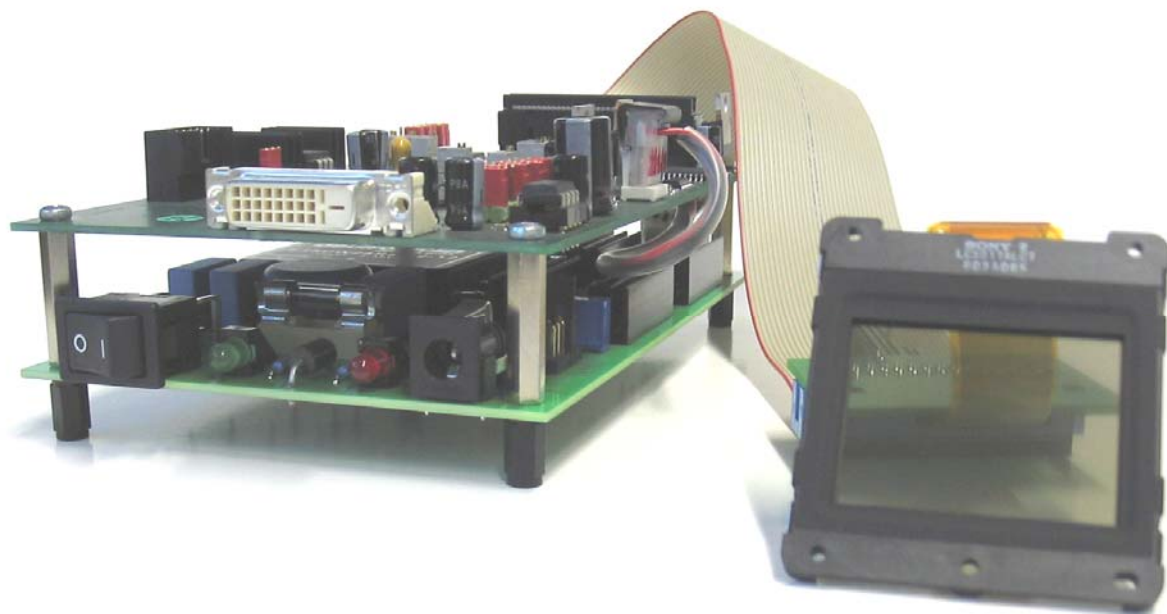


SPECIFICATION SHEET

1,8" XGA Microdisplay Projection Kit

P/N: HEO 0017



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Introduction

Description

The LCX017 OEM kit is used to control a transmissive micro display with a resolution of 1024x768 pixels. The signal is addressed via DVI-D (Digital Visual Interface - Digital) by a PC's graphics card.

Deliverables

- LCX017 Imager
- Adapter board
- Extension ribbon cable (30cm)
- Driver board
- Power supply cables
- This documentation
- Power supply board (5V / 20V)

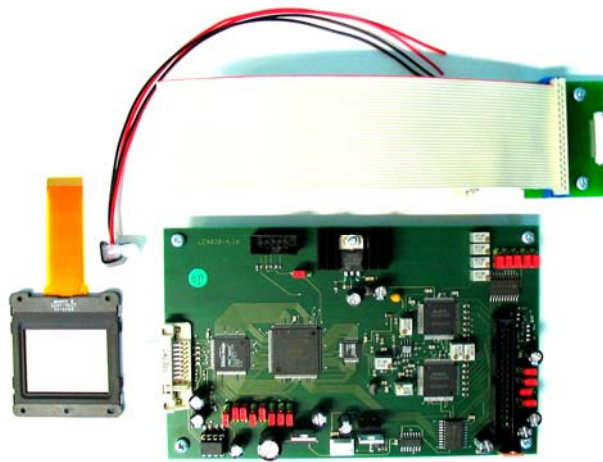


Fig. 1 Scope of delivery

Safety Instructions

The assembly of the hardware has to be done on an antistatic workstation. Otherwise the board and the display can be damaged. All plugs of electrical interfaces especially the display to board connection has to be done without applied voltage. Even if the DVI is hot plug capable we recommend to boot the PC after connecting the board.

