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Concern: **How to replace a MicroSD memory card on a PCD7.R562, PCD7.R610, PCD3.R562, PCD3.R600 or similar devices**

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This document describes the procedure to replace the Micro SD memory card on PCD7.R562, PCD7.R610, PCD3.R562, PCD3.R600 or similar devices

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## 1 Remarks when handling with printed circuit boards (BCP)



### ESD (Electrostatic Discharge):

Circuit board components are designed to operate within a specified range of voltage that is carefully calculated for their circuitry. On the other hand, static electricity can be created through a simple and unexpected action such as opening a plastic bag or rubbing articles of clothing together. If a circuit board is exposed to these unintended discharges of static electricity, the tolerance of some of the components can be exceeded, causing damage to those parts.



**Physical damage:** Although the circuit board is built to be tough in the application it is designed for, it can still be easily damaged if it is treated too roughly. The board can be broken if subjected to enough impact, like falling off a workbench, and soldered parts can snap off if hit with enough force. Metal traces and pads on the board can lift or crack if the board flexes too much.



**Contamination:** Moisture can cause a circuit board's metal traces and pads to tarnish, and even regular dirt and grime can add to the problem. These contaminants can affect the components' solderability, causing weak connections or disrupting the manufacturing process.

### 1.1 Rules for handling of printed circuit boards during processing



Based on the problems listed above, here are what we do recommend if you are handling the PCD's for exchanging the uSD memory cards:

**ESD:** Circuit boards are handled the most during PCB inspection and rework, and therefore all work must be done in properly designated work areas. These areas should be clean and neat with proper ventilation, and technicians should be grounded with a wrist strap connected to the earth-ground.

**Physical handling:** Workflows should be set up for lean manufacturing and strategically laid out to minimize the board's handling. Technicians should wear protective clothing and gloves, and circuit boards should be handled gingerly by their edges.

**Moisture:** Don't expose the PCB on moisture to avoid moisture contamination.

The following dos and don'ts will help provide the best handling protection for circuit boards:

- Protect the board from moisture by keeping it on the PCD or cabinet until needed.
- Technicians should be grounded with a wrist strap connected to the earth-ground.
- Keep your workstation clean of any materials or liquids that could contaminate the PCB.
- Make sure your workstation is designed to resist static electricity build-up.
- Handle the circuit board by its edges with a secure grip using as little pressure as possible.
- Don't touch unnecessary the components on the PCB with your hands or with tools.

## 2 General remark

To be able to use the memory correctly on the PCD, it's needed to set up the file system on the PCD7.R562, PCD7.R610 or PCD3.R562 by formatting the uSD card.

## 3 For the PCD7.R562, PCD7.R610 or similar devices

### 3.1 Localisation of the uSD card

The uSD card is plugged on the uSD card holder.

On the PCD7.R562, a sticker is covering the uSD card holder and it's needed to remove the sticker to be able to replace the uSD card.



### 3.2 Removing the uSD card from the PCD7.R562, PCD7.R610 or similar devices

Push down slightly the uSD in to the card holder for about 1 mm. Then release the uSD card.



The uSD card is released from the uSD card holder.

Remove the uSD card from the PCD7.R562 or PCD7.R610ezers.

### 3.3 Mount the new uSD card to the PCD7.R562, PCD7.R610 or similar devices

Don't touch the contacts of the uSD card with your hands or with a tool.

Insert the uSD card in to the uSD card holder.

The contacts on the uSD card must show to the PCD7.R562 or PCD7.R610



Push slightly the uSD card in to the uSD card holder until then uSD card is in the position in which the card protrudes approx. 1 mm below the plastic housing of PCD7.R562 or PCD7.R610

Release the uSD card.

