# SONY

# PHM Series

Digital **HDVS**

# Spectacular Quality and Value in High Definition Video Monitoring

*For high definition monitoring in video production and corporate video applications, the Sony PHM Series monitors are a superb choice—because they represent an ideal combination of picture quality, versatility, and cost-efficiency.*

PHM-20M8U

# FEATURES

## Precision HD Pictures

The Sony PHM Series incorporates advanced HR Trinitron® technology for image quality that suits the needs of demanding HD applications. The PHM Series displays precise HD pictures in both models: 700 TV lines center resolution* for the PHM-20M8U, 600 TV lines for the PHM-14M8U.

\* In 16:9 ratio images, the number of vertical white-and-black stripes visible in an area where the screen width is the same as screen height.

## 1080/1035 Signal Capability

The PHM Series provides flexible input capability, accepting both 1080 and 1035 signal formats at vertical rates of either 59.94 Hz or 60 Hz. The PHM Series also achieves frequency response to 24 MHz.

## Accurate, Stable Color Reproduction

Incorporating SMPTE-C standard phosphors, the PHM Series CRT is specifically designed for color accuracy— and Sony's beam current feedback circuitry helps maintain stable color reproduction.

## Adjustable Color Temperature

Color temperature adjustment is switchable between D65, D93, and two user-defined settings (USER1 and USER2).

## Delay and Underscan Modes

The H/V Delay mode displays the horizontal and vertical intervals in the center of the screen, allowing you to view the blanking area and sync/burst signal. In Underscan mode, the entire active picture area is displayed—making it possible to view the entire image to check picture edges.

Control Panel

Rear Panel
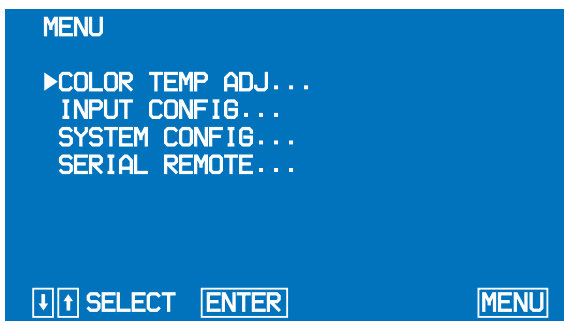
Rear Panel with Serial Remote attached

## ◆ 4:3 Area Marker

For situations where final distribution will be in a conventional NTSC format, the PHM Series monitors have 4:3 area markers that make it easy to determine the 4:3 aspect area within the 16:9 widescreen image.



PHM-14M8U

## ◆ On-Screen Display Menu

Monitor adjustments and operation status are displayed on-screen, making the PHM Series monitors simple to set up and operate.

```
MENU

▶COLOR TEMP ADJ...
 INPUT CONFIG...
 SYSTEM CONFIG...
 SERIAL REMOTE...



↓↑ SELECT  ENTER          MENU
```

## ◆ External Sync

These monitors can accept external sync signals for synchronization with other equipment.  External sync can be set so that it will automatically switch according to the input selected.

## ◆ Wide-Range Power Supply

The AC power supply is switchable from 100 V to 120 V AC and from 220 V to 240 V AC (UL approved for 120 V AC operation only).

## ◆ Serial Remote Interface

Using the supplied serial remote connector, the PHM Series monitors can be connected to and controlled by the Sony HDM and BVM Series monitors.

## BKM-301HD
### HD SDI Input Adaptor

For High Definition Serial Digital Interface (HD SDI) system applications, the optional Sony BKM-301HD HD SDI Input Adaptor can be connected to the PHM Series monitors.
HD SDI provides transmission of full data rate 10-bit component digital signals with a bit-rate of 1.5 Gbps, allowing simple interface with the new generation of Sony HDVS equipment.
*HDVS: High Definition Video System.

## Versatile Applications with Sony Professional Equipment

### •DXC-9000 3-CCD Color Video Camera

The PHM Series handles non-interlaced 4:3 aspect signals from the Sony DXC-9000 Sensor Camera (DXC-9000 VGA mode).  In 4:3 aspect ratio, the PHM-20M8U achieves center resolution* of 900 TV lines; for the PHM-14M8U, center resolution* is 800 TV lines.  On each monitor, the supplied 16:9 widescreen mask is easily detachable without any extra equipment for standard 4:3 applications.

* In 4:3 ratio images, the number of vertical white-and-black stripes visible in an area where the screen width is the same as screen height.

### •DXC-H10 3-CCD High Definition Color Video Camera

The PHM Series is also ideal for high definition video monitoring with the Sony DXC-H10 HDVS Camera—because it displays the spectacular potential of HDVS images.
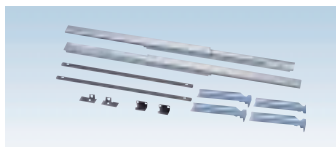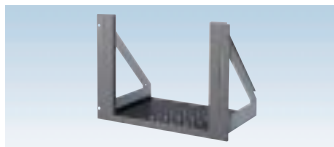


