



# LDK 200 SERIES

12-BIT HiRes DIGITAL  
PORTABLE CAMERA.  
EXPERIENCE THE THRILL  
OF PORTABLE PERFECTION



- **Outstanding picture quality is provided by 12-bit A-to-D conversion**
- **Unique DPM™ sensors**
- **No compromise switching 16:9/4:3**
- **Very low weight and ergonomically balanced unit makes operation a delight**
- **Rotary Triax Connector removes all restrictions on camera position**
- **Remote selection of three layer filters**
- **Ultimate configuration flexibility with either triax adapter, DVCPRO(50) recorder or other dedicated adapters**

The LDK 200 portable triax camera presents to the discerning and demanding user the ultimate in performance, features and handling. Never before has a camera been available that offers such outstanding performance, in such a lightweight unit and including features that are traditionally associated with full-blown studio cameras. Building on a long reputation of successful and innovative camera design, and in close consultation and consideration of the users' needs, the LDK 200 sets a new benchmark against which all others will be judged. The unique formula of using leading-edge 12-bit A-to-D conversion technology combined with 22-bit Digital Signal Processing, guarantees that the outstanding 600% dynamic range of the DPM™ (Dynamic Pixel Management™) CCD sensors is fully and perfectly exploited at all times.

**The LDK 200 meets the most demanding production challenges**

Whether you look at the LDK 200, from a technical or an operational viewpoint, or as a producer or director seeking outstanding performance from a portable

camera, there is only one conclusion: the LDK 200 has all that you could ever wish for and without any compromise.

**Critically acclaimed image fidelity**

Image faithfulness to the original scene is established right at the front end of the camera with DPM™ sensors, and is maintained by employing 22-bit Digital Signal Processing. In practical terms, the DPM™ CCD sensors, by the nature of their design, afford the user with an impressive 600% dynamic range, capable of handling the most extreme lighting conditions. Conditions that are just as easily found in the highly contrasting areas of a sun lit sports stadium as they are at a pop music concert. In both cases, preservation of the colorimetry and the detail of the bright sky or "in shot" spotlight is equally important to faithfully seeing the detail in the darker parts of the picture. At the same time, any concerns that the "in shot" spotlight will produce disturbing vertical smearing can also be forgotten, as this undesirable phenomenon is simply not present with this CCD technology. Digital Signal Processing provides the "power" for an array of features that are second to none.





#### **Smart-Touch™**

A simple but extraordinary concept that offers the user a "library" of the most frequently required and used camera settings, which are selectable, literally by fingertip, via the selection display in the viewfinder. Smart-Touch™ is an option for the LDK 200 that provides



14 pre-defined scene settings. These range from artistic, such as a 'film look' or a Sepia rendition through difficult lighting conditions, including very high contrast scenes to problematic lighting sources that are typical of fluorescent lit office and industrial locations.

#### **The LDK 200 in action**

Throughout the development of this camera the designers have kept their focus on the practical applications to which this camera



will be put. By harnessing the most appropriate technologies, both mechanical and electronic, a compact unit has resulted that bristles with features and performance.

After all, the LDK 200 is a portable camera, so it is not surprising to find that at 4.9 kg (10.8 lbs.) it is the lightest camera with this performance on the market. The low weight, combined with excellent balance and ergonomics, has been developed in concert with a wide spectrum of users and established with other cameras in the LDK camera family. The result makes hand held shooting a real delight.

#### **Rotary triax connector and integral zoom control**

Particular attention to detail is shown with the incorporation of the rotary triax connector. A part of the triax adapter, this provides the operator, at a single stroke, with the freedom to "put the camera where it needs to be" without the constraints of cable management that previously limited the practicality of portable cameras connected to a base station. Extending this freedom further is the innovative (optional) zoom control incorporated into the handgrip. In the words of a camera operator, "Fashion catwalks, golf tees and views through the eyes of a mouse, all become achievable and literally will bring a new dimension to productions. This really is fun to use." Thinking of that spectacular shot



from the golf tee, don't forget that with the LDK 200, the camera can be up to 3 km from the base station when connected via triax.