Display

Specifications

Model:	LCX017
Resolution:	XGA (1024x768)
Pixel Pitch:	36µm
Diagonal Display Dimension:	1,8" ; 4,6 cm

Connection

The connector from display to adapter board have a limited contact durability. Hence, often disconnection and connection should be avoided. User should connect the display on the output board with the "golden pins" facing down. The connection has to be done under antistatic conditions.

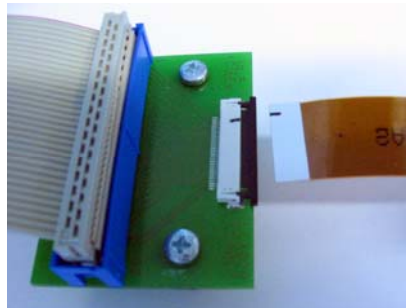


Fig. 2 Connecting the display

Graphics card / DVI

The graphics card resolution for the display signal should be 1024x768 pixels (native resolution) to achieve the best performance.

Polariser

The LCX017 micro display is delivered without the standard polarizing foil.

Dimensions

Package Outline Unit: mm

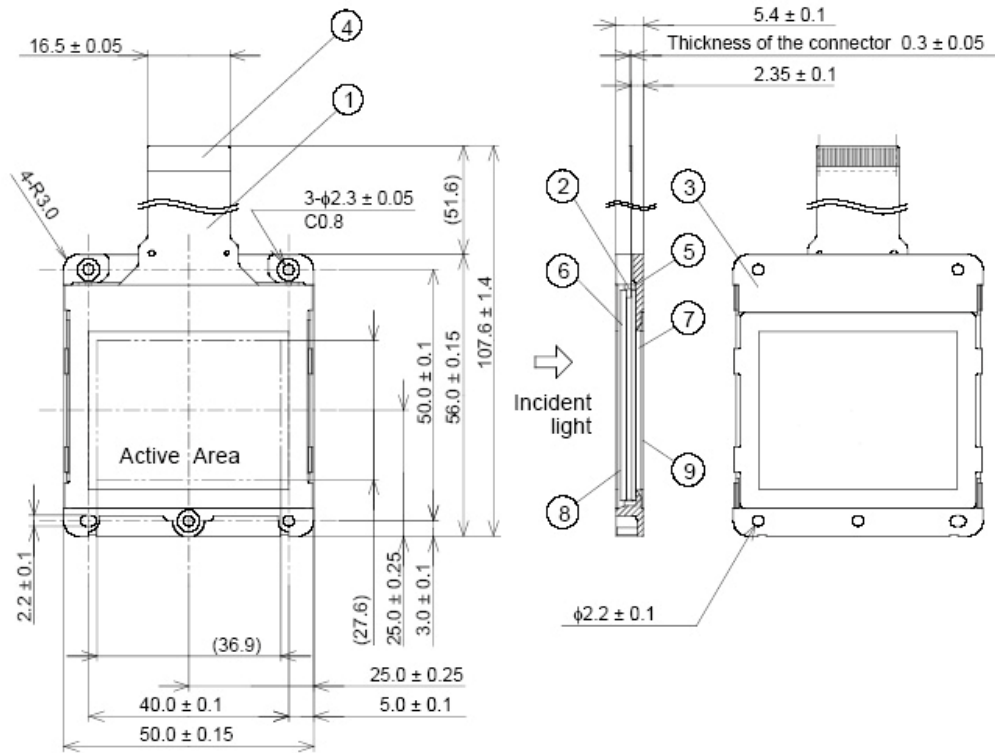


Fig. 3 Display dimensions

Driver Board

Specifications

Resolution: XGA and SXGA

Signal Input: DVI – 60 Hz, 24 Bit

