


BOSCH

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UML-202-90 20-inch Color LCD Display Monitor



- ▶ **High-resolution (500 TVL or UXGA, 1600 x 1200) image**
- ▶ **Picture-in-Picture or split screen function for viewing video on the PC screen**
- ▶ **Easy to use controls with remote and on-screen menu display**
- ▶ **Analog RGB, digital DVI, and digital HDMI inputs**
- ▶ **Two (2) composite BNC inputs and loop-through outputs**
- ▶ **Component video**
- ▶ **Y/C (S-video) and loop-through video and audio inputs**
- ▶ **Long-life fluorescent backlight maintains optimal screen brightness throughout monitor life**
- ▶ **High-brightness (300 cd/m²) display**
- ▶ **High-contrast ratio (800:1)**

The UML-202-90 is a high-resolution (Ultra Extended Graphics Array - UXGA), high-performance liquid crystal display (LCD) video display monitor. Available in an ergonomic and aesthetically pleasing design, this state-of-the-art monitor includes a 51 cm (20.1 in.) color thin film transistor (TFT) active matrix LCD panel with 1600 by 1200 pixels. Designed for the professional CCTV security marketplace, the UML-202-90 monitor includes two looping composite video inputs, two looping audio inputs and one looping Y/C input.

Functions

This monitor includes an analog RGB mode, a Digital DVI, and an HDMI (high definition multimedia) input to accommodate the increasing use of PCs and digital video devices in security applications. The HDMI input supports full HD up to 1080P. To enhance the multi-input capability, the monitor includes a "picture-in-picture" function. This also enables any of the composite video or Y/C input to be inserted into the RGB/DVI/HDMI input display.

A security officer can make standard adjustments to monitor display parameters with user-friendly choices displayed using on-screen menus (available in several languages) and front panel controls.

For additional security, the UML-202-90 includes a front panel lockout feature that disables the front panel control buttons. Long-life fluorescent backlights maintain the monitor's brightness level over time, because the LCD monitor design avoids the brightness degradation experienced with aging CRT-type monitors. This energy-saving technology also provides a sharp display, free of the annoying flicker prevalent in traditional CRT monitors, allowing longer use of your LCD monitor with little or no eyestrain. The versatile design allows this monitor to accept NTSC and PAL signal formats automatically as well as power supply voltages from 90 to 240 VAC. Compact styling makes the UML-202-90 the color monitor of choice for large-screen, space-constrained applications. With its wide range viewing angle, 178° by 178°, this monitor may be easily viewed whether it is placed on a desktop, mounted to a VESA standard wall mount, or rack mounted in a standard 51 cm (20.1 in.) EIA rack.

Certifications and Approvals

Electromagnetic Compatibility (EMC)	Complies with FCC Part 15, ICES-003, and CE regulations
Product Safety	Complies with CE regulations, UL, EN, and IEC Standards

Technical Specifications

Electrical

Rated Voltage	110/230 VAC, 50/60 Hz
Voltage Range	90 to 264
Power at Rated Voltage	70 W
Sync Format	PAL/NTSC
LCD Panel	TFT LCD
Screen Size (H x V)	408 x 306 mm (16 x 12 in.)
Viewable Picture Area	20.1 in. (53 cm) measured diagonally
Pixel Pitch (H x V)	0.255 x 0.255 mm (0.01 x 0.01 in.)
Resolution	1600 x 1200 pixels, 500 TV lines typical
Aspect Ratio	4:3
Display Colors	8-bit interface; 16.7 million colors
Response Time	16 ms (typical)
Backlight	Six (6) cold cathode fluorescent tubes, rated life 50,000 hours, at 50% brightness

LCD Panel Optical Characteristics

Luminance	300 cd/m ² , hard-coating (3H), non-glare treatment
Contrast Ratio (CR)	800:1
Viewing Angle	178° horizontal, 178° vertical @ CR ≥ 10

Video Input

Composite Video (CVBS)	1.0 Vp-p (0.5–1.5 Vp-p), automatic switching from 75 Ohm unbalanced termination to Hi-Z with passive loop-through operation
Y/C (S-video)	0.7 Vp-p (Y-signal), 0.3 Vp-p (C-signal) 75 Ohm termination
Picture-in-Picture	Video 1, Video 2, S-video

