Panasonic
ideas for life

DIGITAL
NETWORKING

2004

DIGITAL VIDEO CAMERA

e.cam

My Video Partner

You want a lot out of a video camera. You want beautiful moving pictures and beautiful stills. You want a camera
that's easy to use and small enough to take anywhere. And you want to edit the images you record and use them for networking.
With Panasonic's wide variety of video cameras, you're sure to find a model that meets your needs.
Choose a model that takes remarkably vivid, high-quality still shots and moving pictures.
Choose one that combines lots of style with lots of functions, or one with a super-high-power optical zoom.
Or choose from a selection of DVD models that record directly to discs.
Find the video camera that's just right for you, and let Panasonic be your partner in a new video lifestyle.

3CCD
Broadcast-Level
Moving picture

2.3 Megapixel
Still Picture

**Beautiful Moving and Still Pictures from
the World's Smallest 3CCD Video Camera***

3CCD e.cam
Mini DV

GS200
NV-GS200

GS120
NV-GS120

*As of February 1, 2004

Stylish and Compact

NV-GS55

**Smart Style, Ultra-Compact Size and
a Host of Attractive Functions**

e.cam
Mini DV

GS55
NV-GS55

Optical 24x Zoom Power

1x

**Super Compact — Even with
the World's Most Powerful 24x Zoom***

e.cam
Mini DV

GS15
NV-GS15

GS11
NV-GS11

*Digital video cameras as of February 1, 2004
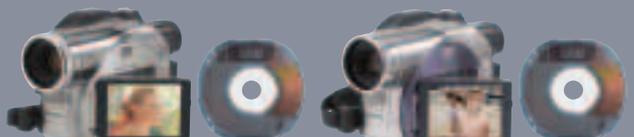
Record onto a
DVD Disc

VDR-M70

**Compact DVD Models —
Quick & Easy Viewing and Editing Fun**

DIGA
Video Camera

DVD
VIDEO
RAM

M70*
VDR-M70

M50*
VDR-M50

*Available in June, 2004

3CCD Broadcast-Level
Moving Picture

2.3 Megapixel Still Picture

GS200

HIGH-QUALITY PICTURE

The same system that's used in professional broadcast cameras
3CCD Camera System
`GS200` `GS120`

Because the CCD is a key device for image quality, all professional video cameras use a 3CCD system. In this system, a prism splits the incident light into its three primary colours (red, green and blue) and each resultant colour signal is collected by a separate CCD. The 3CCD system reproduces colours with exceptional fidel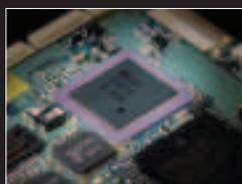ity and captures even subtle gradations. Advanced Panasonic technology has made the 3CCD system small enough for home video cameras. The GS200 and GS120, which debut as the world's smallest 3CCD video cameras[*], deliver the same high-level functions and operating ease as professional models, yet are easy to take anywhere. They make it easy to capture images with natural, true-to-life colours anywhere you go.

New image processor developed especially for the 3CCD system
Crystal Engine
`GS200` `GS120`

The Crystal Engine is a special image processing circuit for 3CCD camera systems. Processing the signal from each of the three CCDs independently, it gives both moving and still pictures exceptional quality.

New 3D RGB Frame Noise Reduction
A separate noise reduction circuit is used for each of the three RGB colours. Suppressing noise particularly at low illumination levels, these circuits allow bright, detailed recording even in dim lighting.

AXIS (Advanced Pixel Interpolation System)
Pixel interpolation data obtained by differential calculation is used to precisely process the CCDs' output. This maximizes the effect of the Quad-Density Pixel Distribution, helping to produce clear, high-contrast images.
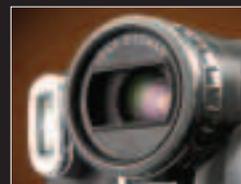
Digital Signal Processing
Unique Panasonic digital signal processing technologies deliver true-to-life detail and colour, with whiter whites, deeper blacks, and superb rendering of fine details such as individual strands of hair.

Leica's superior image rendering
Leica Dicomar Lens
`GS200` `GS120`

The advanced optical technology that makes Leica Camera AG a legend in the camera world is fully reflected in the 12-element, multi-coated Leica Dicomar lens. This superb lens system eliminates unwanted reflections and reduces the flaring and ghosts that can distort images. It gives sharp definition even to the darker parts of an image, so the entire picture is clear. With its crisp detail, subtle rendering, and smooth, natural imaging — all Leica hallmarks — this lens can take you to the limits of your visual imagination.

* Leica is a registered trademark of Leica Microsystem IR GmbH, and Dicomar is a registered trademark of Leica Camera AG.

Take breathtaking stills, too
2.3 Megapixel Still Picture Recording
`GS200`

2.3 MEGA PIXEL STILL PICTURE

Quad-Density Pixel Distribution, a technology used in broadcasting, makes it possible to capture still pictures with superb megapixel quality. The tiny 2.5-micron intervals between pixels are shifted by one-half pitch both vertically and horizontally, which distributes them on the CCD with four times the density of previous systems. This lets the GS200 — the world's smallest 3CCD video camera — capture still pictures with 2.3-megapixel quality. You get the outstanding detail, colour and sensitivity that come with the 3CCD camera system.
*The GS120 has 1.7-megapixel still picture recording.