The uSD card will now snap into the card holder

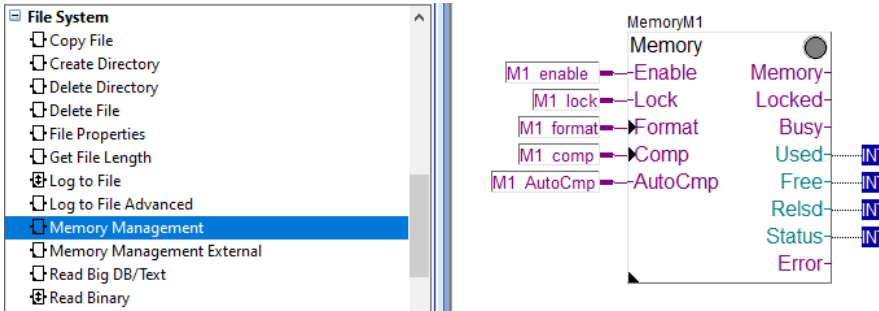
The uSD card and the edge of the plastic housing of the PCD7.R562 or PCD7.R610 are at the same height.



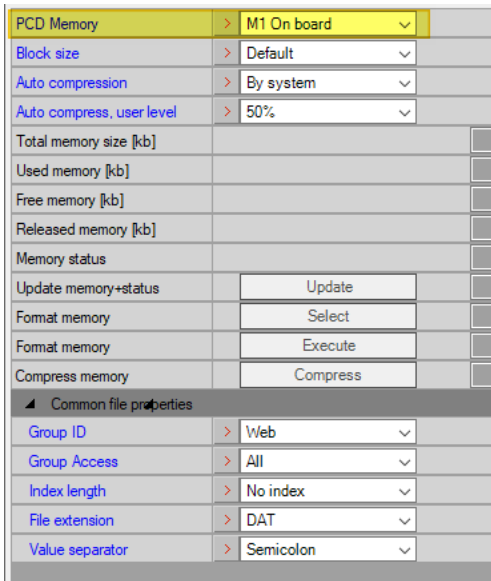
## 4 Format the new uSD card

### 4.1 Write a PG5 fupla program.

Write a PG5 fupla program which contains one 'Memory Management' FBox from the FBox family 'File System'



Select the location in which the PCD7.R562 or PCD7.R610 is to be placed in the PCD in the 'Adjust Window' of the FBox and connect all input connections of the FBox.

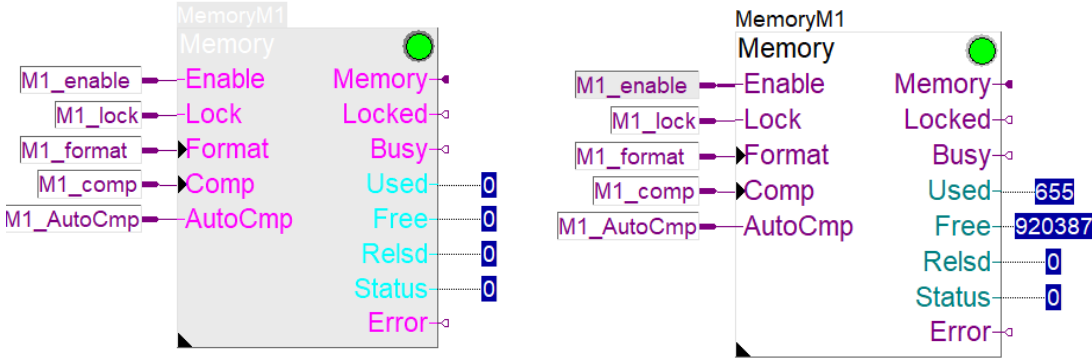


Power off the PCD.  
 Insert the PCD7.R562 or PCD7.R610 in to a PCD.

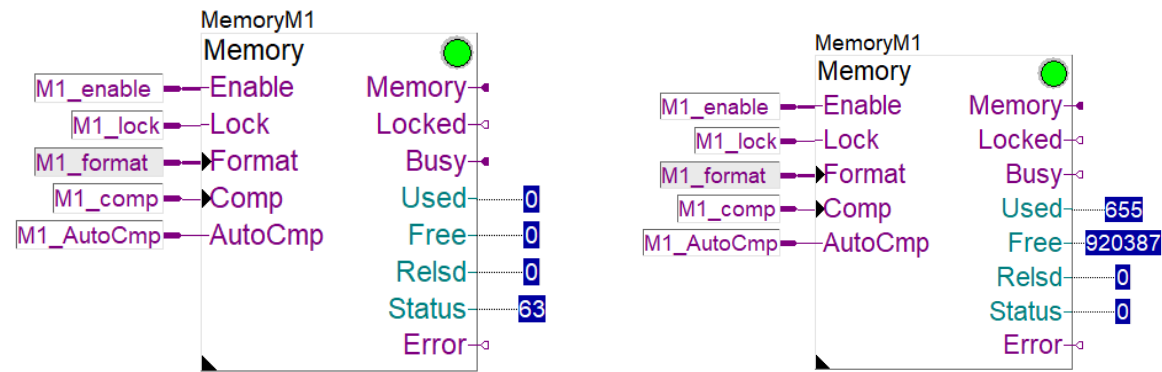
Power on the PCD and load the PG5 application program to the PCD and set the PCD in Run mode

