olso net Communications

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P i c O S
LCD interface

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Preamble

This note describes the praxis interface to LCD operations under PicOS. This interface is intended to replace the old interface via **io** (still available in the eCOG version). It is assumed that the old interface will be removed from the system at the nearest moment when LCD access from a PicOS praxis is truly needed for eCOG.

The present interface is purely ASCII. Should a need arise, it will be extended to accommodate other types of access, e.g., via numbered segments. Owing to the idiosyncrasies of various LCD modules, it may be difficult to maintain the transparency of such an interface across different devices.

The operations

In order for the operations described below to be available, an LCD must be configured into the system for the particular board. The list of available LCD modules is present in *options.sys*. It will grow as new modules are interfaced to the system.

```
void lcd_on (word par)
```

The operation switches the device on. The argument is a collection of binary flags, whose applicability may be restricted to some modules. Only one flag is implemented at the moment: **LCD_CURSOR_ON**, if present, selects the cursor to be displayed at the end of the last written text fragment.

```
void lcd_off ()
```

The operation switches the device off. Depending on the module, the last displayed contents may be preserved, such that they will be displayed again when the device is turned back on.

```
void lcd_nlines ()
void lcd_llength ()
```

These functions return, respectively, the number of text lines available on the device and the line length (in characters). It is assumed that all lines are the same length.

```
void lcd_write (word pos, const char *string)
```

The function writes a string of characters starting from the indicated position. Positions are numbered from 0 (the leftmost character of the topmost line) to **lcd_nlines () * lcd_llength () − 1** (the rightmost character of the bottom line). If the string cannot be entirely accommodated within one line, it will be automatically broken at the line end. The new string overwrites any string previously displayed on the affected positions. A string longer than the device capacity is truncated.

```
void lcd_clear (word pos, word n)
```

The function erases the selected section of the display, equivalent to displaying **n** blanks starting from position **pos**. A special case is **n** = 0. Then, regardless of the value of **pos**, the entire display is cleared.