Number of Recordable Still Pictures (approx.)
GS200 (1760 x 1320 pixels)

Image Quality \ Capacity	512MB*	256MB*	128MB*	64MB*	32MB*	16MB*	8MB*
Fine	452	223	111	53	25	10	4
Normal	732	362	180	88	41	18	7
Economy	1,003	496	248	121	58	26	11

• The number of recordable pictures will differ if more than one mode (Fine, Normal, Economy) is used.
• These figures vary depending on the subject being recorded.
* Usable capacity will be less

HIGH-QUALITY PICTURE

Enjoy lifelike images with vivid colours
Pure Colour Engine
`GS55` `GS15` `GS11`

The Pure Colour Engine LSI converts the CCD output signal from a complementary colour filter into an RGB signal (containing the three primary colours in light) at an early stage and extracts the low-frequency luminance component from the RGB signal. The luminance signal is then generated in the same way as in TV broadcasting. This innovative LSI achieves virtually the same superb colour reproduction as a 3CCD camera system.

The world's most powerful zoom*
24x Optical Zoom
`GS15` `GS11`

Enjoy remarkable 24x zoom magnification in a camera that's small enough to take anywhere. This lens is not only the most powerful zoom offered in a home-use digital video camera, it also features low distortion. And because the zoom is optical, it captures both moving pictures and still with exquisite beauty.
*Digital video cameras as of February 1, 2004

No more fuzzy video stills
Progressive Photoshot
`GS200` `GS120` `GS55` `GS15` `GS11`

Progressive Photoshot captures the image and temporarily stores it into two separate field memories. The two images of the exact same moment are then combined with no time lag, eliminating the need for simulations. This results in 1.5 times the resolution of standard-recorded stills on a SD Memory Card (GS200/GS120/GS55/GS15) or tape (GS33/GS11) for beautifully clear and brilliant pictures.

Number of Recordable Still Pictures on a SD Memory Card (approx.) 640 x 480 pixels

Image Quality \ Capacity	512MB*	256MB*	128MB*	64MB*	32MB*	16MB*	8MB*
Fine	3520	1760	880	440	220	100	45
Normal	7040	3520	1760	880	440	200	95
Economy	14080	7040	3520	1760	880	400	190

• The number of recordable pictures will differ if more than one mode (Fine, Normal, Economy) is used.
• These figures vary depending on the subject being recorded.
*Usable capacity will be less

Take a fast sequence of stills at half-second intervals (approx.)
Consecutive PhotoShot
`GS200` `GS120` `GS55` `GS15`

Press and hold the Photoshot button, and the camera can snap up to 10 still pictures (VGA) on SD memory card in rapid sequence.

CREATIVITY

Take close-ups down to extremely short distances
Tele Macro Mode
`GS200` `GS120` `GS55`

Just press a button and you're ready to shoot macro close-ups of subjects a mere 20 cm* from the lens. The subject will have a clear, sharp focus, while the background focus is muted.
*GS200/GS120: 40 cm

Shoot still pictures while shooting moving pictures – without even switching modes
`GS200` `GS120` `GS55` `GS15`
Simultaneous Motion Video & Still Picture Recording (VGA)
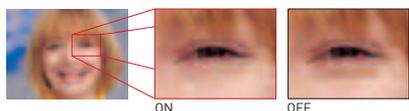
When you see a great scene, you can snap it – even while you're shooting video. This innovative function lets you shoot still pictures without disrupting the moving pictures you're recording. You don't even have to switch recording modes. It's as if you have a digital still camera and a video camera at the same time. The moving pictures are recorded on tape, the still shots on an SD Memory Card.

Give your subjects smoother complexions
Soft Skin Detail
`GS200` `GS120` `GS55` `GS15` `GS11`

This function detects skin tones and softens the focus in those areas, making complexions look more attractive. Wrinkles and lines seem to disappear.

ON   OFF

Capture crisp, vivid images, even in low lighting
Colour Night View with Light Panel
`GS200` `GS120` `GS55`

Leave the light off. Colour Night View gives you images with colour even in dim lighting (1 lux). By using the LCD as a light panel, you can also record colour images in conditions of complete darkness (0 lux).

● 0 Lux Colour Night View with Light Panel

OFF   ON   Light Panel

● Colour Night View

OFF   ON

OPERATING EASE

Choose the mode you want with quick, fingertip operation
Direct Mode Dial
`GS200` `GS120` `GS55` `GS15` `GS11`

Easy-to-understand icons indicate the modes for both tape and card recording and playback. Just rotate the dial with your fingertip to select the icon that corresponds to the mode you want.
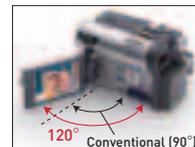Dial design of GS200/GS55

Icon	Mode	Icon	Mode	Icon	Mode
	Tape Recording Mode		Tape Playback Mode		Card Recording Mode
	Picture Playback Mode		MPEG4 Playback Mode	PC	PC Mode

Easy viewing and operation
Wide Opening LCD
`GS200` `GS120` `GS55` `GS15` `GS11`

The LCD monitor opens a full 120 degrees. This makes it much easier to show your friends the cool shots you've taken or to access the control buttons on the side of the camera.

