LMD-A220 v3.0

22-inch cost-effective, lightweight Full HD high grade LCD monitor for studio and field use

Overview

Lightweight and slim Full HD (1920 x 1080) LMD-A Series monitor with an excellent cost-performance ratio

The LMD-A220 v3.0 22-inch LMD-A Series LCD monitor offers Full HD resolution, along with a lightweight and compact design. There is more than a 12% to 22% reduction in mass, 30% reduction in depth, and more than 25% reduction in power consumption, compared to Sony's previous models. The LMD-A Series offers the same user-interface design, convenient features, functions and operability as PVM-A Series OLED picture monitors. This consistency between the PVM-A and LMD-A Series brings great user benefits when both types of monitor are used in the same network. Furthermore, LMD-A Series monitors provide versatility for a wide range of user applications both in the studio and in the field. These include DC operation, Wall mount and yoke-mount holes, and an optional protection kit (BKM-PL17). In addition, the latest camera-linkage functions, such as camera and lens metadata display and a Picture and Picture function, provide the convenience of working efficiency both in the field and in the post process.

Version 3.0 of the LMD-A220 expands and enhances the monitor's ability to support 4K production, shopping channels, field and graphics applications.

Sony continuously improves the LMD-A Series - with version 3.0 firmware, the LMD-A220 now achieves HDR capability and is able to answer the highest demands of HDR production.

Stylish lightweight and slim body with industry's widest viewing angle

Robust and stylish sharp edges chassis. Perfect for group monitoring. More than a 12% to 22% reduction in mass, 30% reduction in depth, and more than 25% reduction in power consumption, compared to Sony's previous models. It provides cost savings for transportation and power consumption. It also saves space and weight in digital galleries.

HDR production features

The LMD-A220 v3.0 is a cost-effective yet highly capable entry solution for HD HDR and 4K HDR production. The monitor is one of the first HD picture monitors to support EOTF of S-Log3(Live HDR) which allows for seamless integration into Sony HDR Live production workflow. While also supporting ITU-R BT.2100(HLG), LMD-A220 v3.0 will also easily integrate with Sony camcorders to enable Instant HDR workflow. SMPTE ST2084, S-Log3, S-Log2 and 2.4(HDR) are also supported for a variety of video productions.

4K production features

The LMD-A220 fulfils the demand for an affordable HD monitor in a 4K system. The unit supports the ITU-R BT.2020 colour space and accepts one of Quad-link 2SI 3G-SDI signals. To fully utilise its wide colour gamut, the monitor offers DCI-P3 and S-GAMUT/S-

GAMUT3/S-GAMUT3.cine settings, with proper EOTFs such as 2.6 gamma, S-Log3 and S-Log2.

Shopping channels feature

Shopping channels require a unique screen layout to instantly differentiate between a product and its commercial data. The monitor allows you to set two flexible area markers anywhere on the screen.

Enhanced field application features

The monitor is ideal for field applications, with sync-free side-by-side, false colour and audio muting functions. You can monitor two pictures without synchronisation. False colour allows you to check the exposure level of a camera at a glance from a distance. Audio muting helps you start to shooting quickly.

Graphics applications features

The monitor accepts a computer signal though HDMI. The monitor also offers Adobe RGB and sRGB settings in colour space, and D50 preset in colour temperature.

Latest camera-linkage functions

Includes camera and lens metadata display* and a Picture and Picture function with side by side, wipe, blending, difference and auto input switching. Ideal for OnSet and live production monitoring.

*Lens metadata is supported by F65, PMW-F55, PMW-F5, PXW-FS7M2 and PXW-FS7 as well as equipment capable of SMPTE RDD18.

User presets and password protection

Secure your monitor settings for greater peace of mind. Five user presets are available. One colour temperature memory USER1 can also be password protected.

2K format display and Dual-Link HD-SDI mode

This feature offers a cost effective 2K monitoring solution, ideal for OnSet digital cinematography. In addition, a Dual-link HD-SDI input is available.

