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# FKG-2 OEM

## User Manual

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## 1 In General

The FKG-2-OEM is a modular *crosshair generator*. It generates two independent crosshairs and insert them into a video signal. This video signal must be an externally connected video source. In most cases, this will be a video camera.

All functions of the FKG-2-OEM are controlled by the internal potentiometers. This allows the user the full adaption to his task. The configuration is done by an integrated DIP switch block.

The FKG-2-OEM is a compact printed circuit board designed for O.E.M. costumers. Figure 1 outlines a typical application.

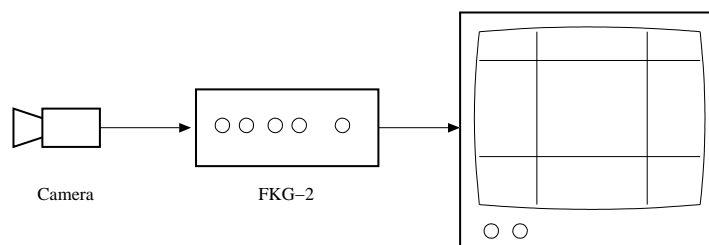


Figure 1: Outline of a possible application.

### 1.1 Features

The following enumeration gives you an short overview of the available features of the FKG-2-OEM.

- insertion of two crosshairs into an external video signal.

- free positioning of each crosshair.
- free adjustment of the brightness of both crosshairs.
- width adjustable in four steps.
- height adjustable in two steps.
- processing of BAS, FBAS or Y/C possible.

See section 4 for an overview of more technical details of the device.

## 2 Connecting the FKG-2-OEM

The FKG-2-OEM is a printed circuit board member of the FKG product family. For this reason, all the signals must be plugged into on-board connectors. Figure 2 shows the position and the orientation of these connectors. The bevelled edge marks pin-1! The figure shows the position of the five potentiometers as well as the DIP switch block.

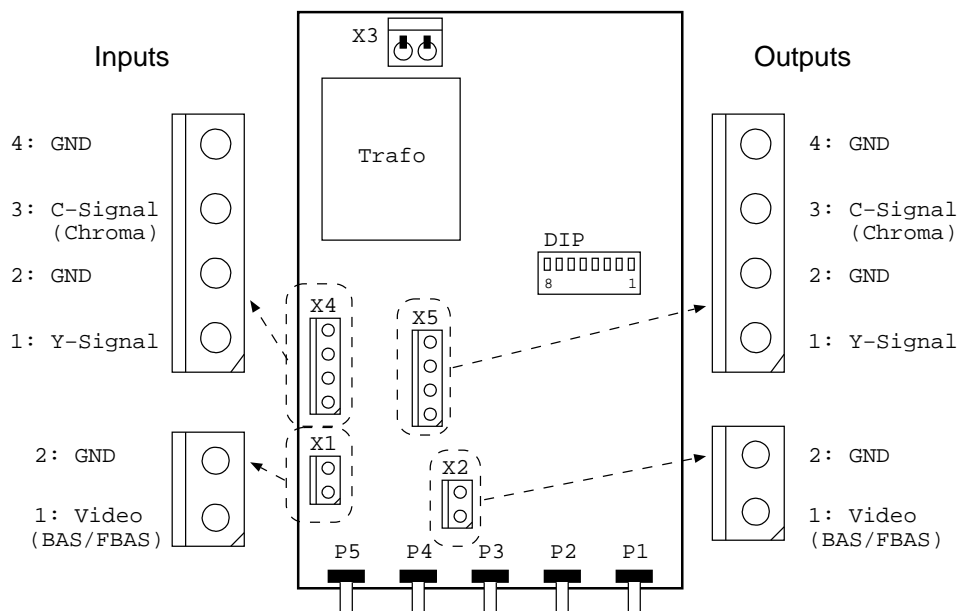


Figure 2: Position and the orientation of all connectors and potentiometers.

The following overview is a description of the available connectors and potentiometers. The names are equal to figure 2. Standard single-breasted Molex connectors are used for all video signals.

- X1** is a two-pole Molex connector. This is the input of the BAS / FBAS video signal.
- X2** is a two-pole Molex connector. This is the output of the BAS / FBAS video signal with the inserted crosshair.
- X3** is a two-pole screw clamp connector for the supply voltage.
- X4** is a four-pole Molex connector. Connect the input of the Y/C video signal here.
- X5** is a four-pole Molex connector. This is the output of the Y/C video signal with the inserted crosshair.
- P1** vertical position of the first crosshair.
- P2** horizontal position of the first crosshair.
- P3** vertical position of the second crosshair.
- P4** horizontal position of the second crosshair.
- P5** brightness of both crosshairs.

## 3 Usage

### 3.1 Positioning and Brightness

The position of each crosshair is controlled by two potentiometers. One is used to move the cross in vertical direction. The other is used to move the cross in horizontal direction.

The brightness of both crosshairs is controlled by a single potentiometer. With this potentiometer, the level of the brightness is adjustable in 255 steps. The value of white is hereby 0Ω!

### 3.2 Configuration

The configuration is done with a DIP switch block with eight switches. Three of them are used to configure the width and height of the lines of both crosshairs. See table 1 for a description of all used switches.

A *binary* value of two bits<sup>1</sup> allows the configuration of four different values assignable to the line width. Table 2 shows all possible combinations and there meaning.

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<sup>1</sup>the DIP switches 1 and 2 represents these two bits.

Table 1: Assignment of the DIP switches

DIP	default	description
2,1	Off,On	width of the vertical line as binary value.
3	Off	toggle the height between 1 and 2 pixels.
6	Off	reserved.
4,5,7,8	Off	unused.

Table 2: Configuration values of the line width

DIP2	DIP1	assignment
Off	Off	line width 1 pixel.
Off	On	line width 2 pixel.
On	Off	line width 3 pixel.
On	On	line width 4 pixel.

## 4 Appendix

### 4.1 Technical Data

<b>video signal:</b>	CCIR/PAL: BAS, FBAS or Y/C possible
<b>horizontal frequency:</b>	15.652 kHz
<b>vertical frequency:</b>	50 Hz interlaced 2:1
<b>signal bandwidth:</b>	> 10 MHz (-1 dB)
<b>supply power:</b>	230 V / 50 Hz to 60 Hz
<b>current consumption:</b>	2.5 Watt
<b>dimensions:</b>	100 mm (B) * 160 mm (T) * 25 mm (H)
<b>resolution:</b>	horizontal 785 vertical 585
<b>brightness:</b>	255 levels
<b>line width:</b>	4 values
<b>line height:</b>	2 values