**A portable with studio camera capabilities**

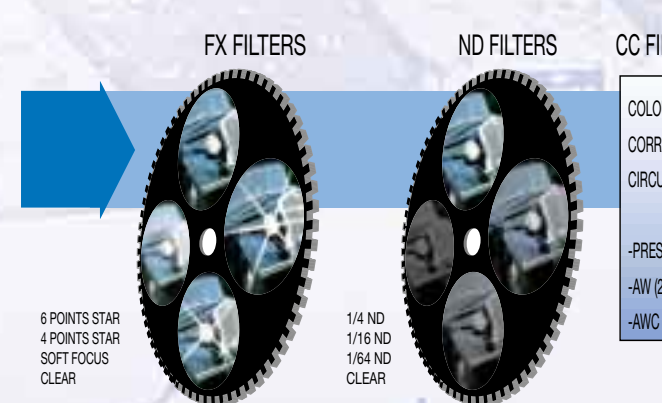
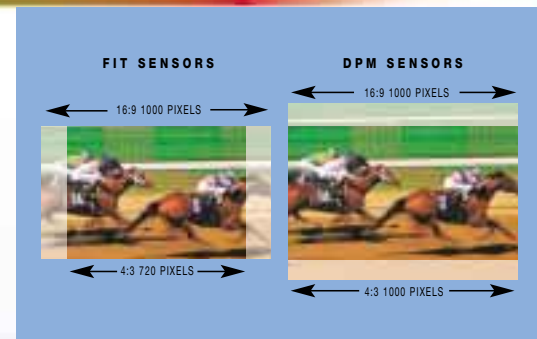
Creativity is assured with three layers of remotely controllable filters comprising individually selectable ND and FX filters, plus electronic "Gel" filters. Moreover, the LDK 200 is the first portable camera that fully supports the increasingly popular TFT teleprompters with both signal and power.

This unique feature opens up new creative opportunities, including long presentation text addressed to Steadicam or crane mounted cameras, and typically extends the teleprompting capability into situations you did not think of before. The LDK 200 quickly slips into the SuperXPander, instantly expanding the capabilities to those of a full studio camera, including the ability to mount lenses from the full range of box type lenses available, a 7-inch viewfinder and conventional CRT teleprompters. In this way, you can exploit the use of your established equipment inventory to the maximum economic benefit.

Where this is not enough, communications and audio are exactly what you would associate with a top performance camera. Apart from two audio channels for program audio, the LDK 200 is equipped with a 5-channel intercom system, so there is no restriction in the communication facilities provided. In addition to all the normal "Comms Channels", the camera provides facilities for communication to the "tracker" and data circuits that are so essential in today's increasingly complex operations.

**LDK 4500SL Series SlimLine SDTV Camera Base Station**

The LDK 4500SL SlimLine Camera Base Station is the perfect interface between the LDK 200 Series cameras and the rest of your system. A heavy-duty base station with state-of-the-art technology has never been available in such a small cabinet – yet it still provides the quality and functionality expected from a broadcast product. The very high level of modularity of this base station guarantees ideal matching with any type of application. Whether you will use it in a studio or for mobile field production. A dedicated brochure of the LDK 4500SL series basestation is available from your sales representation.



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### Draw your own conclusions

Not only is the LDK 200 the soundest investment that you can make in Digital SDTV Camera Technology, no task will be impossible for your facility.

Director, producer or camera operator trying to achieve the precise look and feel of the picture, will not find a challenge that the LDK 200 cannot solve. Subtle colorimetry, demanding lighting conditions, difficult lighting or matching of cameras, all of these the LDK 200 takes in its stride, whilst delivering pictures of digital perfection. Of course, all of this power comes with instant DPM™ switching between standard and wide screen aspect ratios, without change of resolution, horizontal viewing angle or lens.

