-available SSDs (2.5", M.2 SATA) are compatible, so extended-time 4K UHD 60p/50p video recording is possible. Just plug it into the camera's extended slot (using the optional SSD adapter KA-MC100G) and you are able to record with only the camera, ensuring a high degree of mobility. High-speed transfer of huge amounts of recorded footage is also possible for stress-free data handling.

SSD Solid State Drive

Note:
- Approved SSD media should be used. More detailed information is available on the JVC website.
- HD format recording to SSD is a planned future upgrade.

Various Codecs and Recording Formats

With a variety of recording formats including MPEG-2 MXF preferred by broadcasters, the GY-HC550 provides professionals with unprecedented flexibility to meet production standards through a wide range of workflows.

Note: Apple ProRes 422 is recorded to only SSD.

Video Codec	Mode (Bit rate)	Resolution	File format
Apple ProRes 422	**4K UHD 59.94p/50p/29.97p/25p/23.98p** Apple ProRes 422 HQ 10-bit Apple ProRes 422 10-bit Apple ProRes 422 LT 10-bit	3840 x 2160	QuickTime
MPEG-4 AVC/ H.264	**4K UHD 29.97p/25p/23.98p** 4:2:2 10-bit / 4:2:0 8-bit	3840 x 2160 (150Mbps / 70Mbps)	QuickTime
	HD 4:2:2 10-bit / 4:2:0 8-bit, others	1920 x 1080, 1280 x 720 (70Mbps / 50Mbps / 35Mbps)	
	SD	720 x 480/576 (8Mbps)	
	Web (Proxy)	960 x 540, 480 x 270 (3 to 1.2Mbps)	
MPEG-2 Long GOP	**HD**	1920 x 1080 1440 x 1080 1280 x 720 (35Mbps / 25Mbps)	QuickTime / MXF

For Sports System

MPEG-4 AVC/ H.264	**Exchange** (U model)	1920 x 1080 (12Mbps) 1280 x 720 (8Mbps)	MP4
	MP4 (E model)		

Advanced CONNECTED CAM Features

Live-over-IP Features with Built-in MIMO based Wireless LAN

As a CONNECTED CAM series camcorder, the GY-HC550 delivers a variety of features and performance required in the field with IP connectivity. Use the built-in MIMO based wireless LAN, or use the RJ-45 LAN terminal for the stability of wired communication. Count on camera-to-studio and studio-to-camera two-way data communication to enable you to build an advanced Live-over-IP workflow solution.

The GY-HC550 supports various live streaming protocols to accommodate a range of usages.

Live Streaming

- UDP
- RTP + SMPTE2022 FEC
- Zixi advanced QoS
- RTMP to CDNs
- RTSP/RTP

BR-DE900 Decoder

LIVE

YouTube

HD Live Streaming up to 24Mbps with Low Latency

The GY-HC550 is capable of streaming LIVE HD/SD and proxy video/audio files via network up to 24Mbps with low latency. High quality, stable streaming is possible from the field using just the camera itself (appropriate network connection required). No need to carry a heavy backpack or external boxes.

Various QoS Technologies including Zixi and SMPTE 2022-1

For reliable, quality streaming, Zixi advanced streaming is built-in to provide forward error correction, automatic repeat request (ARQ), and adaptive bitrate control to ensure error-free video delivery in packet loss environments such as when streaming over cellular networks. SMPTE 2022-1 forward error correction is also supported for reliable transmission.

Return Video

IFB

- Live Streaming
- Remote Control
- Auto FTP
- Metadata

Live Streaming

FTP

Return Video / IFB

Remote Control / Metadata

WAN

Advanced QoS / Adaptive Bitrate

Zixi zRAMP

BR-DE900 Decoders

Return Video Encoder

Return over IP

The GY-HC550 can receive return video/IFB from the station while streaming live to air via IP thanks to a new platform. This allows reporters and camera operators to wirelessly receive directions from the station .

