

Panasonic

ideas for life

AG-DVC60
Mini-DV Camera-Recorder (PAL)



Mini DV Digital Video Cassette

Professional Quality and Performance...

...With the Shoulder-Held Stability Professionals Prefer



The AG-DVC60 is a mobile, shoulder-type DV camera-recorder in a rugged yet lightweight carbon fiber alloy body with a Midnight Black matte finish. Designed for professional use, this high-performance workhorse stands at the top of its class in image quality, sensitivity, framing flexibility and functions. The oversized shoulder pad combines with a hand grip on the side of the lens to give you a firm, no-slip grip. For shooting comfort, you can slide the large, field-spec viewfinder to the right or left side as you prefer, and lock it in place. With a multifunctional lens ring that controls the zoom, focus and aperture, the AG-DVC60 has the same solid feel as your standard field camera. And it gives you clear, stable images with minimal hand-shake, plus the responsive action you need to start shooting on a moment's notice. A full-sized stereo microphone is set at the top of the camera, above the lens – an ideal position for capturing the sound from in front of the camera.

...And the System Flexibility Professionals Need



The AG-DVC60 is fully equipped to meet your everyday production needs. It comes standard with terminals for connecting an optional stereo gun mic, and with XLR-type mic/input terminals for connecting either a hand mic or line recording. Add an optional Anton Bauer adapter plate, and you can mount any of several heavy-duty Anton Bauer batteries to the camera rear for extended shooting work. Or snap an Anton Bauer Ultra Light onto the shoe built into the top of the handle, and you have all the light you need for high-level shooting jobs. You can use the colour LCD monitor and viewfinder at the same time. When using the viewfinder for shooting, you can face the LCD monitor forward, where someone in front of the camera can use it as a monitor when speaking or conducting an interview.

Outstanding Image Quality, Shoulder Mount Reliability, and Digital Recording Functions

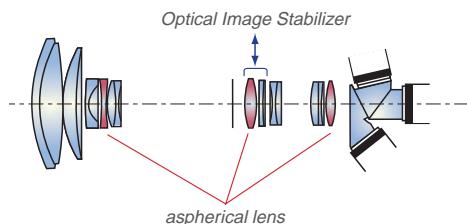
Wide-Angle, High-Magnification 16x Zoom Lens

The AG-DVC60's 16x optical zoom lens answers a broad range of shooting needs, delivering superb results from 39.5mm wide angle all the way to 632mm telephoto (both 35mm lens equivalents). In wide-angle performance — critical in broadcast and other professional applications — this lens is tops in its class. This new 16x optical zoom lens system uses low-dispersion glass and aspherical lenses to reduce colour aberration and boost resolution. Use of a special multi-coating process dramatically reduces flare and ghosts. The result: sharp, crisp, beautifully rendered pictures with vivid colours, delicate nuances, and exceptional shading.



Optical Image Stabilizer Compensates for Hand Shaking

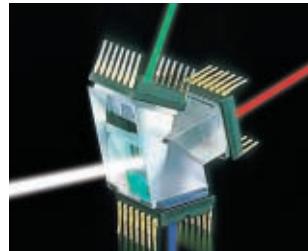
The AG-DVC60's advanced Optical Image Stabilizer (OIS) compensates for hand shaking that occurs as you shoot. A gyro sensor detects hand-shake and sends signals to a linear motor, which adjusts the lens to compensate. Because this process takes place prior to the CCD image capture (rather than in the downstream electronic processing), it virtually eliminates any effect of hand-shake on resolution and screen angle. The OIS can also be helpful when zooming or shooting in dim lighting.



1/4-Inch, 470,000-Pixel 3CCD Image System:

High Sensitivity, Low Noise

To assure a level of picture quality suitable for professionals, the AG-DVC60 uses a 3CCD image system that delivers the highest sensitivity in its class. Its high S/N ratio and extremely low noise (in darker areas of a picture) combines with high sensitivity to deliver excellent image quality even when shooting indoors under dim lighting. When shooting in sunlight or under bright spotlights, this 3CCD system offers low smear.



12-bit A/D and RGB Gamma Processor

The AG-DVC60 features an A/D converter that uses the same 12-bit processing as broadcast-quality camera-recorders. This, combined with an RGB gamma processor that uses Panasonic's unique gamma curve function, helps assure high-image-quality processing. In fact, the AG-DVC60's A/D converter and RGB gamma processor are the same ones used in our popular AG-DVX100A, which has won acclaim as the industry's highest image quality DV camera.