Moreover, the LDK 200 12-bit HiRes Digital Broadcast Portable Camera makes a lot of sense for those looking from managerial angles at investments. The LDK 200 conveniently integrates into your existing facility. Fully compatible with existing camera accessories, including base stations, control panels and lenses, it maximizes the utilization of your already available assets, while easing the logistics within your company. Finally, as a member of the LDK Series Camera Family, the LDK 200 can swiftly be reconfigured into a DVCPRO camcorder by adding a sophisticated snap-on recorder, like DCR 20 (DVCPRO) or DCR 50 (DVCPRO50). Indeed, by employing these or other adapters from the LDK 100 Series products, you can turn your camera into the ideal solution for the task in hand, whether that would be on the back of a motorcycle, at the end of a catwalk or wherever your imagination places it.

### Unbelievable?

Not by those who have experienced the Power of Portable Perfection ... the LDK 200.



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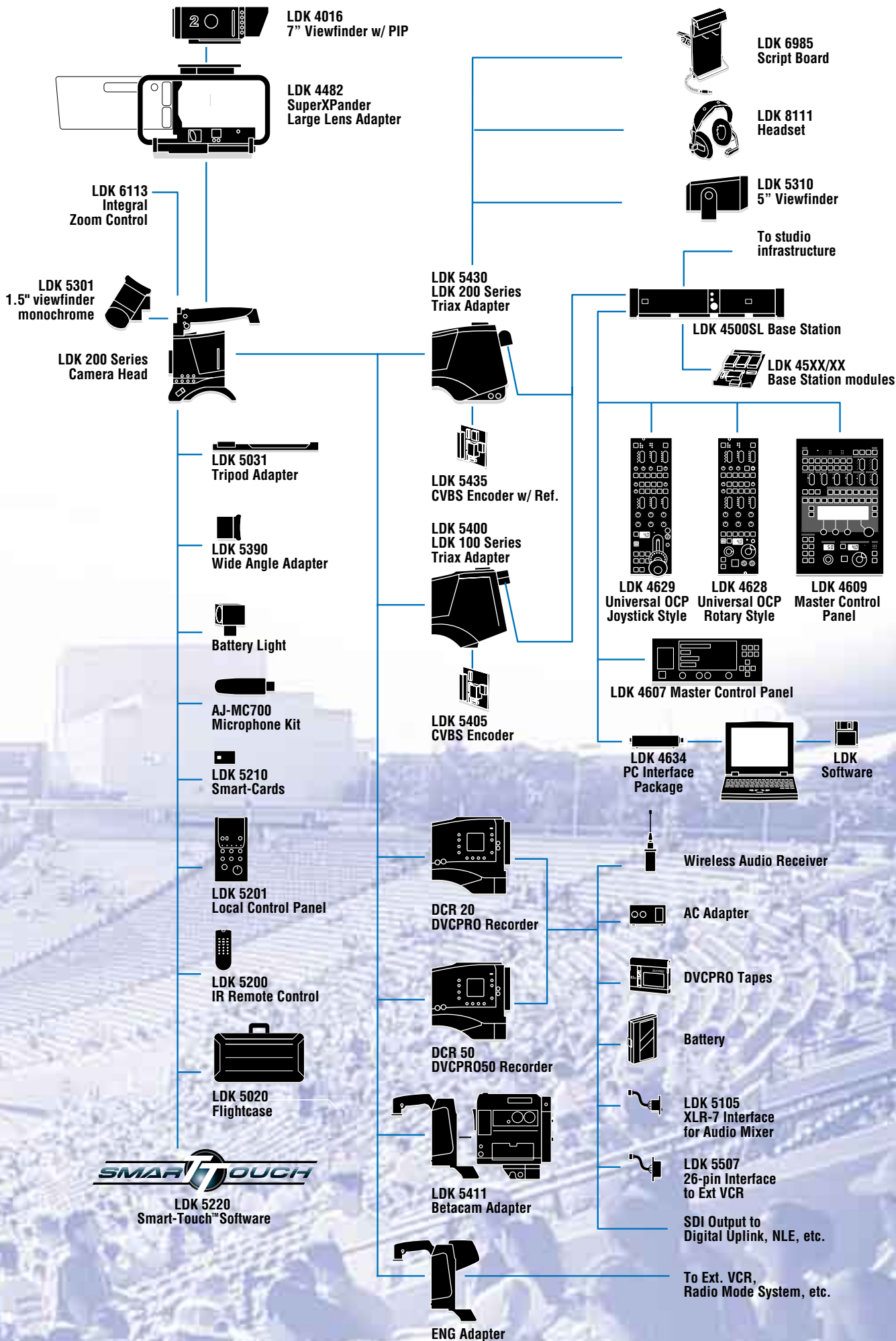
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### True color knee