Multiple monitors firmware upgrade utility

Save you time to upgrade simultaneously your monitors through your network.

Features

High Dynamic Range*
Version 3.0 of the LMD-A220 supports EOTFs of ITU-R BT.2100(HLG)**, SMPTE ST2084, S-Log 3, S-Log3(Live HDR), S-Log2 and 2.4(HDR). When selecting one of the HDR EOTFs, the monitor automatically sets the backlight of its panel to the maximum luminance.

*Supported with V3.0
**Refer to ITU-R BT.2100-2. System gamma only supports 1.2 and it applies to a Y signal.

Lightweight and compact with lower power consumption
The LMD-A series monitors offer a design that is uniquely light and compact. Their weight is reduced by 12% to 22%, and depth by more than 30%, compared with predecessor models. Power consumption for these models is reduced by more than 25%. Users appreciate these convenient, cost-saving qualities.

Optimised low-latency I/P conversion
The I/P conversion system delivers automatically optimised signal processing according to input signals with low-latency (less than 0.5 field). This system helps

users to edit and monitor for a live production.

Video input versatility
The LMD-A220 monitor is equipped with built-in standard input interfaces: 3G/HD/SD-SDI (x2), HDMI (HDCP) input (x1) and composite (x1).

Computer input versatility
Multiple computer signals can be received via an HDMI/DVI interface; the resolution range is from 640 x 480 to 1680 x 1050 pixels.

In-Monitor Display (IMD) function
With an external remote function via Ethernet, image source names and tally information can be displayed on screen. LMD-A Series monitors support the TSL system protocol. The IMD system can display European language text including umlaut and accent marks.

Waveform monitor, vector scope and audio level meter display
An input signal's waveform and vector scope with an SDI-embedded 2-channel audio level meter can be displayed on screen. Both the waveform monitor and vector scope have various modes, including a zoom function (in an area of 0 to 20 IRE) with the waveform monitor, and a zoom function (in the central black area) with the vector scope, for adjusting white balance. The waveform of a specified line can also be displayed. In conjunction with the Picture & Picture function*, the waveform monitor and vector scope display can monitor two camera signals. In addition, an audio level meter can display the embedded audio signal from the SDI or HDMI input. It can display on screen the ch1 to ch8 or ch9 to ch16.

*Supported with V1.1

False colour function*
The monitor can display false colour according to the signal level from a camera. As the whole picture is changed, it is easy to see levels for over-exposure, under-exposure or appropriate exposure. You can adjust these levels and turn the scale** of false colour on and off, as required.

* Supported with V2.0
** False color scale itself only supports a 0.45 OETF signal.

Yoke-mount and Wall-mount capability
The monitor includes screw holes on its side bezels for yoke mounting. This type of mounting is convenient when installing a monitor to a camera crane or monitor stand. There are also Wall-mount 100-mm pitch holes on each monitor's rear panel. The optional SU-561 monitor stand (available separately) providing height and tilt function is also available for this model.

User-friendly operability and user interface
The monitor has a number of additional features, including: Time Code display (LTC/VITC-supported); safety area markers, closed caption display (EIA/CEA-608 and EIA/CEA-708, SDI only), 8-channel audio level meter display, computer signal input capability via HDMI input and external remote control function.

Consistent design with PVM-A Series monitors
LMD-A Series monitors offer the same functions and operability as PVM-A Series monitors and share a consistent front control panel design. This means that both types of monitor can be operated and controlled in the same way.

Camera focus function

The LMD-A220 monitor can control the aperture level of a video signal, and display images on the screen with sharpened edges to help camera focus operation. Further to this, the sharpened edges can be displayed in user-selectable colours (white, red, green, blue, and yellow) for more precise focusing.

Time code function
LTC and VITC time code can be displayed at the top or bottom of the picture.

On screen Tally
The monitor is equipped with a three colours red, green and yellow On-screen Tally function.

