

## MDP-471/4

28" fan-less LCD main display for air traffic control (ATC)



Since its introduction in 2000, Esterline's 2Kx2K main display for ATC controller working positions has become the world's leading ATC display both in new installations and as a direct replacement for the Sony DDM CRT display.

### Unequaled image quality

MDP-471/4 always features the latest LCD panel technologies, presenting an ergonomic solution for ATC controller workstation positions. The **4 MegaPixel LCD** screen offers brightness uniformity in white, gray, and black images and ensures zero bright dot defects. A wide viewing angle, high contrast, and absolutely no reflection help you observe every track, enhance user comfort and reduce eye-fatigue.

### Unique design

The **fan-less** design of the 2Kx2K main display ensures **noiseless** operation in an open architecture for improved operator comfort. All **cables** are **hidden** and connectors are easily accessible. The display's **slim design, low weight and mechanical flexibility** provide control center designers with a new degree of freedom to reduce plant and energy costs.

### Green performance

MDP-471/4 displays use mercuryfree and energysaving **LED backlights**, reducing power consumption by 20%. The displays produce no heat and feature near-zero energy consumption when not in active use.

### Smart obsolescence management

MDP-471/4 has an extremely **low life cycle cost**. It has been built with nonwearable components and comes with a 5-year warranty.

**Product specifications**
**MDP-471/4**

Resolution	2048 x 2048 pixels
Pixel pitch	0,246 x 0,246 mm
Active screen area	503.8 x 503.8 mm (19.83 x 19.83")
Active screen diagonal	712.4 mm (28.05")
Pixel arrangement	RGB vertical stripe
Pixel defect	zero bright dot
Backlight	Edge LED backlight system
LED lifetime	> 100,000 hours
Brightness	150 cd/m <sup>2</sup> calibrated and stabilized Uncalibrated brightness typical 375 cd/m <sup>2</sup>
Backlight Output Stabilization (BLOS)	yes (real-time feedback loop through continuous measurement) Backlight aging compensation
Dimming ratio	100:1 (wrt the calibrated 150 cd/m <sup>2</sup> => as low as 1,5 cd/m <sup>2</sup> )
Contrast ratio	Typically 1500:1 - ratio of white/black image ; min 1200:1
Noise Level	NA passive cooling only
Display colors	16.7 Mio (24bit)
Color temperature	Adjustable between native, D65 and custom
Viewing angle	Superwide viewing angle performance 178 ° typical, with CR greater than or equal to 10
Uniformity	White brightness uniformity 80% (min) Black brightness uniformity 60% (typ)
Reflection	Close to zero reflection due to NO front glass
Front glass	Optional
Response time	Tr (black to white transition): 10 ms, typical Tf (white to black transition): 8 ms, typical
Video inputs	4 digital input connectors 2 x DVI-D Dual link 2 x DisplayPort
Digital multisync	Support standard VESA resolution lower than its maximum resolution Resolutions lower than native which will be displayed in letterbox format Graphic cards scale up is supported (showing low resolution boot content on full 2K LCD surface)
Analog RGB	Connector type: 5 x BNC Termination: R,G,B: 50 Ohm; HS, VS: 75 Ohm Sony DDM compatible resolution: 2048 x 2048 60Hz ; HF: 126.84 kHz Automatic Phase Adjust (APA)
Power Supply	Nominal voltage: 110 Vac & 230 Vac Operates between: 90-264 Vac Frequency range: 47-63 Hz
Power consumption	Pacc is typ 31 Watt (in typical area control center setting: 70 cd/m <sup>2</sup> ) Pnom is typ 41 Watt (stabilized at 150 cd/m <sup>2</sup> ) Pmax is typ 70 Watt (when Backlight Stabilization is OFF: +375 cd/m <sup>2</sup> ) Power connector type: IEC Power consumption low DPMS: 1.9 Watt (monitoring all digital inputs) Power consumption soft off: 0.5 Watt

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Control possibilities	<p>Front control module controls multilanguage On Screen Display</p> <p>USB control box with rotary push button</p> <p>Remote serial control (full 9 wire RS-232 compatible) for display protocol &amp; color measurement equipment</p> <p>Remote serial DDM Protocol (RS422 on DSUB 15 pin connector)</p> <p>Network - DHCP / Stat IP / SNMP / Webinterface</p> <p>Integrated USB hub</p> <ul style="list-style-type: none"> <li>- USB upstream port (1x)(connects workstation)</li> <li>- USB downstream port (2x) (connects peripheral devices)</li> </ul> <p>GPIO - general purpose input/output (3 input / 3 output, open collector)</p>
Options	<p>Protective front filter glass. (Front glass with high-quality anti-reflective treatment - specular reflection less than 1.0%)</p> <p>(Standard MDP-471/4 has no front glass installed - EMI performance level B; LCD display hardness 3H)</p> <p>Dual Power supply support - internal</p> <p>Analog inputs RGB HS VS</p>
Desktop version	<p>HxWxD: 585x561x135mm</p> <p>Bezel width:</p> <ul style="list-style-type: none"> <li>- top: 39mm</li> <li>- bottom: 39mm</li> <li>- left: 27mm</li> <li>- right: 27mm</li> </ul>
Mounting	VESA 100x100 and 200x100, M4
EMI / EMC	EU/IEC/Canada/FCC: limit B
Safety	IEC60950-1, EN60950-1, UL60950-1,cUL60950-1
Operating temperature	10°C to 40°C (50°F to 104°F)
Humidity	85% at 35°C non-condensing atmosphere (operational and non-operational)