Unique digital circuitry enables the wide dynamic range of the DPM™ CCD sensors to be fully accommodated within the limited contrast range of the television system, whilst ensuring that colors are faithfully reproduced. This challenging task is dependent upon the calculation of the compression that is required and independently applying the factors to the R, G and B signal simultaneously. The result is that the correct color balance is preserved at all times by gentle and progressive de-saturation to the limit. This is something that cannot be achieved with conventional analogue pre-processing.



### Ultimate control of colorimetry

The LDK 200 retains all of the unique benefits that have become part of the camera's heritage, like the stability and repeatability associated with Digital Signal Processing. These include the Emmy Award winning Dual Skin Tone Contour circuits, which, together with the overall contour processing allow for selective control of contour enhancement, ensuring a flattering appearance of facial tones. Two different tones are simultaneously selectable.

Although originally conceived with skin tone selectivity in mind, the practical uses extend far beyond this to include, for example, softening the grass detail to highlight a golf ball waiting to be "putted". The range of color matrix parameters that may be selected by the user is unprecedented and further extends the flexibility. Built-in matching is provided to a range of widely employed cameras, making quick matching to another source a delightfully simple task. This covers standard and various customer selectable presets. Settings also allow for difficult lighting conditions, such as fluorescent, and to

offer the ultimate in flexibility, user definable settings offer the choice of matrix before or after gamma. Naturally, the LDK 200 includes the smart card introduced so successfully in the earlier LDK 100 Series Cameras. These cards easily enable a single camera to be personalized for users and/or customized for applications.

The set-up parameters are stored on a credit-card-sized smart card. Typically, this can ensure picture continuity over an extended period of time, possibly associated with a particular production or even with an individual camera operator's style.

### A triax system of complimentary performance

In keeping with this ultimate performance camera, there is a much-enhanced Triax system. The superb blue channel performance of the LDK 200 Triax ensures that stunningly clean signals are available to achieve perfect keying, particularly whenever virtual sets or even just simple chroma key is involved. The LDK 200 offers the star qualities that make it an ideal choice for news studio and similar applications where demanding chroma key is fundamental to the production.



Traditional initial gain in blacks



Visible black details via digital contrast features



## TECHNICAL SPECIFICATIONS

### GENERAL

Power requirements	Triax powered or DC 12 Volts
Power consumption	23 Watts incl.
Operating temperature	1.5" viewfinder and triax adapter -20°C to 45°C (-4°F to 113°F)
Storage temperature	-20°C to 60°C (-4°F to 140°F)
Weight	4.9 kg (10.8 lbs.) incl. 1.5" viewfinder and triax adapter
Dimensions	197 x 117 x 349 (H x W x L in mm.)
Triax cable length	RGB transmission over 2,400m(7,875ft) with 16 mm (0.63") cable. (3000m with TriaxD option)