A Digital Zoom for Professionals

Engineered for professionals, the AG-DVC60 is equipped with a digital zoom that instantly magnifies the image by any of five fixed values — 1.25x, 1.5x, 2x, 5x or 10x. Use it together with the 16x optical zoom lens, and you get super-telephoto magnification equivalent to a 160x zoom. Image degradation during the digital processing is particularly low in the 1.25x magnification mode, so you get superb zoom quality all the way to 20x.



Wide (x 1)
Image

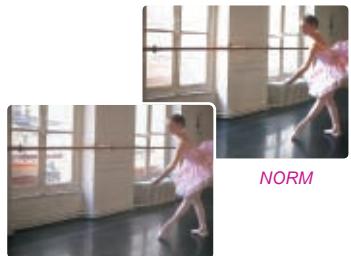
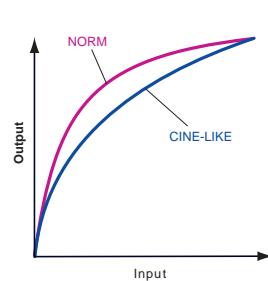


x 20 Zoom Image

Movie Simulation Mode

The AG-DVC60 can capture and reproduce images that are strikingly similar in tone to film images, thanks to Panasonic's unique Cine-Like gamma curve and a 25-fps frame recording function that electronically interpolates interlaced images to create frames with no time differences between fields.* Settings for this mode are preset in the Movie-Like scene file.

*The resulting images are not the same as native progressive images recorded with a progressive CCD.



Gamma Curve and Images (conceptual)

High-Sensitivity Slow Shutter

The slow shutter function uses image accumulation to allow shutter speeds with frame rates reduced by half or more.

The accumulation method provides bright-colour images with less noise than those captured using conventional gain-up, so you get the higher sensitivity needed for nighttime shooting without illumination. The slow shutter function can also be used to obtain movie-like effects.



Gain Up Image



Slow Shutter Image

16:9 Wide Recording

The aspect ratio can be set to either 4:3 or 16:9 to accommodate wide-image recording. In 16:9 recording, you can select either letterbox or squeeze mode, giving you more possibilities in downstream editing and playback.



4:3



16:9 Letter Box



16:9 Squeeze

Zero Lux IR Mode (Super Nighttime Shooting System)

The AG-DVC60 offers B&W recording in the dark using infrared light. This opens the door to a host of new possibilities in nighttime monitoring, surveillance and news gathering.

The built-in infrared light makes it possible to record at a distance of about 5 m**.

For greater distances, you can add an optional light that allows recording to approximately 30m**.

*According to Panasonic survey **According to Panasonic testing



*Image of Zero Lux IR Mode and date/time superimpose.

Date/Time Superimpose Function

The AG-DVC60 can superimpose the date and time onto the video signal as you shoot. This is especially useful and in many cases a requirement for depositions, court reporting and surveillance recordings. The date and time cannot be replaced during dubbing or editing operations, as can happen with most other cameras.

Full Auto or Manual Shooting

Use the AG-DVC60 for either full auto or manual shooting. The Auto/Manual switch turns the four auto functions — focus, shutter speed, iris & gain, and white balance — on and off as desired. Manual focusing is controlled by the large focus ring. You can also switch between manual and auto focus by pushing the Focus button. For added convenience, one of the user buttons can be assigned to turn auto focus on and off.

Multi-Function Focus Ring

In Auto Focus, control over either the zoom or the iris & gain can be allocated to the focus ring, letting you make quick, detailed adjustments manually.

3 User-Assignable Buttons

The AG-DVC60 provides three user buttons that can be assigned to any of 16 camera functions and three VCR functions. User button 1 is positioned atop the hand grip for easy access when shooting with one hand.

Camera functions: Push AF+Zoom, Push AF, White Balance, AWB Lock, Backlight, Spotlight, Rec Check, Digital Zoom, White Fade, Black Fade, Photoshot, Index, SNS (Super Nighttime Shooting), EVF DTL, Lumi-Flick, AE Lock

VCR functions: Blank Search, Audio Dub, Index

WHITE BAL and SNS can be allocated to user button 1 only.

Focus Assist with One-Push Zoom

When a user button is assigned the Push AF+Zoom function and the AG-DVC60 is in Auto Focus, the camera will continue to zoom as long as you hold the button down, then return to the original zoom position when you release it. This helps you zoom and focus more quickly in manual shooting mode.