News/Sports

Return/Camera video switchable

Transmission

Return-over-IP (Video and Audio/IFB)

LTE Bonding

WAN

SFE-CAM

Balanced

Broadband Router

Station

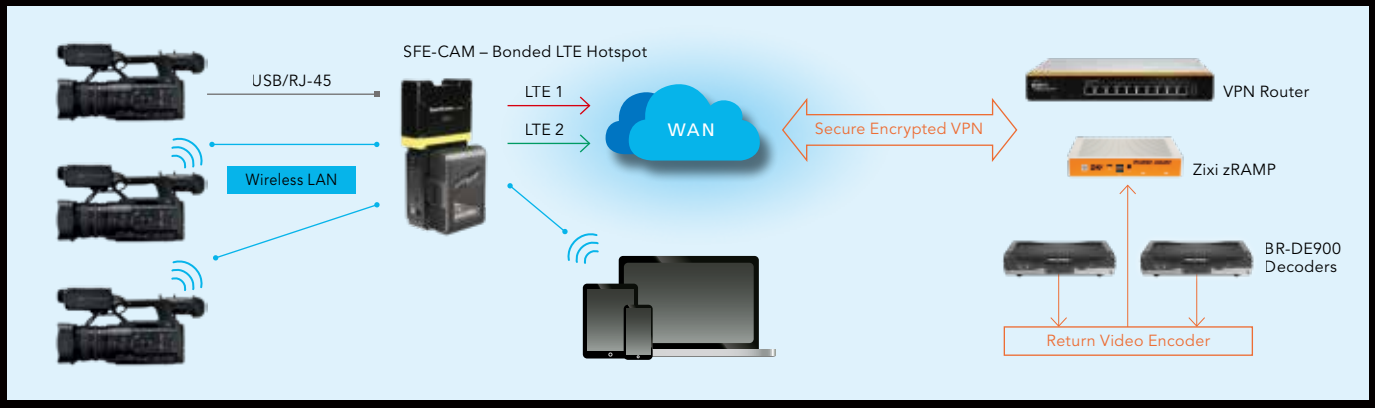
Mic

Encoder

Switcher

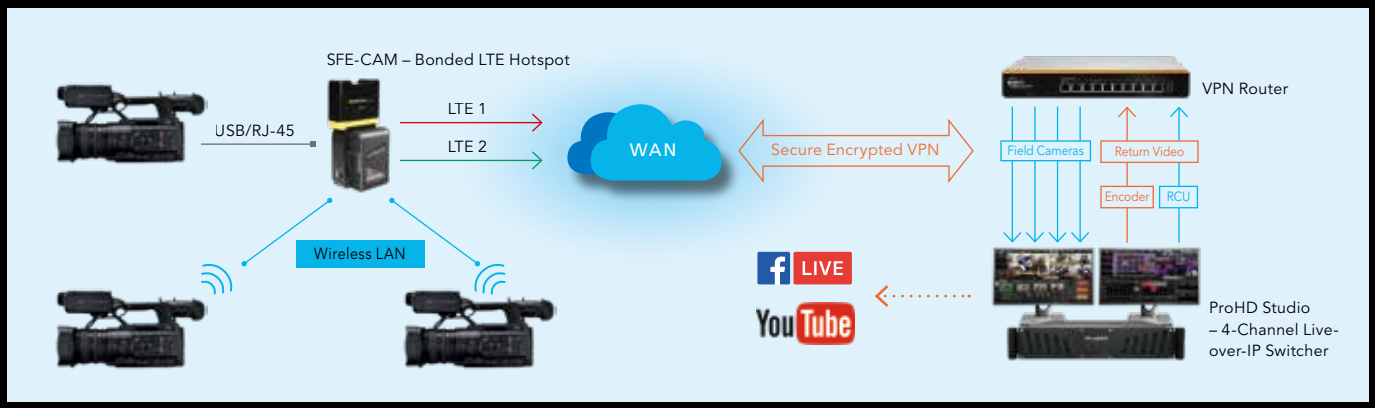
Connection in the Field

SFE-CAM is a powerful bonded cellular hotspot that connects interactively to multiple GY-HC550 camcorders and features Peplink's patented SpeedFusion™ technology. Multiple GY-HC550 units can be connected to SFE-CAM via built-in wireless LAN with dual external antennas. SFE-CAM bonds multiple cellular and wireless LAN connections enabling the user to send digital video at greater speeds than you could with a single modem, and at a fraction of what it would cost using a conventional satellite connection. And even while docked to a single camera, this unit provides the power and connectivity that lets you stream from multiple cameras to HD-SDI decoders or servers at a central location. It's provided with dual cellular modems with redundant SIM slots and dual band Wireless LAN letting you use up to four different providers for bandwidth bonding, data overage protection or eliminating blind spots.