PHM-14M8U

DXC-9000          DXC-H10

# SPECIFICATIONS

| | | PHM-20M8U | PHM-14M8U |
|---|---|---|---|
| **Video signal performance** | | | |
| System | | 1125/1080 60 Hz, 59.94 Hz 2:1 16:9 (SMPTE 274M) 1125/1035 60 Hz, 59.94 Hz 2:1 16:9 (SMPTE 240M) 525 59.94 Hz 1:1 16:9 (SMPTE 293M) 525 59.94 Hz 1:1 4:3 (DXC-9000 VGA mode) | |
| Resolution | | 700 TV lines (4:3 mode: 900 TV lines) | 600 TV lines (4:3 mode: 800 TV lines) |
| Aperture correction | | 0 dB to +6.0 dB | |
| Frequency response | | 24 MHz +0 dB/-3 dB (YPBPR) 22 MHz +0 dB/-3 dB (GBR) | |
| **CRT performance** | | | |
| CRT type | | 20-inch HR Trinitron | 14-inch HR Trinitron |
| AG Pitch | | 0.30 mm | 0.25mm |
| Visual screen size [viewable area, measured diagonally] | 16:9 mode | 388 (H) × 218 (W) mm (15 $^3/_8$ × 8 $^5/_8$ inches) [445 mm (17 $^5/_8$ inches)] | 267 (H) × 151 (W) mm (10 $^5/_8$ × 6 inches) [307 mm (12 $^1/_8$ inches)] |
| | 4:3 mode | 388 (H) × 292 (W) mm (15 $^3/_8$ × 11 $^1/_2$ inches) [484 mm (19 $^1/_8$ inches)] | 267 (H) × 200 (W) mm (10 $^5/_8$ × 7 $^7/_8$ inches) [331 mm (13 $^1/_8$ inches)] |
| Phosphors | | SMPTE-C | |
| **Raster and picture performance** | | | |
| Normal scan | | 7 % overscan | |
| Under scan | | 5 % underscan | |
| Linearity | H | Less than 5 % | |
| | V | Less than 5 % | |
| Convergence | | Less than 0.5 mm within circle centered on the screen with a diameter equal to the vertical height, 0.6 mm at any other point | Less than 0.4 mm within circle centered on the screen with a diameter equal to the vertical height, 0.5 mm at any other point |
| Stability of raster size | H | Less than 1 % | |
| | V | Less than 1 % | |
| High voltage regulation | | Less than 1.0 % | |
| Color temperature | | D65/D93/USER1/USER2 | |
| **Inputs** | | | |
| INPUT A/B | YPBPR/GBR IN | BNC × 6 <br> YPBPR: 0.7 Vp-p <br> GBR: 0.7 Vp-p <br> Sync on G/Y: Tri-level sync: 0.6 Vp-p <br> Bi-level sync: 0.3 Vp-p <br> Automatic 75 Ω termination | |
| | Ext sync IN | BNC × 2 <br> Bi-level sync: 4.0 Vp-p ±6 dB, negative <br> Tri-level sync: 0.6 Vp-p <br> Automatic 75 Ω termination | |
| | HD/VD IN | BNC (HD × 2/VD × 20) <br> 4.0 Vp-p ±6 dB, negative or positive <br> (HD and VD must be the same pole) <br> Automatic 75 Ω termination | |
| | AUDIO IN | RCA Pin (MONO × 2) <br> -5 dBu 47 kΩ | |
| OUTPUT A | YPBPR/GBR OUT | BNC × 3, loop-through | |
| | Ext sync OUT | BNC × 1, loop-through | |
| | HD/VD OUT | BNC × 2 (HD × 1/VD × 1), loop-through | |
| | AUDIO OUT | RCA Pin (MONO) × 1, loop-through | |
| REMOTE | | 20-pin × 1 (Parallel), D-sub 9-pin × 2 (With Serial Remote attached) | |
| **General** | | | |
| Power requirements | | 100 V to 120 V AC, 220 V to 240 V AC ±10 % 50/60 Hz | |
| Power consumption ( ): with HD SDI interface | | 150 W (164 W) | 110W (124W) |
| Dimensions ( ): D without 16:9 mask | | 450 (W) × 458 (H) × 557 (550) (D) mm 17 $^3/_4$ × 18 $^1/_8$ × 22 (21 $^3/_4$) inches | 346 (W) × 340 (H) × 467 (460) (D) mm 13 $^5/_8$ × 13 $^1/_2$ × 18 $^1/_2$ (18 $^1/_8$) inches |
| Mass | | approx. 34 kg (74 lb 15 oz) | approx. 19 kg (41 lb 14 oz) |
| Operating temperature | | 0 to 35 °C (32 to 95 °F) Optimum operating range 20 to 30 °C (68 to 86 °F) | |
| Storage temperature | | -10 to 40 °C (14 °F to 104°F) | |
| Humidity | | 0 to 90 % (no condensation) | |

**Supplied accessories:** 16:9 mask with covers/AC cable/AC plug holder/Tally label/20-pin connector cable/Operation manual
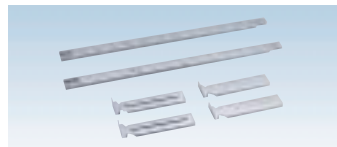Serial remote connector/Interface manual for programmers

# Optional Accessories

**SLR-103A** Slide Rail Kit
(for PHM-20M8U)

**MB-502B** Rack Mounting Bracket
(for PHM-14M8U)

**SLR-102** Slide Rail Kit
(for PHM-14M8U)

## Distributed by

Printed in Japan
©1998 Sony Corporation