Four Scene Files

The AG-DVC60 can save four sets of camera settings as "scene files" for instant recall later in similar shooting conditions. Scene files 1 and 2 are freely settable. Files 3 and 4 are preset (see list below), but you can change the values as desired.

- 1 SCENE 1: User setting (standard values)
- 2 SCENE 2: User setting (standard values)
- 3 B.PRESS: For sharper contrast in dark portions
- 4 MOVIE-LIKE: Movie Simulation Mode

Shooting Support Functions

- **Backlight correction:** Backlighting compensation can be assigned to a user button for instant results.
- **AE Lock:** Locks the subject brightness; can be assigned to a user button.
- **Zebra:** Displays an overexposure warning on the viewfinder and monitor
- **Marker:** Detects and displays the Video Brightness level in a very useful, repeatable numerical value.
- **Mode check:** Displays the camera settings on the viewfinder and monitor, for easy checking before you shoot.
- **Zoom position:** Displays the zoom position as a repeatable, numerical representation in the viewfinder.
- **Picture Effects:** Picture effects function includes Wipe, Mix, Fade and Still.

Recessed Trigger and Zoom Control on Upper Handle Grip

In addition to the lens grip, the upper part of the handle grip contains both the Rec Start/Stop button and a lens zoom control. This design assures easy shooting even at low angles or when using a tripod. The zoom speed can be set to any of three speed levels or off.



2.5" Colour LCD Monitor

The 2.5" colour LCD monitor rotates 270 degrees, making it easy to shoot at difficult angles and the Mirror mode makes it easy to record yourself. The display is bright too, so even outdoors you get good visibility when using the LCD to monitor footage or select settings from the menu.

Professional-Level Audio with XLR Line/Mic In

The AG-DVC60 comes equipped with a built-in stereo microphone and with XLR-type audio input terminals on the rear panel. You can switch audio channels 1 and 2 separately to either line or front mic input - especially useful when recording interviews or narration.

Audio Level Meters

Two colour audio level meters can be displayed in the viewfinder and LCD monitor, making it easy to check the signal as you record.



Reliability, System Configuration and Accessories for the Professionals

Large Viewfinder

The AG-DVC60 viewfinder is as large as those offered on many broadcast cameras. A slide mechanism lets you shift the viewfinder to the left or right for maximum comfort, then lock it in place. Monochrome mode and a detail enhance function are provided for easier viewing and focusing. You can use the viewfinder and LCD monitor at the same time.



Carbon Fiber Composite Body

The body of the AG-DVC60 is made of carbon fiber composite. Carbon fiber exhibits both high rigidity and light weight. It lets the AG-DVC60 stand up to everyday work, with solid reliability and durability, but it won't weigh you down.



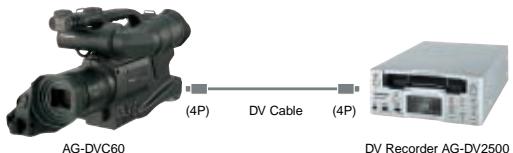
Automatic Head Cleaning

The AG-DVC60 provides the same head cleaning function as our DVCPRO models. The white roller pad positioned to the right of the head cylinder cleans the head each time you load a tape, helping to minimize dropouts and head clogging.



IEEE 1394 Terminal with Synchro Lock

An IEEE 1394-compliant 4-pin DV terminal makes it easy to upload data from the AG-DVC60, or to dub footage onto a DV recorder. This terminal also features a new synchro lock function that lets you use the AG-DVC60 to remotely start and stop an external DV device. Three recording modes help protect against mistakes: record onto external recorder only, record onto both AG-DVC60 and external recorder, begin external recording when the AG-DVC60 tape ends.



More Features for Professionals

- Built-in time code generator/reader
- Built-in colour bars - useful for setup
- Shutter: Maximum speed of 1/8,000 sec. When the AG-DVC60 is recording a computer display, a synchro scan function matches the shutter speed to the monitor to minimize flicker.
- Index: Insert index points as you shoot - convenient when searching later (can be assigned to a user button)
- User File: Save sets of camera settings for instant recall

ACCESSORIES

Included



Optional



Model No.	Capacity	Operating time with EVF
CGR-D16S	1600 mAh	120 min.*
CGP-D28S	2700 mAh	210 min.*
CGA-D54S	5400 mAh	420 min.*

