

LDK 110IT(W) DIGITAL DVCPRO CAMCORDER



The digital workhorse for professionals

With the LDK 110 IT(W) Digital DVCPRO Camcorder a new standard is set in digital ENG. Combining our reputable skills in camera design with DVCPRO, the LDK 110 IT(W) has become today's standard choice for digital program production. Yet another LDK 100 Series Camcorder that outshines the pack in both price and performance.

The LDK 110IT(W) is the ideal economic (optionally widescreen switchable) camcorder for news-gathering and general program production 'in-the-field'. It looks and feels like no other camcorder and has the reliability of full-blown studio and outside broadcast cameras.

It incorporates all of the features camera operators, broadcasters and equipment rental companies want, a fact based upon consultations held with these groups during the development phase.

Its ergonomic design and perfect balance -thanks to a low center of gravity and fully adjustable shoulder pad- guarantee quick and sure operation, leaving the operator complete freedom to concentrate on the subject in front of the lens.

Advanced 22-bit digital video signal processing

The LDK 110's optimum picture performance is assured by (optionally widescreen switchable) Interline Transfer CCD's followed by 12-bit A/D conversion of the video signal and 22-bit internal signal processing. This allows the incorporation of powerful features, such as independent dual skin contour circuits. Two digital signal processors handle all camera functions, including knee, gamma, contour and matrix so that even under the most strenuous circumstances - like fluorescent lighting - skin tones look natural.

- *Durable and lightweight for carefree operation*
- *Award-winning ergonomics for convenient shooting*
- *Advanced digital signal processing for superb picture quality*
- *Extensive support features for excellent pictures in all situations*
- *Easily adjustable to meet personal operational preferences*
- *High-quality digital audio processing to support both sound engineers and one-man crews*
- *A host of other features you would only expect on much more expensive cameras*

DVCPRO

Smart-Touch™

Highly technical aspects have been made easily adjustable to the prevailing lighting situation or the effects you would like to add to make your pictures even more appealing to producers and audiences. At the touch of a button, the optional Smart-Touch™ software provides you with 14 pre-defined scene files resetting even the most advanced digital settings of your camera to optimize your camcorders performance for night scenes or sports*.



Extensive Digital Automatics

The LDK 110 offers a new level of digital technology. Supported by the most powerful digital signal processing available today, advanced support features, such as, Continuous Auto White and Extended Auto Iris, have been designed in as standard. Extended Auto Iris can be of great help in quickly changing lighting situations such as shooting while walking from indoor to outdoors scenes. How often did you experience the limited range of the iris? The LDK 110IT(W) 'stretches' that range by automatically adjusting the gain and when applicable, the exposure time, to make sure that pictures will never be over- or underexposed.

Personalizing your LDK 110 IT(W)

Entry of audio, video and time code settings is made fast and easy by a built-in LCD screen and dedicated buttons, which allow the selection of different sets of values, depending on operator or scene requirements. Storage of these selected values (4 scene and 2 operator files) is then performed via a credit-card-sized smart card. The stored operator files – containing information about which text is displayed in the viewfinder, the safe area, gain presets and audio bar –enable the operator to instantly personalize the camera's configuration without affecting the picture settings. Operators who share camcorders with colleagues, or hire their equipment from rental companies, can turn any LDK 110 IT(W) Digital DVCPRO Camcorder into 'their favorite' camcorder at the touch of a button.

Superior audio performance

As well as excellent video performance, digital signal processing also ensures excellent audio

performance. An intelligent Digital Automatic Gain Control recognizes the differences in sound levels, e.g., of background sound, voices or music, and selects the correct sound level automatically. This enables hands-free audio recording, a significant benefit in solo or two-person assignments. An optional wireless microphone can be built in, as required. In combination with the Digital Automatic Gain Control, this assures top-quality sound without having to worry about adjustment. This does not mean that sound engineers aren't supported in their jobs...nothing of the sort. For instance, switching between different types of input signals was never this easy. The LDK 110IT(W) simply 'remembers' gain settings and control preferences. What's more, recording levels can be set in a menu to prevent them being altered inadvertently, e.g., when using a portable audio mixer. Gaffer's tape to fix potmeters is no longer necessary...operational convenience that can never be obtained from standard camcorders.



Is that all?

No, there is more. Such as the extensive package of standard accessories that comes with every LDK 100 Series Camcorders. A set of smart cards, a wireless infrared remote control, a heavy-duty shoulder strap and rain cover. Not to overlook the video input to record external video feeds without the need for additional VCR's. Or, options like a Serial Digital Video output - with embedded digital audio – that makes digital live transmissions for news programs child's play.