Used channel: Green channel, 8 Bit

Power Supply

+ 5V / 0,7A

+20V / 0,3A

Dimensions

Driver board: 160 x 100 mm

Adapter board: 37,5 x 50 mm

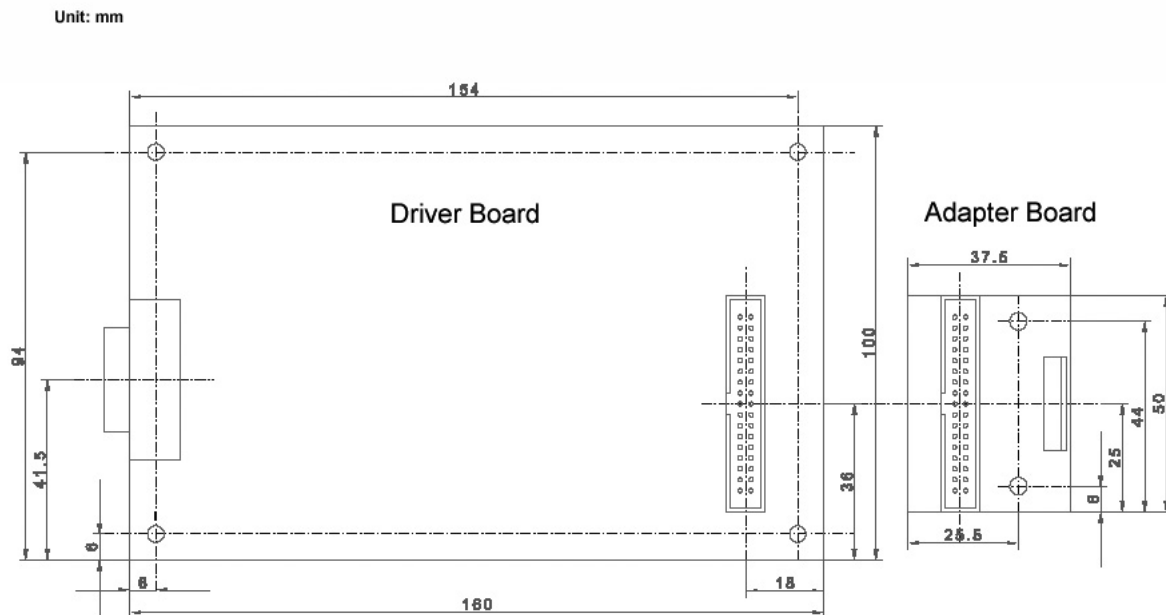


Fig. 4 Board dimensions

Settings

Contrast	Potentiometer
Brightness	Potentiometer
XGA/SXGA panel	Jumper
Mirror, left + right, up + down	Jumper

There are only five potentiometer the user should change:

Contrast, Brightness, Balance, SID and VCOM

The RGT Jumper does left-right mirroring

The Dwn Jumper does up-down mirroring

All other jumpers should not be changed!

Balance	Balance even and odd columns. Has to be readjusted after strong change of brightness.
CAL	Level for the IC's self-adjustment. Do not change!
Delay	Adjust the sampling time
SID	Pre-charge signal minimises the lines repeating every 12 pixels
VCOM	Adjust the backplate voltage against the video signal for minimising pixel flicker.
SigCenter	Adjusts the center voltage of the video signals. Do not change!