120°   Conventional (90°)

Clear to see — even outdoors
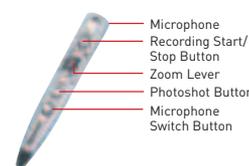## Power LCD
`GS200` `GS120` `GS55`

Simply press a Power LCD button and the LCD becomes brighter, making it easier to see outdoors or in other bright locations. Also, a new scanning technology allows the LCD to show diagonal lines more sharply.

OFF   ON

Easy shooting from any angle, and voice recording
Free-Style Remote Controller with Mic
`GS200` `GS120` `GS55`

Now it's simple to take low-angle, high-angle and fixed-position shots using a tripod, with fingertip operation of start, stop and zoom. Plus the supplied remote controller has an integrated microphone that is convenient for adding narrative commentary or recording interviews as you shoot.

Microphone
Recording Start/Stop Button
Zoom Lever
Photoshot Button
Microphone Switch Button

Never miss those sudden shooting opportunities
1.3 sec Quick Start
`GS55` `GS15` `GS11`

This Quick Start button helps shoot videos on the spur of the moment. While saving battery power, this function lets you shoot those not-to-be-missed scenes just 1.3 sec after turning on the button.

NETWORKING

Record compressed moving pictures for use in e-mail and Web sites
MPEG4 Internet Movie　　GS200　GS55

The GS55 can record in the high-compression MPEG4 movie format, with four modes to choose from. After shooting, simply upload your moving pictures from the SD Memory Card to a PC, and you're ready to attach them to an e-mail message or post them on the Web. There's a host of ways you can share and communicate with moving pictures.

Maximum Recording Time (Approx.)

Image Quality \ Capacity	512MB*	256MB*	128MB*	64MB*	32MB*	16MB*	8MB*
Super Fine	1 h 10 min	35 min	17 min	8 min	4 min	2 min	1 min
Fine	2 h 50 min	1 h 25 min	42 min	20 min	10 min	4 min	2 min
Normal	4 h 40 min	2 h 20 min	1 h 10 min	35 min	17 min	8 min	3 min
Economy	10 h 10 min	5 h	2 h 30 min	1 h 15 min	37 min	18 min	8 min

- Picture size: Super Fine/Fine 320 x 240 pixels, Normal/Economy 176 x 144 pixels.
- Data transfer rate: Super Fine mode: approx. 1 Mbps, Fine mode: approx. 420 kbps, Normal mode: approx. 296 kbps, Economy mode: approx. 100 kbps
- To view MPEG4 moving pictures on a PC, Windows® Media Player 6.4 or higher version (available for free on the Microsoft Web site) and the necessary application (provided on the enclosed CD or available for free on the Microsoft Web site) are required.
- These figures vary depending on the scene.
*Usable capacity will be less

Upload image data in seconds
SD Memory Card Compatible　　GS200　GS120　GS55　GS15　M70　M50

SD Memory Cards are the ideal recording and storage media for today's visual communication and networking. They make it easy to instantaneously transfer image data to a PC or printer.
*Usable capacity will be less

High-speed data transfer to a PC
USB 2.0*1　　GS200　GS120　GS55　GS15　GS11　M70　M50

USB 2.0 compatibility lets you transfer data*2 to your PC's hard disk at high-speed. You can also use the USB to enjoy Web camera functions.
*1 GS200/GS120/GS55/GS15/GS11: Full Speed Mode, M70/M50: High Speed Mode
*2 GS200/GS55: JPEG/MPEG4 data, GS120/GS15/GS11/M70/M50: JPEG data

Real-time visual communication
Web Camera Function　　GS200　GS120　GS55　GS15　GS11

With the DV camera connected via USB cable to a PC, start up Windows® Messenger and the camera instantly turns into a web camera. Ideal for teleconferencing over the Internet, or for surveillance camera use.
- System Requirements: OS Microsoft® Windows® XP Home Edition/Professional, Windows Me, Windows 98 Second Edition (WebCam Driver is only Microsoft® Windows® XP Home Edition/Professional SP1 or later.)
- The supplied softwares are not compatible with Macintosh.
- Microsoft and Windows are either trademarks or registered trademarks of Microsoft Corporation in the United States and other countries.