Network control function
The LMD-A220 has the network control function that allows you to upgrade the monitor software by Ethernet very easily. The network capability will also be utilised for a central control of multiple units in a system environment.

Auto white adjustment*
The LMD-A220 monitor employs a software-based colour temperature (white balance) calibration function, which is called Monitor_AutoWhiteAdjustment. Combined with a PC and commercially available calibration tools*, this function enables simple adjustment of the monitor's white balance.

* The Konica Minolta CA-210/CA-310/CS-200, DK-Technologies PM5639/06, X-Rite i1 Pro/i1 Pro2, Photo Research PR-655/670, Klein K-10, and JETI specbos 1211.

*Supported with V1.1

Enhanced Picture & Picture function*
The unique Picture & Picture function of the LMD-A220 allows simultaneous display of two input signals on the monitor's screen. This function helps with colour adjustment and setting of camera frames. Various modes are available: side by side, wipe, blending, difference and auto input switching. This function works when synchronous SDI signals are input.
Sync-free side by side with low latency allows you to monitor two signals without synchronisation. You can configure each picture as HD or SD with different frame rates, taking them from both SDI and HDMI. This function works with the false colour function, camera focus function and metadata on the main picture of the two pictures.

* Supported with V2.0

2K (2048 x 1080) input and image-slide*
The LMD-A220 monitor can display 2K (2048 x 1080 resolution) input. The 2K signal is displayed in two ways – as a full 2K image scaled into a full-HD (1920 x 1080) screen, or as a 2K native display with an image-slide function.

Supported with V1.1

Camera/lens metadata display function and on-screen tally*
The LMD-A220 monitor can display the camera and lens metadata** set of a camera system, according to the SMPTE RDD18*** document for Acquisition Metadata Sets for Video Camera Parameters. Further to this, these monitors also support a subset of Sony's private metadata.*** The monitor is also equipped with a three-colours red, green and yellow on-screen tally function. The position of the tally display can be changed to either the upper or lower section of the screen..

* Supported with V1.1

**Lens metadata is supported by F65, PMW-F55, PMW-F5, PXW-FS7M2 and PXW-FS7 as well as equipment capable of SMPTE RDD18.

*** Not all metadata is supported.

Anamorphic image conversion and Active Format Description (AFD) functions*

The monitor's anamorphic image conversion function** correctly displays horizontally squeezed 3G/HD-SDI signals from an onset camera system. The signals include two major systems: 16:9 1920 x 1080 (1280 x 720) signals and 17:9 2048 x 1080 signals. These signals can be appropriately displayed on the monitor's screen. The Active Format Description (AFD) function*** also reads the ancillary data flag on an SDI, and can upconvert the SD image to display automatically on the full HD resolution screen. This is achieved by adjusting the resolution and aspect ratio.

* Supported with V1.1

** Only 3G/HD-SDI and dual-link HD-SDI are supported.

*** Only SD-SDI signals are supported.

Flexible area marker*, Grid Display, two Center Markers and Flip functions

You can set two flexible area markers freely on the screen. As their line colours and thickness can be changed, these two markers are easily identified.
Grid Display function displays arbitrary multiple vertical and horizontal lines to help when users check the composition of a picture. In addition to a standard Center Marker 1, Center Marker 2 is also available. This second marker enables easier checking of the centre portion's focus. The Flip function turns the reversed image to a normal view, horizontally or vertically.

* Supported with V2.0

Power-on setting*

Power-on setting allows users to make choice when the monitor starts up; this includes last memory, user preset, and factory preset settings. So, users can set the monitor accurately and quickly. This function is very useful for rental equipment.

* Supported with V1.1

User Presets with password lock and short-cut to function key configuration*

When multiple users share the same monitor, each user can memorize his/her setting data and retrieve this data whenever required. This frees the user from time consuming and repetitive setting tasks. When multiple users share the same monitor, each user can register his/her own password for colour temperature and user preset data. This ensures the user correctly recalls previous user preset data, and keeps preset information safe from unauthorised use. For improving speed of the function key configuration, the user can take a short-cut to the settings menu screen by simply pressing the function key repeatedly.

