



## Replacing the LCD Display

### Indications to replace the LCD Display:

- The LCD Display shows lines, dots or has any other unusual display. See Step 5 below.
- The LCD Display is dark

The above points can also occur if the PAL System is in the so-called 'Loader Mode' or if the fuse on the PAL PCB is blown.

Refer first to the section '[Troubleshooting](#)' to verify that the LCD Display is indeed the source of the problem.

It is assumed that the PAL Power Supply has been disassembled as described in the section, '[Disassembling the PAL Control Terminal](#)'.

All further steps are described separately; see '[Repair Path Overview](#)'.

The assembly steps are described in '[Assembling PAL Control Terminal](#)'.

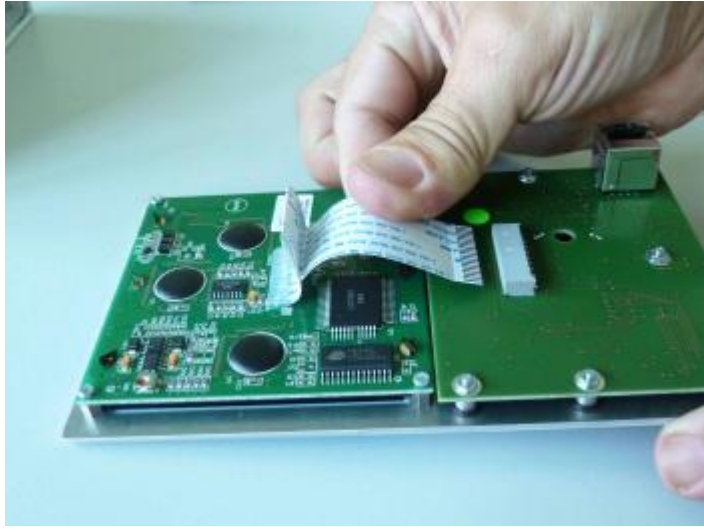


#### Step 1:

The steps to disassemble the Terminal are described in '[Disassembling the PAL Terminal](#)'.

#### Step 2:

Disconnect the ribbon cable from the Display PCB.



Step 3:  
Remove the screws in the four corners.

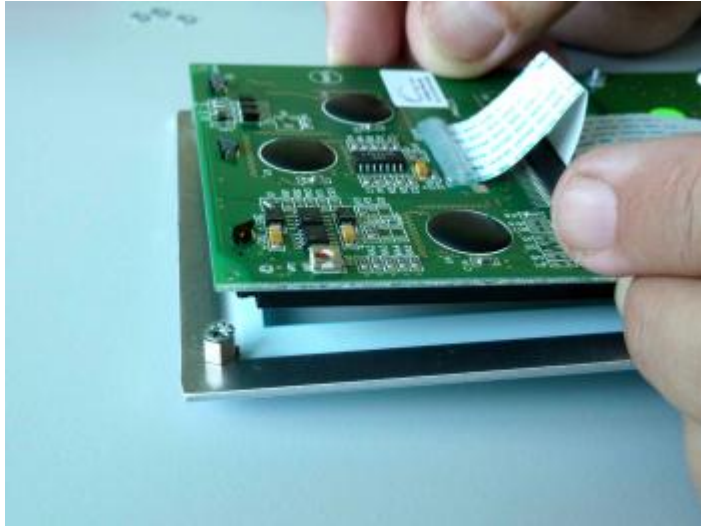
Required Tool: Crosstip Screwdriver  
(Philips)

Material Description: Screws BN 381  
M2.5x4 (crosstip screw head)



Step 4:  
Remove the entire LCD assembly.

Step 5:  
Insert a replacement LCD Assembly.



Required Tools: Crosstip Screwdriver (Philips)

Material Description:

- Kit LCD Repl, consisting of:  
LCD Assembly, ribbon cable, 4 spacers  
4 washers, 4 screws. (see Step 7 below).



Step 6:

Important: Beginning with Revision 7, the LCD Assembly is thicker than earlier revisions. It is likely that if an older terminal has to be repaired, two additional spacers are required. The extra spacers are part of the LCD Exchange Kit.