FEATURE COMPARISON

Digital Video Camera	GS200	GS120	GS55	GS15	GS11
High Quality Picture & Sound					
3CCD Camera System	Yes	Yes	No	No	No
Leica Dicomar Lens	Yes	Yes	No	No	No
Image Processing LSI	Crystal Engine	Crystal Engine	Pure Colour Engine	Pure Colour Engine	Pure Colour Engine
Still Picture Recording	2.3 MEGA/VGA	1.7 MEGA/VGA	VGA (640 x 480)	VGA (640 x 480)	VGA (640 x 480)
Progressive Photoshot	Yes (Card)	Yes (Card)	Yes (Card)	Yes (Card)	Yes (Tape)
Consecutive Photoshot	Yes	Yes	Yes	Yes	No
Smart Wind Cut	Yes	Yes	Yes	Yes	Yes
Zoom Microphone	Yes	Yes	Yes	Yes	Yes
Creativity					
Simultaneous Motion Video & Still Picture Recording	Yes	Yes	Yes	Yes	No
Soft Skin Detail	Yes	Yes	Yes	Yes	Yes
Tele Macro Mode	Yes	Yes	Yes	No	No
Variable-Speed Shooting (Card Mode)	Yes	Yes	Yes	Yes	No
Optical Zoom	10x	10x	10x	24x	24x
Colour Night View	Yes (0 Lux using LCD Light Panel)	Yes (0 Lux using LCD Light Panel)	Yes (0 Lux using LCD Light Panel)	Yes (2Lux)	Yes (2Lux)
Operating Ease					
Manual Focus Ring	Yes	No	No	No	No
Built-in Flash	Yes	No	No	No	No
Built-in LED Light	No	No	No	Yes	Yes
Hot Shoe	Yes	Yes	No	No	No
Air Soft Grip	Yes	No	No	No	No
Free-Style Remote Controller with Mic	Yes	Yes	Yes	Yes (without Mic)	Yes (without Mic)
One Touch Free-Style Grip Belt	Yes	Yes	Yes	No	No
Direct Mode Dial	Yes	Yes	Yes	Yes	Yes
Wide Opening LCD	Yes	Yes	Yes	Yes	Yes
Intelligent AI LCD	Yes	No	No	No	No
Power LCD	Yes	Yes	Yes	No	No
Quick Start	1.7 sec	1.7 sec	1.3 sec	1.3 sec	1.3 sec
Networking					
MPEG4 Internet Movie	Yes	No	Yes	No	No
SD Memory Card Compatible	Yes	Yes	Yes	Yes	No
PictBridge Compatible	Yes	Yes	No	No	No
USB 2.0 (FS Mode)	Yes	Yes	Yes	Yes	Yes
DV & Analogue IN/OUT	Yes	Yes	Yes	Yes	Yes
WEB Camera Function	Yes	Yes	Yes	Yes	Yes

DVD VIDEO CAMERA'S FEATURES

Years of viewing enjoyment with no image degradation
DVD Quality & Durability   `M70` `M50`

Because DVD camcorders use a completely non-contact method to record and play, repeated playback doesn't degrade image quality like it can with videotape. Important images and videos can be kept for years with no loss of image quality. Plus, DVD-RAM discs can also be rewritten approximately 100,000 times, making them an economical and ideal choice for repeated recording.

Record on DVD-RAM or DVD-R discs
DVD-RAM/DVD-R Recording   `M70` `M50`

Record onto a DVD-RAM disc if you want to do a lot of editing or repeated recording. Record onto a DVD-R disc if you expect to record one time only and want to play the disc on your home DVD player.

Moving Picture Recording Times

Mode	DVD-RAM Disc	DVD-R Disc
XTRA	18 min.*1	—
FINE	30 min.*2	30 min.*2
STANDARD	60 min.*3	60 min.*3

*1 Variable bit rate recording (bit rate is automatically varied from 3 Mbps to 10 Mbps [approx.] depending on image content, so recording times of longer than 18 minutes are possible.)
*2 Data transfer rate: 6 Mbps (approx.)
*3 Data transfer rate: 3 Mbps (approx.)

Instant shooting — no need to search for disc space
Auto Blank Search   `M70` `M50`

When recording to DVD-RAM discs, models VDR-M70 and VDR-M50 automatically search for a blank section on the disc. All you need to do is press the button to start recording. There's no need to worry about accidentally recording over previously recorded material.   *Possible only with the 8 cm DVD-RAM disc.

Recorded scenes are displayed as thumbnails — go right to the one you want
Quick Search & Access with Disc Navigator   `M70` `M50`

Unlike videotape, you don't need to rewind or fast-forward a DVD disc to search for specific scenes. The camcorder's LCD screen displays a list of the recorded scenes for quick and easy searching.

● Playlist Edit   ● Easy Deleting   ● Divide Scene   ● Skip Playback

DVD Video Camera	M70	M50
Quick Easy Shooting		
DVD-RAM/DVD-R Recording	Yes	Yes
Auto Blank Search	Yes	Yes
CCD	1.0 Megapixel	800,000 pixel
Still Picture Recording	1,230,000 pixel	310,000 pixel
Optical Zoom	10x	18x
Built-in Hot Shoe	Yes	No
One Touch Free-Style Grip Belt	Yes	No
Super Image Stabilizer (SIS)	Yes	Yes

	M70	M50
Easy Navigation		
Quick Search & Access with Disc Navigator	Yes	Yes
Divided Scene	Yes	Yes
Skip Playback	Yes	Yes
Multimedia Connecting		
DVD Network	Yes	Yes
SD Memory Card Compatible	Yes	Yes
USB 2.0 (HS Mode)	Yes	Yes

CONNECTING TO FUN!   Digital Networking with Panasonic Digital Video Cameras

Long-lasting Storing

Save moving and still images onto a DVD disc
DVD Video Recorder with SD/PC Card Slot

Save your favorite images onto a DVD. Because it uses a completely non-contact method to record and play, repeated playback does not degrade the image as it does with videotape. Your precious memories can be kept for years with no loss of image quality.

DMR-E100H

Mobile Printing

Print images right on the spot
SD Mobile Printer with 1.5" LCD Monitor

Weighing only 265 grams (main unit), this mobile printer goes where you go and lets you make prints, borderless cards, and stickers right on the spot.