* Supported with V1.1

Multiple monitors upgrade utility*

Multiple PVM-A and LMD-A Series monitors on the same Ethernet network can be upgraded by simple operation providing an efficient solution for large infrastructure.

* Supported with V1.1

Detachable handle
The monitor is equipped with a detachable handle for portable applications. It can be removed to reduce weight when installed in a monitor wall or when it is rack mounted.

Specifications

Picture Performance

Panel	a-Si TFT Active Matrix LCD
Picture Size (Diagonal)	546.1 mm 21:5 inches
Effective Picture Size (H x V)	476.1 x 267.8 mm 18 3/4 x 10 5/8 inches
Resolution (H x V)	1920 x 1080 pixels (Full HD)
Aspect	16:9
Pixel Efficiency	99.99%
Colors	Approx.16.7 million colors
Viewing Angle (Panel Specification)	89°/89°/89°/89° (typical) (up/down/left/right contrast > 10:1)
Normal Scan	0% scan

Input

Composite Input	BNC (x1), 1 Vp-p ±3dB, sync negative
SDI Input	BNC (x2)
HDMI Input	HDMI (x1) (HDCP correspondence)
Audio Input	Stereo mini jack (x1), -5 dBu 47 kΩ or higher
Parallel Remote	RJ-45 Modular connector 8-pin (x1) (Pin-assignable)
Serial Remote (LAN)	RJ-45 (x1) (Ethernet, 10BASE-T/100BASE-TX)
DC Input	XLR-type 4-pin (male) (x1), DC 12 V to 17 V (output impedance 0.05 Ω or less)

Output

Composite Output	BNC (x1), Loop-through, with 75 Ω automatic terminal function
SDI Output	BNC (x2), output signal amplitude: 800 mVp-p ±10%, output impedance: 75 Ω unbalanced
Audio Monitor Output	Stereo mini jack (x1)

Speaker (Built-in) Output	1.0 W (Monaural)
Headphone Output	Stereo mini jack (x1)

General

Power Requirements	100 V to 240 V AC, 0.5 A to 0.2 A, 50/60 Hz DC 12 V to 17 V, 3.4 A to 2.4 A
Power Consumption	Approx. 47 W (max.) Approx. 43 W (average power consumption in the default sattus)
Inrush Current	(1) Maximum possible inrush current at initial switch-on (Voltage changes caused by manual switching): 57 A peak, 0.3 A r.m.s. (240V AC) (2) Inrush current after a mains interruption of five seconds (Voltage changes caused at zero-crossing): 46 A peak, 0.2 A r.m.s. (240V AC)
Operating Temperature	0°C to 35°C (Recommended: 20°C to 30°C) 32°F to 95°F (Recommended: 68°F to 86°F)
Operating Humidity	30% to 85% (no condensation)
Storage/Transport Temperature	-20°C to +60°C -4°F to +140°F
Storage/Transport Humidity	0% to 90%
Operating/Storage/Transport Pressure	700 hPa to 1060 hPa
Dimensions (W x H x D) *1	517.8 x 338.0 x 67.2 mm (without monitor feet) 517.8 x 360.5 x 165.0 mm (with monitor feet) 20 1/2 x 13 3/8 x 2 3/4 inches (without monitor feet) 20 1/2 x 14 1/4 x 6 1/2 inches (with monitor feet)
Mass	Approx. 5.9 kg (with monitor feet) Approx. 13 lb (with monitor feet)
Supplied Accessories	AC power cord (1) AC plug holder (1) Handle (1) (including 4 screws) Before Using This Unit (1) CD-ROM (1)
Optional Accessories	SU-561 Monitor Stand MB-L22

Notes

Note

*1 The values for dimensions are approximate.

