The Sony DXC-390/390P is a 1/3 type DSP 3-CCD colour video camera which incorporates Exwave HAD™ technology – a new Sony technology that greatly improves camera sensitivity (F8 at 2000 lx) while reducing smear.
COLOUR BLOCK CAMERAS — DXC-390/390P

DXC-390 (NTSC)
DXC-390P (PAL)

With so many functions, the DXC-390/P is the perfect choice for a variety of applications.

Using a C-mount lens and providing a resolution of 800 TV lines and high S/N ratio, the DXC-390/390P is ideal for applications such as microscopy, industrial inspection, and remote camera systems, where picture accuracy and detail are important.

Incorporating new 10-bit DSP technology, a user friendly on-screen menu allows for simple control of various features including DynaLatitude™, Partial Enhance, and a wide selection of Automatic Exposure (AE) modes.

Moreover, the DXC-390/390P is very compact (56(W) x 50(H) x 128(D)) and lightweight (370 g), making it easy to install.

Useful DXC-390/P functions include:
- DynaLatitude, Digital Detail, Partial Enhance, Colour Shading Compensation, Flange Back Adjustment
- Strobe trigger function, WEN output, RGB sync, RS-232C Interface, Extended Genlock (VBS GENLOCK and HD/VD In/Out)
- Motorized remote control lens, Selectable AE speed, User-defined AE area, Video servo auto iris lens
High picture quality

Incorporating three 1/3 type IT CCDs, the DXC-390/P produces a high resolution of 800 TV lines and a high S/N ratio of 62 dB (NTSC), 61 dB (PAL). Featuring Sony’s new Exwave HAD, the DXC-390/P provides excellent sensitivity and low smear levels. Moreover, the DXC-390/P incorporates DSP (Digital Signal Processor) technology, resulting in images with higher picture quality and colour accuracy.

DSP (digital signal processing)

The DXC-390/P incorporates new Sony 10-bit DSP technology. DSP enables a variety of enhancement features and increases picture reliability. The DXC-390/P has several DSP functions for powerful picture controls.

On-screen menu

The on-screen menu feature allows for quick and easy picture adjustments while viewing the image. All camera control functions are accessible from the side panel of the camera or through the optional RM-C950.

AE (Automatic Exposure)

AE automatically controls the level of brightness by varying the exposure times. This is done by combining the CCD IRIS function, AGC (Automatic Gain Control), and Auto Iris function of the lens. The DXC-390/P is equipped with a number of convenient AE modes.

AE Level

Adjusts the standard brightness level by up to +/- one F-stop in a lens iris.

AE Speed

Selectable AE (Auto Exposure) conversion speed to suit applications under varying lighting conditions.

AE Area

AE Area is a light metering system that includes six different modes.

Picture contrast controls

DynaLatitude

Automatically adjusts contrast corresponding to the brightness signal level of the entire image. Clear images can be captured if both bright and dark areas exist within the image.

DCC+ (Dynamic Contrast Control Plus)

Aids hue factor distortion that can occur when subjects are very bright. DCC+ also automatically adjusts the knee point according to the contrast of the image.

Black Stretch

Black stretch/compress enhances the gradation of dark areas by stretching or compressing the range of the brightness signal in these areas.

Picture enhance controls

Digital Detail

Adjusts the sharpness of the object outline with minimal noise. This feature also enables horizontal detail frequency control.

Linear Matrix

Enhances colour reproduction by adjusting the colour saturation and hue.

Partial Enhance

Enhances or softens a specific colour by altering its hue, saturation and detail.

Electronic Shutter Functions
Electronic Shutter Functions

Variable speeds
A variable speed electronic shutter is built into the CCD imager, making it possible to capture blur-free, clear images of high speed moving objects. The DXC-390/P features 10 different shutter speeds (OFF to 1/100,000), including flickerless mode.

Long term exposure
The shutter speed can be manually selected from 1 to 255 frames (field mode) or 2 to 256 frames (frame mode) in one-frame steps or from 0.1 to 8.0 seconds.

Clear Scan™
The Clear Scan feature eliminates the horizontal bands that appear across the screen when shooting a computer display. This is achieved by matching the camera shutter speed with the display scanning frequency.

CCD IRIS
When the level of incoming light exceeds the auto iris adjustment range, the CCD IRIS function automatically reduces the exposure in a range equivalent to 10 F-stops.