SV-P20

Home Printing

Print images as you view them on a TV
High-quality Digital Photo Printer with Remote Control

With the SV-AP10 you can arrange and print your photos as you view them on a wide-screen TV. You can even print by remote control. And the prints you get will stay beautiful for generations.

SV-AP10

Viewing

Enjoy the impact of an 80-inch screen
Compact LCD Projector

Simply insert an SD Memory Card into the L735NT's built-in card slot and you're ready to project MPEG4 movies and stills across an entire wall. Enjoy your own shows with beautiful, dynamic, vividly coloured images.

PT-L735NT

Communicating

Real-time visual communication
WEB Camera Function*

By connecting e.cam to your PC with a USB cable and starting up Windows® Messenger®, it instantly turns into a web camera. Ideal for teleconferencing over the Internet, or for surveillance camera use.
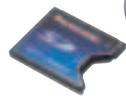
Quick & Easy Viewing & Storing

High-speed transfer to a DVD Network
DVD Video Recorder with HDD & DVD Video Camera

DMR-E100H

A DVD recorder with hard disk drive lets you save the movies you make with a DVD video camera onto the hard disk or onto economical 12 cm DVD-R discs.

VDR-M70

* System Requirements: OS
  Microsoft® Windows® XP Home Edition/Professional, Windows Me, Windows 98 Second Edition
  (WebCam Driver is only Microsoft® Windows® XP Home Edition/Professional SP1 or later.)
* The supplied softwares are not compatible with Macintosh.
* Microsoft and Windows are either trademarks or registered trademarks of Microsoft Corporation in the United States and other countries.

OPTIONAL ACCESSORIES*

Rechargeable Lithium-Ion Battery Pack	AC Adaptor	Car Battery Charger	SD Memory Card	USB Reader Writer
CGA-DU07 CGA-DU14 CGA-DU21 CGR-D08S (CGR-D120) CGR-D16S (CGR-D220) CGP-D28S (CGP-D320) CGR-D53S (CGR-D815)	VW-AD9E/B VW-AD11E/EB VW-AD10E/B	VW-KBD2E	* 16MB RP-SD016 128MB RP-SD128 32MB RP-SD032 256MB RP-SDH256 64MB RP-SD064 512MB RP-SDH512	For Windows® 98/2000/Me/XP BN-SDUSB2E

Tele Conversion Lens	Wide Conversion Lens	MC Protector	PC Card Adapter	SD-CF Adaptor
VW-LT2714N2E VW-LT3714ME	VW-LW2707N2E VW-LW3707M3E	VW-LMC27E VW-LMC37E	For Windows® 95/98/2000/Me/XP BN-SDPC2E	For Windows® 95/98/2000/Me/XP BN-SDCF1E

ND Filter	Tripod	Stereo Zoom Microphone & Stereo Microphone	DV Cable	Mini DV Tape
VW-LND27E VW-LND37E	VZ-CT45E	Stereo Zoom Microphone VW-VMH3E Stereo Microphone VW-VMS2E	VW-CD1E	AY-DVM60YE (60 min/Pro Grade) AY-DVM80YE (80 min/Pro Grade) AY-DVM60EF (60 min DVC) AY-DVM80EF (80 min DVC) AY-DVM60EF3 (3 Pack/Brick) AY-DVM60EF5 (5 Pack/Brick)

Video Flash (Guide No. 12)	Video DC Light	Snow & Rain Jacket	Cleaning Tape	8 cm DVD-RAM & DVD-R Discs
VW-FLH3E	VW-LDH3E VW-LDC10E	VW-SJGS55E VW-SJGS200E	AY-DVMCLC	* * DVD-RAM LM-AK60JE DVD-R LM-RK30JE

Accessory	Model No.	GS200	GS120	GS55	GS15	GS11	M70/M50
POWER							
Rechargeable Lithium-Ion Battery Pack Battery Life: Continuous Recording (Using the Viewfinder) Ambient Temperature: 25˚C Ambient Humidity: 60%	CGA-DU07	1 h 15 min	1 h 30 min	2 h 15 min			
	CGA-DU14	2 h 30 min	3 h 00 min	4 h 30 min			2 h 10 min/2 h 20 min
	CGA-DU21	3 h 45 min	4 h 30 min	6 h 45 min			3 h 15 min/3 h 30 min
	CGR-D08S (CGR-D120)				2 h 10 min	2 h 10 min	
	CGR-D16S (CGR-D220)				4 h 20 min	4 h 20 min	
	CGP-D28S (CGP-D320)				7 h 40 min	7 h 40 min	
	CGR-D53S (CGR-D815)						
AC Adaptor	VW-AD10E/B	●	●	●			●
	VW-AD11E/EB	●	●	●			●
	VW-AD9E/B				●	●	
Car Battery Charger	VW-KBD2E				●	●	
FILMING							
Tele Conversion Lens	VW-LT2714N2E			●	●	●	
	VW-LT3714ME	●	●				●
Wide Conversion Lens	VW-LW2707N2E			●	●	●	
	VW-LW3707M3E	●	●				●
MC Protector	VW-LMC27E			●	●	●	
	VW-LMC37E	●	●				●
ND Filter	VW-LND27E			●	●	●	
	VW-LND37E	●	●				●
Shoe Adaptor	VW-SK11E	●	●	●	●	●	
Stereo Zoom Microphone	VW-VMH3E	●	●				
Stereo Microphone	VW-VMS2E	●	●	●			●
Video Flash	VW-FLH3E	●	●				● (M70 only)
Tripod	VZ-CT45E	●	●	●	●	●	●
Video DC Light	VW-LDH3E	●	●				
	VW-LDC10E	●	●	●			●
Light Bulb for Video DC Light	VW-LL3E (for VZ-LDH3E)	●	●				
	VZ-LL10E (for VW-LDC10E)	●	●	●			●
Snow & Rain Jacket	VW-SJGS55E			●			
	VW-SJGS200E	●	●				
DATA TRANSFERRING							
SD Memory Card	RP-SDH512/256/128/064/032/016	●	●	●	●		●
USB 2.0 Reader / Writer	BN-SDUSB2E	●	●	●	●		●
PC Card Adapter	BN-SDPC2E	●	●	●	●		●
SD-CF Adaptor	BN-SDCF1E	●	●	●	●		●
DV Cable	VW-CD1E	●	●	●	●		●
SOFTWARE							
DV Editing Software (ver.4.7)	VW-DTM40E	●	●	●	●		

