



Target applications

- General Medical Imaging
- PACS/RIS

Features and Benefits

- Digital Interface
- Clear, Sharp and Crisp Image
- Portrait / Landscape Display
- High Luminance / High Contrast ratio
- Very Large Viewing Angle
- Large Display Area
- Grayscale stability & consistency
- DICOM compliance
(Integrated 10 bit LUT)
- Remote Control & Maintenance
- Medical Grade

The MML2031 is a monochrome Flat Panel Display designed specifically for medical imaging and provides 3Mpixel screen resolution matching the high demand for the requested picture quality and performance. The monitor accepts the digital input, according to DVI standard, with optimal panel-matching resolution of 2048 x 1536.

Reliable

A stringent reliability plan has been applied during the design stage to assure many years of trouble-free operation in the field. Production is continuously monitored by short-term and long-term reliability testing to maintain the product reliability.

MML2031

20.8" LCD Monochrome Display - 3Mp
Digital input - Medical Grade



FIMI, a partner you can count on...

Product highlights

- Wide viewing angle (170° H&V)
- High brightness (max 800 Cd/m²)
- High contrast (600: 1)
- OSD control
- Backlight Stabilization
- Automatic Grayscale calibration
(DICOM compliance)
- 256 Grey levels from a palette of 1531 (10.5 bit)
- Internal front and backlight sensor
- RS232 and USB Serial Interface control
- Universal mounting (GCX/VESA plate)
- Optional Dual Head Graphic Board
- Optional Calibration Kit
- Medical Grade

FIMI

PHILIPS

MML2031

20.8" LCD Monochrome Display - 3Mp

Digital Input - Medical Grade

Display characteristics

Type:	Monochrome TFT/LCD module type IDTech ITQX21
Display size (diagonal):	20.8" / 528 mm
Technology:	Dual Domain IPS Native
Resolution:	QXGA (2048x1536)
Active Area:	423.9(H) x 318.0(V)
Pixel pitch:	0.207 x 0.207 mm
Supported Monochrome:	8-bit per 1(one) sub-pixel
Viewing angle:	85°/85°/85°/85° (Right/Left/Up/Down)
White Luminance:	Typ 800 cd/m2
Contrast ratio:	Typ 600 : 1
Response time:	Tr+Tf = 25ms (Typ)

Other optical interfaces

OSD display
LED display: color green

Input specification

Input signal: Digital RGB, TMDS dual (or single)-link
Gradation: 10 bit

Image output interface

The interface controller is a device which includes a fully programmable 10 bit LUT

Power specification

External AC/DC adapter box (IEC 6060-1 / UL2601-1)
Output voltage: +12V
Input Voltage: 100 to 240 VAC, 50-60 Hz
Power consumption: 75 W

External connectors

DC input connector: Miniature Power Jack
Digital video input: DVI connector
Serial interfaces:
- RS232 9 pin D-shell connector
- USB connector

User controls

Set of keys located on the back of the monitor activates a main menu and a set of sub-menus visible on the screen (OSD - On Screen Display)

Direct front panel control for Brightness adjustment (no through OSD).

Functionality

Backlight Stabilization Circuit

Internal correction circuit to stabilize the brightness level within 60 seconds of startup.

Circuit that could keep the light output level at a pre-defined value in order to recover the aging of the backlights and a fast reaching of light stable condition at monitor switch-on.

Grey-scale correction

The interface provides a method of grey-scale correction using the integrated 10 bit Look-up-Table according to DICOM standard unless otherwise specified.

Integrated 10 bit LUT produces a palette of 1,531 grayscale tones (frame rate control), from which 256 can be displayed simultaneously.

Autocalibration

External photosensor to detect the visible Light output and Grayscale rendition on the display. Monitor periodically calibrated through the correction of internal LUT.

Remote Control & Maintenance

Information on monitor status accessible through serial interface (RS232, USB).

Optional Graphic Board

Matrox MED3mp-DVI graphic board with dual DVI-I ports.

Physical specifications

Dimensions: 481(W)x381(H)x88.6(D)mm
Weight: TBD
Standard mounting: GXC/VESA compatible Desktop tilt base (Portrait and Landscape mode)
Operating temperature: 0° to 40°C
Storage temperature: -5° to 60°C
Relative humidity: 20% to 90%, non condensing
MTBF: >100,000 hours, excluding backlight life
Lifetime of Backlight: >25,000 h (brightness reduction to 50%)

Regulations

Medical Electrical Safety Standards:
- UL2601 / IEC601-1 / EN60601-1
Medical EMC Standards:
- IEC601-1-2, EN60601-1-2
- EN55011 / CISPR11
Approvals/Marking:
- CE, C-UL-US



FIMI
Via Saul Banfi, 1
21047 SARONNO (VA) Italy
Tel. +39 02 96175.294
Fax +39 02 96175.305

www.fimi.philips.com