Reason enough to contact your local Thomson representative for a closer look (and feel). We are sure you will agree.... The LDK 110IT(W) DVCPRO Camcorder is the Digital Workhorse for professionals.

** For more information on accessories and Smart Touch™ see our separate brochures Camera and Camcorder Accessories and Smart Touch™, available from your Thomson representative or from www.thomsonbroadcast.com*



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- User Smart Card with 4 scene files and 2 operator files
 - User-friendly LCD operating panel
 - New Software upgrades via serial link and PC
 - Black stretch button
 - Excellent Intelligent Digital Automatic Gain Circuit for audio
 - 12-bit Video A/D for High-Res pictures
 - Top-end Digital Audio Processing with 22-bit Audio A/D
 - Optional built-in wireless microphone receiver
 - Being part of the LDK 100 series assures excellent flexibility
 - 4 Camera files
 - "Green button" for fast reset to customer file
 - Different user levels for excellent user-friendliness
 - Owner Smart Card for securing user levels, and customer file
 - Optional 5" viewfinder mount
 - CVBS input for recording an external source signal
 - Fluorescent light matrix
 - Viewfinder signal output
 - Optional zoom control hand-grip makes awkward shots easy
 - Possibility to lock audio levels for external sources
 - Extensive built-in diagnostics
 - Optional XLR-7 audio connector for mixer
 - Built-in self-calibration circuits and software
 - 2 lens files stored in the camcorder
 - Possibility to increase/decrease color temperature
 - User-defined gain steps
 - Through-the-lens continuous auto white
 - Extended iris: combined auto gain, iris and exposure time
 - 3 ND filters: no color filters required
 - Low center of gravity
 - Supports Anton Bauer auto-light system and InterActive fuel computer
 - Easy operation, no manual required
 - Optional 26-pin VTR connector
 - Two Intels inside for picture/audio control, diagnostics, and automatics
 - Comfortable wide-range adjustable shoulder pad
 - Features an excellent viewfinder (optional) giving: Improved resolution, 48 mm diameter, 100-mm focal distance lens. Most important indications visible without disturbing the picture
 - Accepts Lithium Ion battery voltage range
 - CVBS output including color playback
 - 66 minutes' recording time
 - Gen. lock and time code lock
 - Record review
 - Remote control of camera and VTR using a wireless infra-red remote control

DVCPRO

TECHNICAL SPECIFICATIONS

GENERAL

Power requirements	DC 12V (11.0 V to 17.0 V)
Power consumption	26.5 W (rec/play mode, incl. viewfinder)
Operating temperature	0°C to 40°C (32°F to 104°F)
Storage temperature	-20°C to 60°C (-4°F to 140°F)
Operating humidity	<85%
Weight	4.9 kg (including viewfinder)

CAMERA SECTION

General

Digital quantization	12 bits A/D
Digital signal processing	18 MHz and 36 MHz, >22 bits accuracy
Exposure control	down to 1/2000 sec.
Clean scanning	NTSC: 60.1 - 151.0 Hz PAL: 50.1 - 103.0 Hz
Optical system	F1.4 with quartz filter clear, 1/4 ND, 1/16 ND, 1/64 ND
Vertical Resolution (TV lines)	NTSC: 400 (450 in EVR) PAL: 450 (530 in EVR) (EVR = Extended Vertical Resolution mode)
Registration	<0.05% (all zones, without lens)
Dynamic range	500% (Typical)

LDK 110ITW

Pick-up device	3 x 2/3" Interline Transfer CCD, Aspect Ratio: switchable 16:9 and 4:3 NTSC: 1038 (H) x 504 (V) PAL: 1038 (H) x 594 (V)
Smear	-125 dB (typical)
Sensitivity	2000 lux at F11 (typical) in both 16:9 and 4:3 mode
Minimum illumination	approx. 0.5 lux (F1.4 lens, +36 dB gain)
Modulation depth	16:9 mode 70 % typical at 5 MHz 4:3 mode 50 % typical at 5 MHz (Equals Hor. Resolution of 700 TV lines in both 4:3 and 16:9)
S/N ratio	NTSC: 63 dB (Typical) in both 16:9 and 4:3 mode PAL: 61 dB (Typical) in both 16:9 and 4:3 mode
Gain	-6 dB to +36 dB in 3 dB steps