* Usable capacity will be less

Specifications

Digital Video Camera	GS200/GS120	GS55	GS15/GS11
GENERAL			
Power Supply	DC 7.2 V	DC 7.2 V	DC 7.2 V
Power Consumption	GS200: 3.9 W (EVF)/4.4 W (LCD) GS120: 3.1 W (EVF)/3.6 W (LCD)	2.1 W (EVF)/2.6 W (LCD)	2.6 W (EVF)/3.3 W (LCD)
Weight (w/o Battery)	GS200: 470 g GS120: 450 g	370 g	410 g
Dimensions (W x H x D)	70 x 75 x 126 mm	63 x 78 x 99 mm	69 x 87 x 112 mm
LENS PART			
Image Sensor	GS200: 1/6" CCD x 3 (800 k x 3 pixels, Total) Moving Picture 400 k x 3/ Still Picture: 530 k x 3, Effective GS120: 1/6" CCD x 3 (540 k x 3 pixels, Toal) Moving Picture & Still Picture: 340 k x 3, Effective	1/6" CCD (800 k pixels, Total) Moving Picture & Still Picture: 400 k, Effective	1/6" CCD (800 k pixels, Total) (GS15: Moving Picture 400 k Still Picture: 410 k, Effective) (GS11: Moving Picture: 400 k, Effective)
F Value	F1.8 (WIDE)/F2.8 (TELE)	F1.8 (WIDE)/F2.8 (TELE)	F1.8 (WIDE)/F3.6 (TELE)
Optical Zoom	10x Variable Speed Zoom	10x Variable Speed Zoom	24x Variable Speed Zoom
Focal Length	2.45 — 24.5 mm	2.3 — 23.0 mm	2.1 — 50.4 mm
Filter Diameter	37 mm	27 mm	27 mm
35mm Film	GS200: 47.1 — 471/ 41.1 — 411 mm (MEGA Stills) GS120: 42 — 420 mm	43.3 — 433 mm	39.5 — 948 mm
Lens Brand	Leica Dicomar	Panasonic	Panasonic
CAMERA PART			
Minimum Illumination	1 Lux (Colour Night View), or 0 Lux (Colour Night View with LCD Light Panel)	1 Lux (Colour Night View), or 0 Lux (Colour Night View with LCD Light Panel)	2 Lux (Colour Night View)
Focus	GS200: AF/Manual (w/Ring) GS120: AF/Manual	AF/Manual	AF/Manual
White Balance	Auto/Indoor/Outdoor/Set (with IR Sensor)	Auto/Indoor/Outdoor/Set (with IR Sensor)	Auto/Indoor/Outdoor/Set (with IR Sensor)
High Speed Shutter	GS200: Tape Mode: 1/50 — 1/8000 sec. Card Mode: 1/4 — 1/500 sec. GS120: Tape Mode: 1/50 — 1/8000 sec. Card Mode: 1/25 — 1/500 sec. GS55 & GS15: Tape Mode: 1/50 — 1/8000 sec. Card Mode: 1/50 — 1/500 sec. GS11: Tape Mode: 1/50 — 1/8000 sec.		
Iris	Auto/Manual	Auto/Manual	Auto/Manual (Including Gain)
Programme AE	Yes (Sports/Portrait/Low Light/Spot Light/Surf & Snow)		
Backlight Compensation	Yes	Yes	Yes
EVF	0.3" Colour (123 k pixels)	0.33" Colour (113 k pixels)	0.33" B/W (67 k pixels)
Monitor	GS200: 2.5" LCD (123 k pixels) GS120: 2.5" LCD (113 k pixels)	2.5" LCD (123 k pixels)	2.5" LCD (105 k pixels)
Stereo Zoom Mic/Wind Noise Reduction	Yes/Yes	Yes/Yes	Yes/Yes
Date Recording	Auto Date (in Data Code)	Auto Date (in Data Code)	Auto Date (in Data Code)
Fade in/out	Yes (Black)	Yes (Black)	Yes (Black)
Rec. Review	Yes	Yes	Yes
EVF OSD	Yes (English)	Yes (English)	Yes (English)
Super Image Stabilizer	Yes	Yes	Yes
Digital Zoom	Yes (20x/500x)	Yes (20x/500x)	Yes (60x/800x)
Digital Special Effects	Multi/P-in-P/Wipe/Mix/Strobe/Trailing/Negative/Black & White/Sepia/Mirror/Mosaic/Slim/Stretch/Solarisation		
Progressive Photoshot	Yes (Card)	Yes (Card)	GS15: Yes (Card) GS11: Yes (Tape)
Continuous Photoshot	—	—	GS15: — GS11: Yes (approx. 0.7 sec. interval)
LED Video Light	—	—	Yes
Flash	GS200: Yes (Guide No. 5.5) GS120: —	—	—
