

stamp.peripheral.display.lcd.serial

Class BPI216

[java.lang.Object](#)

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+--**stamp.peripheral.display.lcd.serial.BPI216**

public class **BPI216**

extends [Object](#)

This class is for the Scott Edwards BPI-216 Serial LCD Module. The BPI-216 is a 2-line by 16-character LCD with a serial interface for easy use. The PBI-216 has a switch selectable baud rate that must be set to 9600 baud for communication with this class.

Revision History:

Ver 1.0 - 09/21/02: Initial release by Jon Williams and Andy Lindsay of Parallax Inc.
Ver 1.1 - 12/24/02: Modified by Steve Dill of Parallax Inc.
Moved file location:
 from: stamp.peripheral.lcd
 to: stamp.peripheral.display.lcd.serial
All public constants now private.
Renamed cursorOn() to displayOnUL()
Renamed blinkOn() to displayOnBL()
Renamed cursorOff() to displayOn()
Renamed clearScr() to CLS()
Created scrollRT() - Scrolls display image to the right
Created scrollLF() - Scrolls display image to the left
Renamed moveTo() to cursorMove()
 - row now accepts "1" for line1 or "2" for line2
Created cursorRT() - Move cursor to the right
Created cursorLF() - Move cursor to the left

Constructor Summary

BPI216([Uart](#) lcdUart)

Creates new serial LCD display object

Method Summary

void	<u>CLS</u> () Clears LCD and returns cursor to line 1, position 0
void	<u>command</u> (int cmd) Sends BPI-216 command byte to LCD directly: 0x01 clear the LCD 0x02 move the cursor home 0x10 move the cursor left 0x14 move the cursor right 0x18 scroll left 0x1C scroll right 0x08 blank display without clearing 0x0E display on with cursor underline 0x0C display on with no cursor 0x0D display on with cursor blinking-block 0x80 DDRAM starting address 0x40 character Generator (CG) RAM
void	<u>createChar5x8</u> (int CG, char[] array) Sends custom character data to LCD
void	<u>cursorLF</u> () Moves cursor left
void	<u>cursorMove</u> (int row, int column) Moves LCD cursor to specified row and column position.
void	<u>cursorRT</u> () Moves cursor right
void	<u>displayOff</u> () Turns display off without changing contents of RAM
void	<u>displayOn</u> () Turns display on, no cursor
void	<u>displayOnBL</u> () Turns display on with a blinking-block cursor
void	<u>displayOnUL</u> () Turn display on with an underline cursor
void	<u>home</u> () Moves cursor to home positon (line 1, clumn 0) -- DDRAM unchanged
void	<u>scrollLF</u> () Scroll display image to the left.
void	<u>scrollRT</u> () Scroll display image to the right.
void	<u>write</u> (int CG) Writes specified CGRAM location on LCD at cursor position

void	write (String s) Writes string on LCD at cursor position
void	write (StringBuffer sb) Writes string buffer on LCD at cursor position

Methods inherited from class java.lang.Object
equals

Constructor Detail

BPI216

```
public BPI216(Uart lcdUart)
```

Creates new serial LCD display object

Parameters:

lcdUart - TX uart object setup for LCD control

Method Detail

command

```
public void command(int cmd)
```

Sends BPI-216 command byte to LCD directly:

- 0x01 clear the LCD
- 0x02 move the cursor home
- 0x10 move the cursor left
- 0x14 move the cursor right
- 0x18 scroll left
- 0x1C scroll right
- 0x08 blank display without clearing
- 0x0E display on with cursor underline
- 0x0C display on with no cursor
- 0x0D display on with cursor blinking-block
- 0x80 DDRAM starting address
- 0x40 character Generator (CG) RAM

Parameters:

cmd - Command to send to LCD

write

```
public void write(int CG)
```

Writes specified CGRAM location on LCD at cursor position

Parameters:

CG - CGRAM location (0-7) to write on LCD

write

```
public void write(String s)
```

Writes string on LCD at cursor position

Parameters:

s - String to write on LCD

write

```
public void write(StringBuffer sb)
```

Writes string buffer on LCD at cursor position

Parameters:

sb - StringBuffer to write on LCD

CLS

```
public void CLS()
```

Clears LCD and returns cursor to line 1, position 0

home

```
public void home()
```

Moves cursor to home position (line 1, column 0) -- DDRAM unchanged

cursorMove

```
public void cursorMove(int row,  
                        int column)
```

Moves LCD cursor to specified row and column position.

Parameters:

row - Row number (1 or 2)

column - Position on line (0-15 on screen, 16-39 off screen)

cursorRT

```
public void cursorRT()
```

Moves cursor right

cursorLF

```
public void cursorLF()
```

Moves cursor left

createChar5x8

```
public void createChar5x8(int CG,  
                           char[] array)
```

Sends custom character data to LCD

Parameters:

CG - CGRAM number (0 - 7)

displayOn

```
public void displayOn()
```

Turns display on, no cursor

displayOff

```
public void displayOff()
```

Turns display off without changing contents of RAM

displayOnUL

```
public void displayOnUL()
```

Turn display on with an underline cursor

displayOnBL

```
public void displayOnBL()
```

Turns display on with a blinking-block cursor

scrollRT

```
public void scrollRT()
```

Scroll display image to the right.

scrollLF

```
public void scrollLF()
```

Scroll display image to the left.

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Javelin Stamp

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