Other Features

Compact and lightweight
56(W) x 50(H) x 128(D) mm (2 1/4 x 2 x 5 1/8 inches), 370 g (13 oz)

C mount
extensive choice of lens

Scene Files and User Files
allows user to set two custom parameters in the menu for instant recall

Hyper Gain (+30 dB)
useful to capture images in dark conditions

Colour Shading compensation
allows for verification of colour on microscope

RGB, Y/C and composite video outputs

RS-232C controllable
easy control and operation of camera by external computer

White Balance modes
(AWB, ATW-Normal/Wide, MANU, Preset 3200K/5600K)

Extended Genlock (VBS Genlock and HD/VD in/out)
allows for synchronization of signals with frame grabber boards

Synchronization capabilities (Strobe function, WEN output)
realizes full vertical resolution of fast moving objects
Camera Adaptor
CMA-D3
CMA-D3CE
• Supplies DC power and transmits video/sync signal between the adaptor and the DXC-390/P with CCZ-A cable and CCMC-3MZ cable
• Connects with optional RM-C950 remote control unit
• AC IN/DC IN
• Composite, Y/C or RGB video signal output
• Dimensions: 210(W) x 44(H) x 210(D) mm (8 3/8 x 1 3/4 x 8 3/4 inches)
• Max. cable length: 100 m with CCDC-100A cable

Remote Control Unit
RM-C950
• Full remote control of the DXC-390/P camera functions and lens zoom/focus/iris functions via RS-232C
• Dimensions: 212 (W) x 41 (H) x 132 (D) mm (8 3/8 x 2 5/8 x 5 1/4 inches)

Camera Adaptor
CMA-D2
CMA-D2CE
• Supplies DC power and transmits video/sync signal between the adaptor and the DXC-390/P with CCMC 12-pin multi-core cable
• Dimensions: 210 (W) x 50 (H) x 200 (D) mm (8 3/8 x 2 x 7 7/8 inches)
• Max. cable length: 25 m with CCMC-12P25 cable

Mount Lens
VCL-610WEA
VCL-614WEA

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DXC-390/390P Specifications

Camera DXC-390/390P

Pick-up device 1/3 type IT (Interline Transfer) CCD

Effective picture elements NTSC: 768(H) x 494(V) PAL: 768(H) x 576(V)

Sensing area NTSC: 2184 x 1560 lines PAL: 2114 x 1560 lines

Horizontal resolution NTSC: 550 lines PAL: 550 lines

Vertical frequency NTSC: 59.94 Hz PAL: 59.94 Hz

Sync system Internal or External with VBS, HD/VD

Phase control H/SC phase control

Horizontal resolution 800 lines Sensitivity F/1.4 at 2000 lux

Minimum illumination 4 lx (F2, HYPER)

S/N ratio NTSC: 62 dB PAL: 61 dB

Electronic shutter OFF/STEP/STEP/STAIR/VARIABLE/CCD IRIS selectable

Lens Remote (Auto or Manual)/Video selectable

AE area Multi/Large/Medium/Spot/Manual selectable

AE level Variable

AE speed Fast/Mid/Slow selectable

AE detect Average/Peak selectable

Contrast Effect Manual/DynaLatitude/DCC+ selectable

Knee Point High/Normal/Low selectable (Contrast Effect: Manual)

Black stretch Variable (Contrast Effect: Manual)

Gamma ON/OFF Variable

Pedestal Master and R/B Manual adjustable

Black balance ABB

White balance AWB/ATW/NORMAL/ATW WIDE/MANUAL/1000K/5000K selectable AWB or ATW R/B Point, MANUAL to R/Gain

Auto area NORMAL/MANU selectable

AWB speed FAST/NORMAL/SLOW selectable

Defialer OFF/Variable (ATW) OFF/Variable (ATW)

Detail Frequency HIGH/Low selectable

Linear matrix ON/OFF

Linear matrix MODE STANDARD/Enhance/G-Enhance/E-Enhance/Manual selectable

Pan/tilt Enhance ALL/PIN OUT selectable

CCD integration mode FIELD/FRAME selectable

Shading Compensation OFF/ON (Manual control)

Trigger Polarity Positive edge trigger/Negative edge trigger selectable

Gain (R/G/B) OFF/Variable (ATW) OFF/Variable (ATW)

Strobe ON/OFF

User File A/B selectable (Two pattern memories)

Scene File STANDARD/MICROSCOPE/FULL AUTO/STROBE/FILe A or B

Output signal VBS/Y/C/RGB/HD/INTER CONNECT

Operating temperature -5°C to 45°C

Storage temperature -20°C to 60°C

Power requirements DC 10.5 V to 15.0 V

Power consumption Approx. 7.6 W

Dimensions 56(W) x 50(H) x 128(D) mm (2 1/4 x 2 x 5 1/8 inches) (excluding projecting parts)

Mass Approx. 370 g (13 oz)

Connections Lens (6 pin) RGB/SYNC (9 pin D-sub) DC IN/VBS (12 pin)

Video OUT (BNC) TRIGGER IN (BNC)

REMOTE (8 pin mini DIN)

Supplied accessories Lens cap (1) Tripod adapter (1) Operation manual (1) Panel sheet for RM-C950

Optional accessories VCL-610WEA/614WEA VCL-08WM/16WM/25WM

Remote control unit RM-C950

Camera adapter CMA-DE-CMA-D2/D CE

Microscope adapter MVA-15

Microscope coupler MVAC-33/33/33/33/33 SM

Camera cable CCDC-1005/1007/1008/1009/1010/1011/1023

CCMC-1002/1003/1004/1005/1006/1007/1008

CCXC-4005

Panasonic Camera CMA-DE-A2/A5/A10/A25/A50/A100

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