Related products

PXW-X400

Three 2/3-inch type Exmor CMOS sensors XDCAM weight-balanced advanced shoulder camcorder with HLG option, improved network connectivity and low power consumption

PXW-X500

Three 2/3-inch type PowerHAD FX Full HD CCD sensors XDCAM camcorder with multi-format recordings including XAVC

PXW-X200

Three 1/2-type Exmor™ CMOS Full HD sensor XDCAM camcorder with 17x zoom lens and XAVC recordings

HXC-D70H

Affordable three 2/3-inch Exmor CMOS sensors SD / HD Studio Camera

NEX-FS700R

4K Super 35mm Exmor CMOS sensor NXCAM camcorder with E-Mount lens system and 4K/2K RAW recording options

NEX-FS700

4K-ready Super 35mm Exmor CMOS sensor NXCAM camcorder with E-Mount lens system

PXW-X160

Three 1/3-inch type Exmor™ CMOS Full HD sensor XDCAM camcorder with 25x zoom lens and XAVC recordings

PXW-X320

Three 1/2-inch type Exmor CMOS sensors XDCAM camcorder with 16x zoom HD lens recording Full HD XAVC 100 Mbps, with wireless options

PXW-Z100

1/2.33-inch type Exmor R CMOS sensor 4K compact XDCAM camcorder recording on XAVC format

HXC-D70L

Affordable three 2/3-inch Exmor CMOS sensors SD / HD Studio Camera with viewfinder

NEX-EA50M

NXCAM Large Format Sensor camcorder with E-mount lens system and SELP18105G zoom lens

HXC-D70K

Affordable three 2/3-inch Exmor CMOS sensors SD / HD Studio Camera with viewfinder and lens

PXW-X180

Three 1/3-inch type Exmor™ CMOS Full HD sensor XDCAM camcorder with 25x zoom lens and wireless operations, including XAVC recordings

HXR-MC2500

1/4-inch Exmor R CMOS sensor HD / SD AVCHD camcorder

PXW-FS5M2

'Grab and shoot' Super35 handheld camcorder with stunning new creative look, 4K 120fps HFR and HDR, α Mount lens system, Variable ND Filter, 4K/2K RAW and XAVC recording

PDW-680

Three 2/3-inch type Exmor CMOS sensors XDCAM HD shoulder camcorder recording full HD / SD

HXC-FB80

Three 2/3-inch Exmor™ CMOS sensor HD colour studio camera

PXW-Z150

Compact handy camcorder delivers broadcast quality 4K and Full-HD

MCX-500

Multi-Camera Live Producer

PMW-300K1

Three 1/2-inch Exmor™ CMOS sensors semi-shoulder XDCAM camcorder with

interchangeable 14x zoom HD lens system recording XAVC HD 100 Mbps and MPEG HD422 at 50 Mbps

PMW-300K2

Three 1/2-inch Exmor™ CMOS sensors semi-shoulder XDCAM camcorder with interchangeable 16x zoom HD lens system recording XAVC HD 100 Mbps and MPEG HD422 at 50 Mbps

PDW-850

Three 2/3-inch Power HAD FX CCD sensors XDCAM HD422 ultimate Professional Disc camcorder with best picture quality and easy-to-share and archive media

HXR-NX5R

Three 1/2.8-inch Exmor CMOS sensors Full HD AVCHD / XAVC S camcorder with 40x zoom with Clear Image Zoom and built-in wireless functionality.

NEX-FS700RH

4K Super 35mm Exmor CMOS sensor NXCAM camcorder with 11x Zoom E-Mount lens and 4K/2K RAW recording options

HXR-NX200

1.0-type Exmor R™ CMOS Sensor 4K, NXCAM camcorder with all-new default look, 24x zoom (FHD Clear Image Zoom), 3 independent manual lens rings plus XAVC S, AVCHD and DV. (PAL-only)

PXW-Z750

4K 2/3-type 3-chip CMOS Shoulder-mount Camcorder with global shutter, high sensitivity, 4K/HD simultaneous recording, 120p HFR in HD, 12G-SDI and advanced wireless workflow capabilities

Gallery