

# CMUcam2

Version 1.00

How to start ?



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## CMUcam2

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The handbook and the product describe in the files "CMUcam2\_manual" and "CMUcam2GUI\_overview" were made with the greatest attention by the manufacturer. All the efforts have summers implemented to avoid anomalies. However, we cannot guarantee that this last is at 100% free from any error.

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## Synopsis

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# 1. Contents of the package



You have just acquired the module CMUcam2, this last is made up:

- Of a main board with plugged in video module
- Of a connecting cable series
- Of a CD-Rom
- 2 small jumpers

Foot-note: it is possible that you acquired CMUcam2 without its video sensor (if you for example already bought as a preliminary CMUcam1 and that you wish to recover the video sensor of the latter).



## **2. Recall before the implementation**

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CMUcam2 which was delivered to you was entirely tested with attention. Also of share the fact that the board integrates SMD (by nature very difficult to unsolder), So please be extremely attentive during its use. Thus, in the event of bad handling involving the destruction of CMUcam2, the repair the CMUcam2 will be very expensive.

### **What must be done**

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- Check the polarity before the powering of CMUcam2 (pink wire = + and gray wire = -)
- Check the value of the power supply.
- Check the polarity of the plug of the servo-motors before assembling
- Cut the power supply of CMUcam2 before connecting any device above (servo-motor, modules on output...).
- Check that the power supply of the signals being able to be applied to the input of CMUcam2 lie well between 0 and 5 V.
- Use interface circuits (transistor for example) to control external devices by the means of the exits of CMUcam2
- Avoid handling CMUcam2 with full hand (the ports of microcontroller SX52 are directly accessible on pins, being able to collect static electricity).

### **What musn't be done...**

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- To disconnect devices from CMUcam2 when this one is under power supply (to disconnect the plug of a servomotor for example).

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- To cut power supply of CMUcam2 when an external module present on one of its input is always fed continuously thus to deliver a voltage on the input of CMUcam2. Under these conditions, the port or the microcontroller of CMUcam2 seroint damaged (not taken into account by the guarantee).
- To assemble wire on the input pins of CMUcam2 without device limiting the input voltage to +5 V max (if for example you directly add switch on one of the input of CMUcam2 with a wire, you are likely to bring back disturbances ESD on input of the microcontroller (especially if your ludic robot is equipped with engines motors). These disturbances can generate a dysfunction, or a destruction of the input port or the whole microcontroller (not taken into account by the guarantee).
- To disconnect or connect the module video sensor on the main board of CMUcam2 whereas this one is fed (the module video sensor and CMUcam2 can then be damaged).

In rule General, owing to the fact that you directly have access to the ports of microcontroller SX52, take all the precautions necessary when you exploit the pins d'entrées/sorties of this last.

### **Be carefull... It's HOT !**

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Working with nearly 75 MHz, SX52 microcontroller of CMUcam2 will have tendency to heating much. Never put finger on it, you would be likely to burn you.

In the same way never put the CMUcam2 in a box. IT IS IMPORTANT THAT THE CMUCAM2 WILL ALWAYS STAY WITHOUT HOUSING BOX. Either never put any inflammable material or not in contact or near the SX52 microcontroller.

Exclusively reserved for a ludic use, CMUcam2 is not made to function during very long periods. IMPERATIVELY disconnect its power supply after use and spare pauses between each one of use to avoid any overheating