Quick Start	1.7 sec. (approx.)	1.3 sec. (approx.)	1.3 sec. (approx.)
LCD Panel Light	Yes	Yes	Yes
WEB Camera Function	Yes (Motion JPEG 320 x 240 approx. 6 fps)	Yes (Motion JPEG 320 x 240 approx. 6 fps)	Yes (Motion JPEG 320 x 240 approx. 6 fps)
CARD PART			
Card Slot	Yes (SD/MMC)	Yes (SD/MMC)	GS15: Yes (SD/MMC) GS11: —
Still Picture	GS200: Yes (JPEG)* Picture size 1760 x 1320 * 2.3 MEGA or 640 x 480* VGA GS120: Yes (JPEG)* Picture size 1536 x 1152 * 1.7 MEGA or 640 x 480* VGA	Yes (JPEG, 640 x 480)	GS15: Yes (JPEG, 640 x 480) GS11: —
Motion Picture	GS200 & GS55: Yes (MPEG4)* Picture size 320 x 240 or 176 x 144 GS120 & GS15 & GS11: — GS200 & GS55: Sound (G.726, 32 kbps) GS120 & GS15 & GS11: —		
DPOF	Yes (Max 99 stills)	Yes (Max 99 stills)	GS15: Yes (Max 99 stills) GS11: —
Consecutive Photoshot	GS200 & GS120 & GS55 & GS15: Yes (10 stills with 0.5 sec. interval * VGA) GS11: —		
Pict Bridge	Yes	—	—
VTR PART			
Format	DVC - SD	DVC - SD	DVC - SD
Recording Mode	SP/LP	SP/LP	SP/LP
Playback Mode	SP/LP	SP/LP	SP/LP
Variable Speed Search	Yes (Max. 20x Speed)	Yes (Max. 20x Speed)	Yes (Max. 20x Speed)
Audio Recording System	PCM 12 bit 4 ch/16 bit 2 ch	PCM 12 bit 4 ch/16 bit 2 ch	PCM 12 bit 4 ch/16 bit 2 ch
Audio Dubbing	Yes	Yes	Yes
Index	Yes (Auto Marking)	Yes (Auto Marking)	Yes (Auto Marking)
Counter	Linear Time Counter, Time Code	Linear Time Counter, Time Code	Linear Time Counter, Time Code
Tape Remaining Indication	Yes	Yes	Yes
Playback Digital Effects	Wipe/Mix/Strobe/Trailing/Negative/Black & White/Sepia/Mirror/Mosaic/Slim/Stretch/Solarisation		
TERMINAL			
S-Video Input/Output	Yes	Yes	Yes
AV Input/Output (mini)	Yes	Yes	Yes
Microphone (stereo mini)	Yes	Yes	Yes
Headphones (M3)	Yes (HP Out or AV In/Out)	Yes (HP Out or AV In/Out)	Yes (HP Out or AV In/Out)
USB	Yes: 2.0 Full Speed (mini B)	Yes: 2.0 Full Speed (mini B)	Yes: 2.0 Full Speed (mini B)
DV Input/Output (IEEE1394)	Yes	Yes	Yes
Accessory Shoe	Yes (Hot)	Yes (Cold)	—
STANDARD ACCESSORIES			
AC Adaptor	Yes (1 Battery Charge Type)	Yes (1 Battery Charge Type)	Yes (1 Battery Charge Type)
Battery Pack	Yes (Lithium-Ion)	Yes (Lithium-Ion)	Yes (Lithium-Ion)
Shoulder Strap	Yes	Yes	Yes
Free-style Remote Controller	Yes (with Mic.)	Yes (with Mic.)	Yes
AV Cable (RCA - 4 pin)	Yes (Stereo)	Yes (Stereo)	Yes (Stereo)
S-Video Cable	—	Yes	—
IR Remote	Yes	Yes	Yes
Lens Cap	Yes	Yes	Yes
Cleaning Tape/Cleaning Cloth	Yes/No	Yes/Yes	Yes/Yes
Memory Card	Yes (SD 8MB)	Yes (SD 8MB)	GS15: Yes (SD 8MB) GS11: —
PC Cable	Yes (USB)	Yes (USB)	Yes (USB)
CD-ROM	Yes (USB Driver/SD Viewer/ G.726 Driver WEB Camera Driver/ DV Studio for USB/ ArcSoft PhotoImpression 4.0/ PanoramaMaker 3.0/ PhotoMontage 2.0/ Adobe Acrobat Reader)	GS55 & GS15: Yes (USB Driver/SD Viewer/ G.726 Driver WEB Camera Driver/DV Studio for USB/ ArcSoft PhotoImpression 4.0/PanoramaMaker 3.0/ PhotoMontage 2.0/Adobe Acrobat Reader) GS11: Yes (USB Driver/WEB Camera Driver/DV Studio for USB/ ArcSoft PhotoImpression 4.0/PanoramaMaker 3.0/ PhotoMontage 2.0/Adobe Acrobat Reader)	