HDMI/DVI/RGB Inputs

Analog RGB	0.7 Vp-p (0.5–1 Vrms)
Picture-in-Picture	Video 1, Video 2, S-video
DVI/RGB/HDMI Timing Modes	640 x 480, 60/72/75 Hz 800 x 600, 60/72/75 Hz 1024 x 768, 60/70/75 Hz 1280 x 1024, 60/75 Hz 1600 x 1200, 60 Hz

Component Timing	Resolution	V-freq (Hz)
	640 x 480 (480i)	60
	720 x 576 (576i)	50
	640 x 480 (480P)	60
	720 x 576 (576P)	50
	1280 x 720 (720P)	50, 60
	1920 x 1080 (1080i)	50, 60
	1920 x 1080 (1080P)	50, 60

HDMI/DVI/RGB Inputs

HDMI Timing	Resolution	V-freq (Hz)
	640 x 480 (480P)	60
	720 x 576 (576P)	50
	1280 x 720 (720P)	50, 60
	1920 x 1080 (1080i)	50, 60
	1920 x 1080 (1080P)	50, 60
Audio Input	1.0 V line level, mono	
Audio Output	Loop-through line level Speaker: two (2), 2 W	

Controls

Front Panel	Push-buttons
Input	Selects Video 1, Video 2, S-video, RGB, DVI, or HDMI input
Menu	Selects on-screen display (OSD) Up arrow, Menu select Down arrow, Menu select Left arrow, decrease Right arrow, increase
Power	On/Off
Front Panel Lockout	Multiple push-button combination

On-Screen Display

Video	Custom (Brightness, Contrast, Color, tint, Sharpness), Picture/Sound (PictureMode, Color Tone, Mute, Volume, Size, Auto Adjust, H-position, V-position, Frequency), PIP (PIP, Input Source, Size, Position, Swap, Sound Select), Setup (Reset, Language, OSD Tone, Blue Screen, Key Lock, Version)
DVI/RGB	Custom (Brightness, Contrast, Sharpness), Picture/Sound (PictureMode, Color Tone, Mute, Volume, PC, Auto Adjust, H-position, V-position, Frequency), PIP (PIP, Input Source, Size, Position, Swap, Sound Select), Setup (Reset, Language, OSD Tone, Blue Screen, Key Lock, Version)

Indicators

LED	Power On (green) Power Off (red) Standby/Sleep Mode (flashes red)
On-Screen	"No Signal" (Moving OSD)

Connectors

Video 1	Composite video: two (2) BNC (1 in, 1 out)
Video 2	Composite video: two (2) BNC (1 in, 1 out)
Y/C (S-Video)	Two (2) mini-DIN, 4-pin (1 in, 1 out)
Component	Y, Pb, Pr
Audio	PC: one (1) 1/8 in. mini phono plug Video: four (4) RCA (2 in, 2 out)

Connectors

DVI-D	One (1) DVI to DVI cable included
HDMI	One (1) cable not included
RGB	One (1) RGB to RGB cable included
Power Cord	Two (2) 3-wire with a grounded plug, 1.8m (6 ft) long, one (1) with a European/Continental plug type and one (1) with a U.S. plug type

Mechanical

Cabinet Material	Front: ABS plastic Chassis: electrolytic galvanized iron
Finish	Charcoal black
Mount	Wall mounting compatible with standard bracket, 100 mm centers, M4 thread

Dimensions

Monitor Only (W x H x D)	460.4 x 395.1 x 81 mm (18.1 x 15.5 x 3.19 in.)
Packaging Dim (W x H x D)	540 x 485 x 180 mm (21.2 x 19.1 x 7.0 in.)
Weight	Monitor only: 8.5 kg (18.7 lb) Package: 10.5 kg (23.1 lb)

Environmental

Operating Temp.	0°C to 40°C (32°F to 104°F)
Storage Temp.	-20°C to 60°C (-4°F to 140°F)
Humidity	10%-95%, non-condensing

Ordering Information

UML-202-90 20-inch Color LCD Display Monitor	UML-202-90
Accessories	
UMM-LW-20B Fixed Wall Mount Fixed wall mount for flat panel LCD monitors, black	UMM-LW-20B
UMM-LW-30B Swivel/Tilt Wall Mount Swivel/Tilt wall mount for flat panel LCD monitors, black	UMM-LW-30B

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