### CAMERA SECTION

Pick-up device	3x 2/3" Philips DPM™ Frame Transfer CCDs, aspect ratio switchable 4:3 and 16:9
Smear	No vertical smear
Picture elements	PAL: 1000 (H) x 594 (V) NTSC: 1000 (H) x 498 (V)
Optical system	F1.4 with quartz filter
Optical filters on 1st wheel	Clear, 1/4 ND, 1/16 ND, 1/64 ND
Optical filters on 2nd wheel	Clear, 4-point star, 6-point star, soft-focus
Electronic filters	3200 K, 4700 K, 5600 K, 7200 K, TL, 2 AWB presets, Continues Auto White, Color Filter.
Dynamic range	>600%
Digital quantisation	12 bits A-to-D
Digital Signal Processing	18 MHz and 36 MHz, > 22 bits
Digital Features	Flare, White/Black shading, Contrast, Highlight handling, 6 points variable matrix, Matrix position, Gamma, Gamma Curve, Contour, Dual Skin Tone Circuits with Automatic Skin Tone Selection, Extended Knee Contour, Leaking Pixel Concealment and VF Video
Sensitivity	2000 lux at F9
Min. illumination	Approx. 2 lux with F1.4 lens and +30 dB gain
Gain	-6 dB to +30 dB in 3 dB step (user definable presets)
S/N ratio	PAL: 61 dB (typical), NTSC: 63 dB (typical),
Vertical Resolution (TV lines)	PAL: 480, NTSC: 400
Modulation depth	70% at 5 MHz (typical) (equals Hor. Resolution of 850 TV lines 4:3 and 700 TV lines 16:9)
Registration	<0.05% in all zones without lens
Exposure control	Down to 1/1000 sec.
Clean scanning	PAL: 51 to 103 Hz NTSC: 61 to 151 Hz

### 1.5" VIEWFINDER (optional)

CRT	1.5" monochrome
Resolution	>600 TV lines (center)
Features	Brightness ctrl, Contrast Ctrl., Zebra, Dioptry -3 to +3, Indicators for Tally, Gain, Col.Temp., Battery, Tape End and Filters.

### CONNECTORS LDK 200 CAMERA HEAD

Front microphone In	1x XLR-3 female, balanced, +48V, CH1 on Base Station
Viewfinder Out	20 pin connector
Lens	12 pin
Control In	9 pin, RS-232 compatible

### CONNECTORS LDK 5430 TRIAX ADAPTER

Triax	Fischer, ARD, Lemo or Trilock
Video CVBS Out	BNC 1x, 1.0 Vp-p, 75 Ω with optional encoder
Video Teleprompter Out	BNC 1x, 1.0 Vp-p, 75 Ω
Genlock In (stand alone mode)	BNC 1x, 1.0 Vp-p, 75 Ω with optional encoder
Video VF/EXT Out	BNC 1x, 1.0 Vp-p, 75 Ω, Y-signal of viewfinder or external video
Rear microphone In (2x)	2x XLR-3 female, balanced, +48V selectable
DC 12 Volts In	XLR-4 male
DC Out	12 Volts, 1.5 Amps., 4 pins Fischer (DC and Tally)
Scriptlight	12 Volts, 0.25 Amps., 3 pin Fischer
Tracker	11 pins (Comm./Signalling)
Auxiliary/Data	11 pins (Private data)
Intercom	1x XLR-5 female or Tuchel, with channels for Eng/Prod/Program

### SUPPLIED ACCESSORIES

Rain cover	User Manual
Shoulder strap	1x Owner card
Camera numbers	2x User cards

### OPTIONAL ACCESSORIES

LDK 5435	Encoder for LDK 5430 triax adapter
LDK 5390	Wide angle ocular for 1.5" viewfinder
LDK 5310	5" viewfinder with rain cover
LDK 6985	Script board with light
LDK 5031	Tripod adapter plate
LDK 6113	Integral zoom control in handgrip
AJ-MC700	Microphone kit
LDK 5020	Flightcase
LDK 5210	Set of 10 User Cards
LDK 5220	Smart-Touch™ Software
LDK 4016	7" viewfinder with PIP
LDK 6517	7" viewfinder top mount
LDK 4482	SuperXPander
LDK 5301	1.5" monochrome viewfinder
LDK 5200	IR Remote Control

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