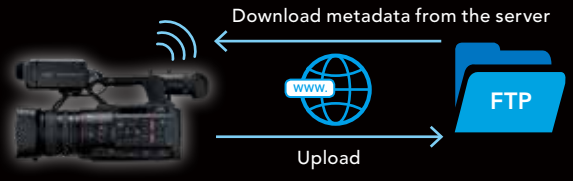
Complete Video-over-IP Solution for Remote Production

The GY-HC550 with ProHD Studio system provides an affordable multi-camera live production solution with unique features. The ProHD Studio accepts four Video-over-IP streams from the GY-HC550 (or JVC IP-supported cameras). And a built-in H.264 encoder supports 1080/60p and 1080/50p streaming up to 24Mbps. In addition, it can support RTMP protocol for direct streaming to the Facebook Live and other live streaming service providers. Output choices include dedicated HD-SDI and HDMI ports, plus an HDMI display port for multi-view or program monitoring. IP accommodates streaming from the camera as well as RCU and return, IFB from the studio, including tally and voice instructions. Suitable for compact live production and streaming studio for live events such as concerts, sports, ceremonies and conferences.



Auto FTP

It's possible to upload video clips to an FTP server via IP. Auto FTP function allows you to start uploading a recorded clip without opening the menu screen.



IP Remote Control with Viewing

When the camera is IP connected, vital camera operations can be remotely controlled via wireless or wired LAN from a tablet, smartphone, or computer anywhere in the world. Remote control functions include lens and camera settings as well as registering zoom presets and IP connection settings.

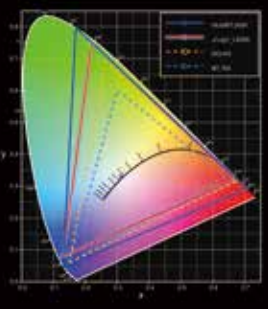
Built-in GPS

A GPS unit is built-in, enabling location information to be recorded or streamed as metadata along with the video data.

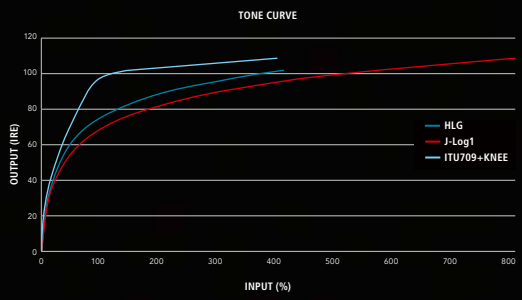
HDR via HLG/J-Log 1

The GY-HC550 is equipped with an HDR compatible HLG (Hybrid Log Gamma) mode and JVC's proprietary J-Log 1 Gamma mode. These enable high dynamic range capture of a broad color spectrum with 10-bit recording for better color grading and to avoid banding. Footage recorded in HLG mode will deliver a full HDR image when viewed on HLG-compatible monitors. The J-Log 1 mode delivers wide latitude and a high dynamic range of 800%. In the field, it's possible to record while checking the image on the GY-HC550's LCD screen or viewfinder to get a grasp of the final output.

HLG & J-Log 1 Color Gamut



J-Log 1 and Rec709+Knee Gamma



[HLG Workflow]

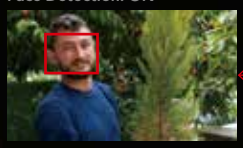
GY-HC550 supports HLG recording which enables simple HDR workflow without color grading. Avoiding clipped highlights or shadows, images are more realistic and vibrant. BT.2020 which offers wider color gamut is also supported.

Extremely Practical Auto Focus and Assist Functions

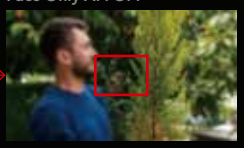
The Auto Focus and Focus Assist functions of the GY-HC550 provide the highly accurate, stable focusing that is essential for 4K shooting. Moreover, its broad customizability enables it to perform in a variety of shooting situations.

- Customizable AF: AF speed, AF sensitivity, AF area, and Near Limiter can be adjusted as needed.
- Customizable AF Assist: Turning the focus ring varies the function depending on the Focus/Assist mode status to fully control focusing.
- One Button Control: "PUSH AUTO/LOCK" button enables you to lock focus, or engage AF for as long as you keep the button pressed, etc., for one-button focus control according to the focus mode you have selected.
- Advanced Face Detection

Face Detection: ON

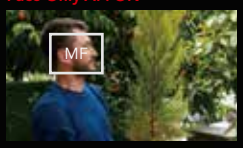


Face Only AF: OFF



When the face turns away and face detection fails, focus comes into the subject in the background.

Face Only AF: ON



When face detection fails, focusing automatically switches to MF while maintaining the focus on the position of the face.

Broadcast Info Overlay on HD Video and Streaming

Designed for enhanced single-camera production, the GY-HC550 produces real-time broadcast information overlays for HD recorded video or streamed video without an external CG or production switcher. Lower-third graphic overlays are generated and controlled using a browser-equipped device, such as a tablet or smartphone.