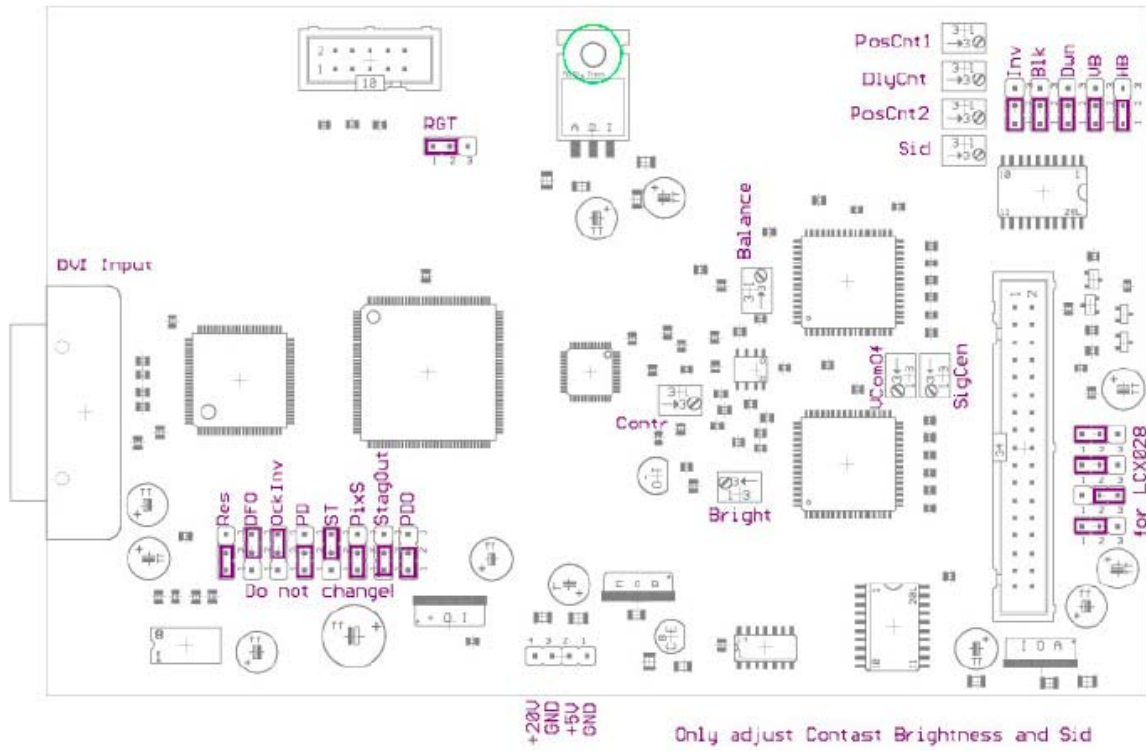


Fig. 5 Driver board adjustments

Characterisation Measurements

Transmission

The transmission was measured with a coherent light source (543nm & 633nm) and is defined by the percentage of the input power compared to the 0th order (DC) after passing the LC display

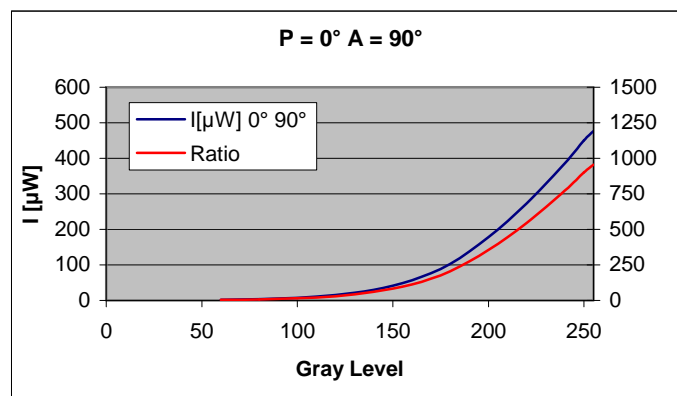
Transmission: 27%

Contrast

The contrast was measured with a coherent light source (543nm & 633nm, expanded beam) and is defined by the ration between the black and white state of the display.

(P: Polariser ; A: Analyser ; 0°= vertical ; Incident light from black side of Display, flex down)

633nm



543nm

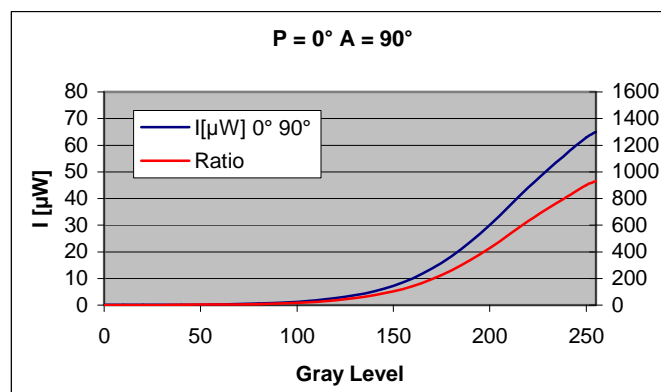


Fig. 6 Contrast for different wavelengths

Start-up

- All components have to be connected under zero voltage conditions
- DVI-connector should be plugged before booting the PC
- The correct setting in the Display Manager have to be checked and changed if necessary

Services notices

Please refer also to the delivered display specification document:

[LCX017AL.pdf](#):

For further questions please get in contact with HOLOEYE:

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