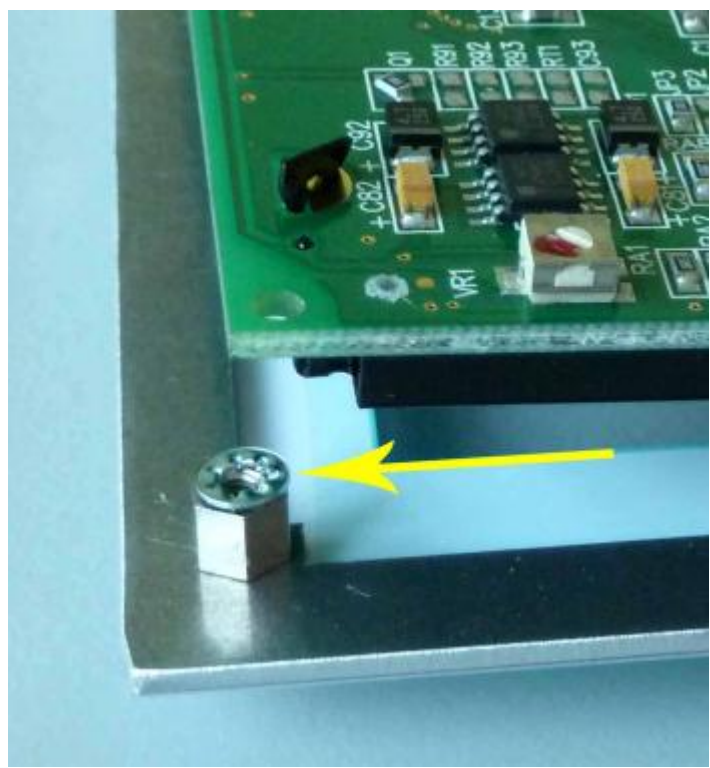


Step 6 contd.:

This picture shows detailed the two spacers needed for the replacement LCD unit.

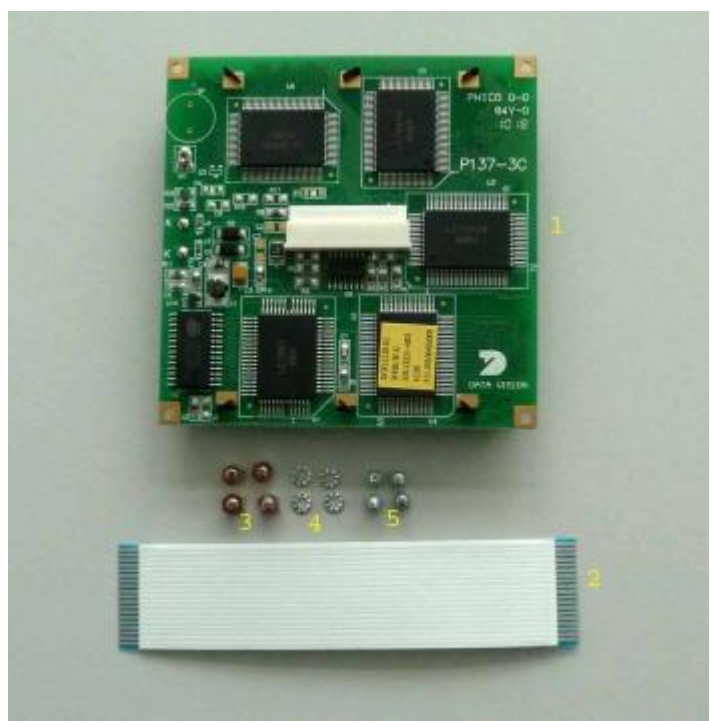
Step 6 contd.:

Note: It is important that the LCD itself has enough space away from the protective foil. If there is contact, dots or lines may be observed. In some cases, this can be remedied by inserting a washer in between the LCD assembly and the existing single spacer.



Step 6 contd.:

This pictures shows the difference in height of an older LCD model (Revision 6) and the new type on the right hand side, Revision 7.



Step 7:

The replacement Kit for the Terminal LCD module consists of:

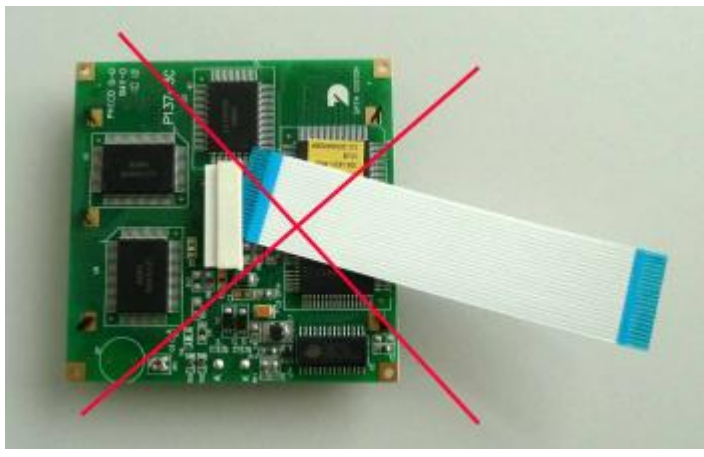
- # 1: LCD Module
- # 2: Flat cable
- # 3: 4 Spacers
- # 4: 4 Serrated Lock Washers (star washers)
- # 5: 4 Screws

Step 8:

Insert the flat cable into the connector as shown in the figure.



Connect the other side to the connector of the Terminal PCB.



Step 8 contd.:

Connecting the flat cable this way (blue color as indicator) is wrong. No contacts provided.

Install the LCD Display observing the precautions with the space needed in-between the LCD module and the protection foil. See Step 6 for details.

This concludes the procedure for the section on 'Replacing the LCD Display'.

The Assembly of the unit follows the logical order of the Disassembly procedure, backwards.

The section '[Assembling the PAL Control Terminal](#)' describes some important specific points.

All further steps are separately described; see '[Repair Path Overview](#)'.

To test the PAL Control Terminal after a repair, refer to the section '[Test Procedure](#)'.

See also the section '[Limitations](#)' to verify that no forbidden steps have been performed during the repair of the unit.