Notes:
- This feature is not available in 4K or SD mode.
- Overlay designs can be created in various language characters using JVC's SDP Generator (free software).

Robust Body and Excellent in Weather Resistance

Its robust body makes the GY-HC550 ready to work in harsh environments and situations. Excellent construction in weather resistance enables image gathering in the field with confidence.

Large 3-Color LED Indicators

Two large-size LED indicators light in three colors to give you an at-a-glance indication for camera status and network conditions including return video.

Usability and Connectivity

Dual SD Card Slots

Dual SDHC/SDXC card slots let you record 4K 30p/25p/24p or HD video on readily available, affordable media. Unique features using two cards include continuous recording card by card, simultaneous recording on two cards, and backup recording to record ordinary Rec Start/Stop-controlled footage in slot A while recording all data in slot B even when slot A is paused.

Extended Slot (SSD Slot)

SSD Media

SSD Media Adapter
KA-MC100G (optional)

Product photo shown with optional microphone.

Dimensions

Product photo shown with optional microphone.

Accessories

BN-VC296G
Battery

AA-VC2
Battery Charger

KA-MC100G
SSD Media Adapter

RM-LP100
Remote Camera Controller

GY-HC550 / GY-HC500 Comparison

		GY-HC550	GY-HC500
Codec	MPEG-2/MXF	Yes	No
Hardware	GPS	Yes	No
	Wireless LAN 2.4G/5G	Built-in	With optional USB dongle
IP	Zixi protocol	Yes	No
Broadcast Overlay		Yes	No

Specifications

GENERAL SPECIFICATIONS	Power	DC12V (AC adapter), DC7.2V (battery)	
	Power consumption	Approx. 24W (Default setting)	
	Dimensions (W x H x D)	188mm x 229mm x 437mm (with lens hood)	
	Weight	3.3kg (with lens hood and battery, without wireless LAN antenna unit)	
	Operation temperature	0°C to 40°C	
	Storage temperature	-20°C to 50°C	
	Operating humidity	30% to 80%	
	Storage humidity	Under 85%	
CAMERA	Image sensor	1" (effective) CMOS, effective number of pixels: approx 9.35 million	
	Synchronizing	Internal synchronization	
	Stabilizer	Optical image stabilizer	
	Sensitivity	F11 at 2000lx 89.9% reflectance	
	Lens	F2.8 (wide) to F4.5 (tele), f=9.43mm to 188.6mm (f=28mm to 560mm (35mm equivalent))	
	Filter diameter	82mm	
	Shutter speed	1/6 (48Hz), 1/7.5 (60Hz) to 10000	
	Gain	-6, -3, 0, 3, 6, 9, 12, 15, 18, 21, 24 Lolux (30, 36) dB, AGC	
	ND filter	OFF, 1/4, 1/16, 1/64	
	Viewfinder	0.4" LCOS approx 3.68M pixels Quad VGA (1280 x 960), 1280 x 720 at 16:9	
	LCD monitor	3.97" LCD approx. 1.15M pixels WVGA (800 x 480), 800 x 450 at 16:9	
VIDEO/AUDIO RECORDING	Recording media	SDHC/SDXC memory card x 2	4K (150Mbps): UHS-1 U3, 4K (70Mbps)/HD (70Mbps/50Mbps): Class 10, HD (35Mbps):Class 6, SD: Class 4, Web: Class 4, High-Speed: UHS-1 U3, Exchange (U model)/MP4 (Emodel): Class 4
		SSD (Solid State Drive) Type M.2 SATA	With KA-MC100G (optional)
	Video codec	Apple ProRes 422, MPEG-4 AVC/H.264, MPEG-2	
	File format	QuickTime, MP4, MXF	
	Audio recording	LPCM 2ch, 48kHz/24-bit/16-bit , μ-Law 2ch (Web), AAC 2ch (Exchange/MP4), Detail information is shown in Recording Formats chart below.	
LIVE VIDEO STREAMING	Protocol	RTMP, MPEG2-TS/UDP, MPEG2-TS/TCP, MPEG2-TS/RTP, RTSP/RTP, Zixi	
	Resolution and bit rate	HD	1920 x 1080 (59.94p/50p) 24/20/16/12/8Mbps 1920 x 1080 (59.94i/50i/29.97p/25p) 20/16/12/8/5/3Mbps 1280 x 720 (59.94p/50p) 20/16/12/8/5/3Mbps 1280 x 720 (29.97p/25p) 8/5/3/1.5Mbps
		SD	720 x 480 (59.94i) (U model), 720x576 (50i) (E/EC model) 8/5/3/1.5/0.8/0.3Mbps
		Low	640 x 360 (59.94p/50p) 3/1.5Mbps 640 x 360 (29.97p/25p) 3/1.5/0.8/0.3Mbps
	Audio	AAC 2ch 128Kbps (1.5Mbps over), 64Kbps (0.8Mbps under)	
INTERFACES	Video/Audio output	3G-SDI output (BNC x 1) (up to 1920 x 1080 60p 4:2:2 10-bit), HDMI output x 1 (up to 3840 x 2160 60p 4:2:2 10-bit)	
	Audio input	XLR x 2 (MIC, +48V/LINE), ø3.5mm mini jack x 1	
	Headphone	ø3.5mm mini jack x 1	
	Remote	ø2.5mm mini jack x 1	
	Time code input/output	RCA x 1	
	USB	HOST x 1 (network connection, USB 2.0)	
	Ethernet	RJ-45 x 1	
	Extended slot	KA-MC100G and for future expansion purpose	
	Wireless LAN	Built-in (2.4GHz/5GHz) MIMO with dual external antennas	
PROVIDED ACCESSORIES	Battery (BN-VC296G) x 1, wireless LAN antenna x 2, AC adapter, power cable, lens hood		