## 4.2 Format the uSD card

Go online with Fupla and set the 'Enable' Input of the FBox to high.



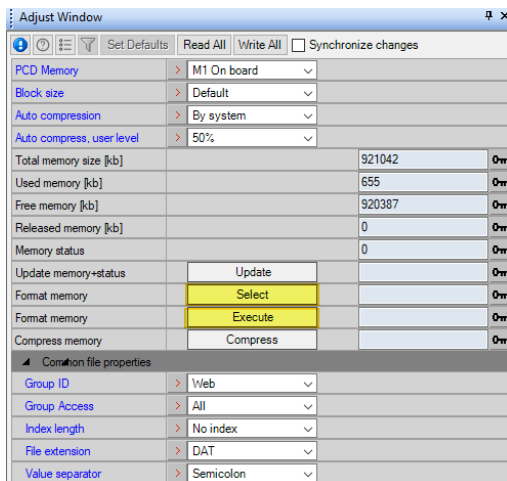
Set the Input 'Format' to high.  
 The output 'Status' will show the value 63 and after some time 0



Set the Input 'Format' to low.  
 Now the uSD card is formatted and can be used by this PCD or also by other PCD's.

Remark:

The formation of the uSD card could be also done by using the 'Select' and 'Execute' button on the Adjust Window of the FBox.



## 5 PCD3.R562 memory module or similar devices

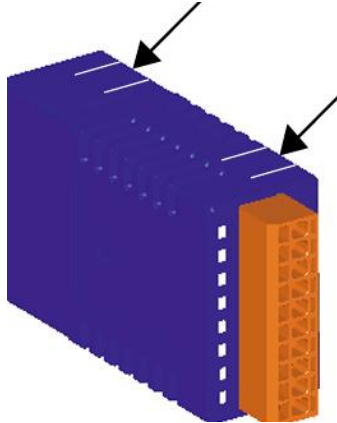
On the PCD3.R562 there is plugged a PCD7.R562 module.

To exchange the uSD memory card on the PCD7.R562, follow the description on the section PCD7.R562

To be able to access to the PCD7.R562, it's needed to disassemble the PCD3.R562 by removing the plastic housing

### Open module

1. There are two snap-in lugs on each housing lid on the two narrow surfaces of the housing.



2. First, lift slightly on one side (approx. 1 mm) with the fingernail of the thumb, and then lift the other side.  
In so doing, ensure that the lugs you have already loosened do not lock again.
3. Carefully separate the two parts of the housing.

Beware: The electronic print thereby detaches from the second housing shell.

This happens owing to the counter pressure of the integrated mass claws of the shielding sheet below.

### Close module

1. To close the housing, place the bottom part (without the snap-in lugs) on an even surface.
2. Ensure that the conductor board is carefully and precisely placed in this housing part.  
The mass claws should not be bent towards the slot side, as this would cause a short circuit.
3. Press the top part onto the bottom part until the snap-in lugs audibly snap in.
4. Ensure that all four lugs have snapped in correctly.

## 6 PCD3.R600 memory module or similar devices

No special manipulation needs to be done if a new uSD card is inserted in the PCD3.R600 module.  
The PCD3.R600 module will re-format the new uSD card as soon as the PCD is powered on.

## 7 PCD7.R-MSD1024 memory module or similar devices

The uSD card which is used on the PCD7.R-MSD1024 will be used either on PCD7.R5xx or PCD7.R6xx memory card holder or on PCD3.R6xx memory modules.

Please follow the instruction for the formatting of the uSD card which fits to the memory card holder on which the uSD card of the PCD7.R-MSD1024 will be plugged.