*approximate



AG-LW4307P
Wide conversion lens



AG-YRL30G
IR light



QR-DVC10
AntonBauer battery adapter



PV-DDC9
IEEE 1394 Interface cable



AG-B15
AC adapter kit



AY-DVM63PQ
AY-DVM63MQ
AY-DVMCLC



Professional series tape
Master series tape
Cleaning tape



BT-LH1700W
17" HD/SD LCD Monitor

Switches and connectors are arranged to allow easy use of many functions



AG-DVC60 Specifications

[GENERAL]

Supply Voltage:	DC 7.2/7.9 V
Power Consumption:	6.2 W (when viewfinder is used) 7.4 W (when LCD monitor is used)
Operating Temperature:	0°C to +40°C
Operating Humidity:	10% to 85% (no condensation)
Weight:	Approx. 2.6 kg
Dimensions (WxHxD):	211 x 224 x 431 mm

[CAMERA]

Pick-up Device:	1/4-inch interline transfer type CCD x 3
Picture Elements:	Total: 470,000 pixels Effective: 440,000 pixels (horizontal pixel shift system)
Lens:	F 1.6 (f = 4.1 to 65.6 mm), 43 mm diameter, motorized/manual mode switching 16x zoom (35 mm equivalent: 39.5 to 632 mm), with optical image stabilizer
Optical Colour Separation:	Prism system
ND Filter:	Auto On/Off by IRIS
Gain Selection:	0, +3, +6, +9, +12, +15, +18 dB
Shutter Speeds:	1/3, 1/6, 1/12, 1/25 sec. (slow shutter) 1/50, 1/60, 1/120, 1/180, 1/250, 1/350, 1/500, 1/750, 1/1000, 1/1500, 1/2000, 1/3000, 1/4000, 1/8000 sec. (high speed shutter)
Synchro Scan Shutter Speeds:	1/50.2 to 1/248 sec.
Minimum Luminance:	4 lux (F 1.6, 18 dB gain, 50 IRE video output)

[VTR]

Recording Format:	DV (Digital Video SD)
Tape Used:	6.35 mm wide metal tape (mini DV cassette)
Recorded Video Signals:	625/50i (PAL)
Recorded Audio Signals:	PCM digital recording 16 bits: 48 kHz/2 channels, 12 bits: 32 kHz/4 channels
Recording Tracks:	Digital video, audio signals: helical track Time code: helical track (sub-code area)
Tape Speed:	SP mode: 18.831 mm/sec., LP mode: 12.568 mm/sec.
Recording Time:	SP mode: 60 minutes, LP mode: 90 minutes (when AY-DVM60 is used)
FF/Rew Time:	Approx. 140 sec. (when AY-DVM60 is used)

[AUDIO]

Sampling Frequency:	48 kHz/32 kHz
Quantizing:	16 bits/12 bits
Frequency Characteristics:	20 Hz to 20 kHz
Wow & Flutter:	Below measurable limits

[VIDEO]

Sampling Frequencies:	Y: 13.5 MHz, PB/PR: 6.75 MHz
Quantizing:	8 bits
Video Compression System:	DCT + variable length code
Error Correction:	Reed-Solomon product code

[CONNECTORS]

MIC IN:	Stereo Mini jack (3.5 mm diameter), -70 dBV
XLR AUDIO IN:	XLR x 2 (CH1/CH2), High impedance, 0/-60 dB, LINE/MIC selectable
VIDEO IN/OUT:	RCA x 1, (input/output automatically switched) analogue composite input/output, 1.0 Vp-p, 75Ω
S-VIDEO IN/OUT:	4pin x 1, (input/output automatically switched) Y: 1.0 Vp-p, C: 0.3 Vp-p, 75Ω
AUDIO IN/OUT:	RCA x 2 (CH1, CH2) (input/output automatically switched) In: -10 dBV high impedance, Out: -10 dBV low impedance
DV IN/OUT:	4-pin, IEEE 1394 standard, digital input/output
PHONES OUT:	Stereo Mini jack (3.5 mm diameter)
REMOTE:	Mini jack (2.5 mm diameter)
DC IN:	2P x 1, 7.9 V

[EQUIPMENTS]

Internal Microphone:	Stereo microphone
Viewfinder:	0.44-inch LCD colour viewfinder, 180,000 pixels
LCD Monitor:	2.5-inch LCD colour monitor, 110,000 pixels
Internal Speaker:	20mm round shape, volume - or +

*The specifications given above were measured by playing back tapes recorded by the AG-DVC60 on standard VTRs.
Weight and dimensions shown are approximate. Specifications are subject to change without notice.



You Can Get the Professional Shooting Quality with the Shoulder-Held Stability And the System Flexibility

AG-DVC60

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