Recording Formats

System	Video format	Resolution	Frame rate		Bit rate	Audio	Rec time (min.)	
4K UHD	Apple ProRes 422 HQ	3840 x 2160	59.94p/50p/29.97p/25p/23.98p	4:2:2 10-bit	1768/1475/884/737/707Mbps	LPCM 2ch 48kHz/24bit	75/90/150/180/188	1TB SSD
	Apple ProRes 422				1178/983/589/492/471Mbps		113/135/225/270/282	
	Apple ProRes 422 LT				821/684/410/342/328Mbps		162/194/323/387/403	
	QuickTime (MPEG-4.AVC/H.264)	3840 x 2160	29.97p/25p/23.98p	4:2:2 10-bit	150Mbps	LPCM 2ch 48kHz/24bit	56	64GB SD Card
				4:2:0 8-bit	150Mbps	LPCM 2ch 48kHz/16bit	56	
					70Mbps		119	
HD	QuickTime (MPEG-4.AVC/H.264)	1920 x 1080	59.94p/50p	4:2:2 10-bit	70Mbps (422 XHQ)	LPCM 2ch 48kHz/24bit	117	
			59.94p/59.94i/50p/50i/29.97p/25p/23.98p		50Mbps (422 XHQ)		162	
		1280 x 720	59.94p/50p					
		1920 x 1080	59.94p/59.94i/50p/50i/29.97p/25p/23.98p	4:2:0 8-bit	50Mbps (XHQ)	LPCM 2ch 48kHz/16bit	165	
			59.94i/50i/29.97p/25p/23.98p		35Mbps (UHQ)		233	
		1280 x 720	59.94p/50p					
	QuickTime (MPEG-2 Long GOP)	1920 x 1080	59.94i/50i/29.97p/25p	4:2:0 8-bit	35Mbps (HQ)	LPCM 2ch 48kHz/16bit	231	
		1440 x 1080	59.94i/50i					
		1280 x 720	59.94p/50p					
		1440 x 1080	59.94i/50i		25Mbps (SP)		317	
	Exchange (U model) MP4 (E/EC model)	1920 x 1080	59.94p/50p	4:2:0 8-bit	12Mbps (LP)	AAC 2ch 48kHz/16bit	628	
		1280 x 720			8Mbps (LP)		892	
SD	QuickTime (MPEG-4.AVC/H.264)	720 x 480 (U model)	59.94i	4:2:0 8-bit	8Mbps (HQ)	LPCM 2ch 48kHz/16bit	881	
		720 x 576 (E/EC model)	50i					
WEB (Proxy)	QuickTime (MPEG-4.AVC/H.264)	960 x 540	29.97p/25p/23.98p	4:2:0 8-bit	3Mbps (HQ)	μ-law 2ch 16kHz	2518	
		480 x 270	29.97p/25p/23.98p		1.2Mbps (LP)		5392	
High-Speed	QuickTime (MPEG-4.AVC/H.264)	1920 x 1080	120fps / 59.94p/29.97p/23.98p	4:2:0 8-bit	50Mbps (XHQ)/35Mbps (UHQ)	—	(Differs by setting)	
			100fps / 50p/25p					

Simulated pictures.
The values for weight and dimensions are approximate.
E.&O.E. Design and specifications subject to change without notice.

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