LDK 110IT

Pick-up device	3 x 2/3" Interline Transfer CCD, Aspect Ratio 4:3 NTSC: 813 (H) x 503 (V) PAL: 813 (H) x 585 (V)
Smear	-120 dB (typical)
Sensitivity	2000 lux at F11 (typical)
Minimum illumination	approx. 0.25 lux (F1.4 lens, +42 dB gain)
Modulation depth	50 % typical at 5 MHz (Equals Hor. Resolution of 700 TV lines)
S/N ratio	NTSC: 63 dB (typical) PAL: 61 dB (typical)
Gain	-6 dB to +42 dB in 3 dB steps (user defined presets)

VTR SECTION

Format	DVCPRO digital audio/video recording
Digital audio	2 channels
Cue	1 channel (ch 1/2/mix)
CTL	1 track
Max. recording time	66 min. with DP-121-66M
Tape	1/4-inch Metal Particle tape

Cassette size	97.5 x 64.5 x 14.6 mm (3.8" x 2.5" x 0.6")
FF/REW time	Approx. 3 min. using DP-121-66M

Video performance

Sampling frequency	Y: 13.5 MHz, C (Pb/Pr): 3.375 MHz
Quantization	8 bits/sample
Error correction	Reed-Solomon code
Bandwidth	Y: 0 to 5.75 MHz + 1/-3 dB
S/N ratio	>55 dB
K factor (2T)	<2%
Linearity	<2%
Y/C delay	<20ns

Audio performance

Sampling	48 kHz, 22 bits
Processing	24 bits (down converted using noise shaping to 20 bits for dig. ser. out, 16 bits to tape)
Frequency response	20 Hz to 20 kHz, + 1.0/-1.0 dB
Dynamic range	>100 dB
Signal to noise on tape	>90 dB (typ. 95 dB at 1 kHz)
Distortion	<0.008% (20 Hz to 20 kHz)
Channel separation	>80 dB (1 kHz)
Eff. input noise (MIC)	-128 dBu

INPUTS

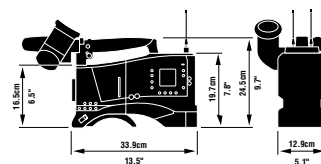
Video/gen lock	BNC (1.0 Vp-p, 75 Ohm)
Time code	BNC 1 Vp-p, approx. 560 ohm
Front mic	1 x XLR 3, balanced, +48 V
Mic/line	2 x XLR 3, balanced (48 V selectable)
Mic impedance	2 kOhm (mic level selected)
Line impedance	10 kOhm (line level selected)
PC interface	RS-232, 9 pin (also used for control panel)
DC 12 V	XLR 4

OUTPUTS

Video (CVBS)	BNC (1.0 Vp-p, 75 Ohm)
Viewfinder	20 pin
Viewfinder monitor (Y)	BNC (1.0 Vp-p, 75 Ohm)
Digital serial (option)	SMPTE 259M-C/EBU Tech 3267E
Time code	BNC 1.0Vp-p, 75 Ohm
VTR connector (option)	26-pin, component video, XLR 7
or Audio I/O (option)	XLR 3, balanced ch. 1/2/mix, or unbalanced ch. 1 and 2
Audio	-20 dBFS/ -18 dBFS +17 dBu (balanced) 50 Ohm 12 V, 4 pin mini jack 12 pin
nom. level	
max. level	
impedance	
DC	
Earphone	
Lens	

SUPPLIED ACCESSORIES

1.5" viewfinder (optional)	Raincover
Shoulder strap	Anton Bauer gold mount plate
User manual	IR remote control
Owner Card (1x)	User Card (2x)
Smart-Touch™ (optional)	Serial digital output (optional)



For more information contact:

**Thomson multimedia
Broadcast Solutions**

EUROPE

Kapittelweg 10,
4827 HG Breda,
The Netherlands
Tel: +31 76 572 11 00
Fax: +31 76 572 11 08

NORTH AMERICA

2255 N. Ontario Street
Suite 150
Burbank, CA 91504
Tel: +1 818 729 7700
Fax: +1 818 729 7710
Toll-free: +1 800 962 4287

FAR EAST

8 Jurong Town Hill Road
30-01/06 The JTC Summit
Singapore 609434
Tel: +65 379 1333
Fax: +65 379 1422

SOUTH AMERICA

Av. Queiroz Filho 87
05319-000 São Paulo SP
Brazil
Tel: +55 11 3024 3440
Fax: +55 11 3024 3441

AUSTRALIA

745 Springvale Road
Mulgrave, Victoria 3170
Australia
Tel: +61 3 9271 3666
Fax: +61 3 9271 3577

Or your local Thomson office

Website:
www.thomsonbroadcast.com

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