DVD Video Camera	M70/M50
GENERAL	
Power Supply	DC 7.2 V
Power Consumption	M70: 4.4 W (EVF)/5.1 W (LCD) M50: 4.1 W (EVF)/4.8 W (LCD)
Weight (w/o Battery)	M70: 500 g M50: 490 g
Dimensions (W x H x D)	64 x 89 x 146 mm
LENS PART	
Image Sensor	M70: 1/4"CCD (1020 k pixels) M50: 1/6"CCD (800 k pixels)
F Value	M70: F1.8 (WIDE) — 2.4 (TELE) M50: F1.8 (WIDE) — 2.8 (TELE)
Optical Zoom	M70: 10x Variable Speed Zoom M50: 18x Variable Speed Zoom
Focal Length	M70: 3.8 – 38.0 mm M50: 2.1 – 37.8 mm
Filter Diameter	37 mm
CAMERA PART	
Minimum Illumination	12 Lux (Target)
Focus	AF/Manual (w/+-button)
White Balance	Auto/Indoor/Outdoor/Set
Iris	Auto/Manual (Including Gain)
Program AE	Yes (Sports/Portrait/Low Light/Spot Light/Surf & Snow)
Backlight Compensation	Yes
EVF	0.33" Colour (113 k pixels)
Monitor	2.5" LCD (123 k pixels)
EVF/LCD OSD	Yes (English/French(*)/Spanish/German/Italian)
Stereo Microphone	Yes
Date Recording	Auto Date (in Data Code)
Fade in/out	Yes (Black/Wipe/BW) <w/Disc Navigation>
AWB IR Sensor	Yes
Super Image Stabilizer	M70: Yes (Only Video) M50: Yes (Video/Photo)
Digital Zoom	M70: Yes (40x/240x) M50: Yes (40x/500x)
Cinema Mode	Yes
Self Timer	Yes (Only Photo)
DISC PART	
RAM Disc Cartridge	Round Holder Type w/o Shutter
Adaptable Disc (RAM)/(-R)	8 cm DVD-RAM Ver. 2.1 8 cm DVD-R for General Ver. 2.0
Moving Picture Recording Format (RAM)/(-R)	DVD Video Recording Format/DVD Video Format
Audio Recording Format (RAM)/(-R)	MPEG Audio Layer 2/MPEG Audio Layer 2
Audio Playback Format	MPEG Audio Layer 2 or Dolby AC3
Recording Mode	(RAM): XTRA/FINE/STD (-R): FINE/STD XTRA: 10 Mbps/VBR, FINE:6 Mbps/CBR STD: 3 Mbps/CBR
Recording Time (RAM)	XTRA: 36 — 120 min/FINE: 60 min/STD: 120 min
Recording Time (-R)	FINE: 30 min/STD: 60 min
Still Picture Recording Size (RAM)	M70: JPEG/1280 x 960 M50: JPEG/640 x 480
Still Picture Recording Number (RAM)	Max. 1998 (Both Side)
Cue/Review	Yes (F/R)
Skip	Yes (F/R)
Jog Dial	Yes (w/Joy-Stick)
Thumbnail Display	Yes
Editing	Yes (w/Disc Navigation Menu)
Counter	Linear Time Counter (Only scene unit)
Disc (Tape) Remaining Indication	Yes
Speaker Volume	Yes (w/+-button)
CARD PART	
Card Slot	Yes (SD/MMC)
Still Picture	M70: Yes (JPEG)* Picture size 1280 x 960* SVGA (Camera Mode) M50: Yes (JPEG)* Picture size 640 x 480* VGA
Recording Mode	Fine/Nomal/Economy
Slide Show	Yes
DPOF/DCF	Yes
Recording Card from Disc/Disc from Card (Card from Tape/Tape from Card)	Yes/No (Only from Disc)
Disk Navigation	Yes
TERMINAL	
S-Video Output	Yes (Multi Terminal)
Video Output	Yes (Multi Terminal)
Audio Output	Yes (Multi Terminal)
Microphone (M3)	Yes (Stereo)
USB	Yes: 2.0 High Speed
External Input	Yes (Only AV)
Accessory Shoe	M70: Yes (Hot) M50: Yes (Cold)
Tally LED	Yes
Access LED (DSC)	Yes
STANDARD ACCESSORIES	
AC Adaptor	Yes (1 Battery Charge Type)
Battery Pack	Yes
Shoulder Strap	Yes
AV Cable (RCA-Multi)	Yes (Stereo/Video/S) — New Type
IR Remote	Yes (Insert Lithium Battery)
DVD-RAM Disc (Tape)	Yes (8cm Type w/Round Holder)
PC Cable	Yes (USB)
Lens Cap	Black
CD-ROM	Yes (USB(New)/UDF/DVD MA/My DVD)

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