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stamp.peripheral.appmod

Class LedTerminal

[java.lang.Object](#)

```

|
+--stamp.peripheral.appmod.LedTerminal

```

```

public class LedTerminal
extends Object

```

This LedTerminal class is for Parallax's "LED Terminal AppMod" (part #29112). The LED Terminal AppMod provides an interface for direct interaction between a user and the host. It offers a four digit alphanumeric LED display, six individual LEDs, four pushbuttons, and a real-time clock.

Communication with the AppMod is performed, serially, via the Javelin's I/O pin #6 using the UART class. Most of the LED Terminal features are available to you through methods within the LedTerminal class. If you would like to experiment with the AppMods other program strings, they are as follows: (Note: All data must be sent as characters, in one continuous string)

```

ASC - Send ASCII (text) data as well as LED control to the AppMod
      (4 char)(3 char)      (4 char)      (1 char)      (1 char)
[init] [directive] [ASCII Data] [LED highbyte] [LED lowbyte]
!LT0   ASC          data          0x00          0x00

```

```

BCD - Show Binary Coded Decimal data as received via serial interface.
Note: data will be displayed as Hex values 0-9, A-F
      (4 char)(3 char)      (4 char)      (1 char)      (1 char)
[init] [directive] [binary Data] [LED highbyte] [LED lowbyte]
!LT0   BCD          data          0x00          0x00

```

```

BIN - Show decimal value of HEX input.
Note: data consists of 2 bytes (0-270F)
      will be converted to decimal (0-9999)
      (4 char)(3 char)      (2 char)      (1 char)      (1 char)
[init] [directive] [binary Data] [LED highbyte] [LED lowbyte]
!LT0   BIN          byte,byte      0x00          0x00

```

```
RTI - Real-Time clock Initilization.  Set the real-time clock.
(4 char)(3 char)      (4 char)      (2 char)
[init]  [directive] [binary Data]    [unused]
!LT0    RTI          day,hour,min,sec 0x00,0x00

RTH - Real-Time clock Hide.  Do not display real-time clock.
(4 char)(3 char)
[init]  [directive]
!LT0    RTH

RTS - Real-Time clock Show.  Display the real-time clock.
(4 char)(3 char)
[init]  [directive]
!LT0    RTS
```

To control the LED's you will need two bytes: highbyte & lowbyte

highbyte	lowbyte
XXXXXX00	00000000
	`-> Decimal Point #1 (Right-most, Least Significant digit)
	`--> Decimal Point #2 .
	`---> Decimal Point #3 .
	`----> Decimal Point #4 (Left-most, Most Significant digit)
	`-----> LED #1 (Right-most)
	`-----> LED #2 .
	`-----> LED #3 .
	`-----> LED #4 (Left-most)
'	'-----> Colon mini-LED (top)
`	`-----> Colon mini-LED (bottom)

Note: The Javelin's current UART class version 1.0 (IDev2.01) is designed for single-direction communication on a given I/O pin. With this limitation, the LedTerminal.java class can not receive serial data from the Led Terminal AppMod (such as the state of the buttons)

Field Summary

static boolean	colonBot Colon (Bottom)
static boolean	colonTop Colon (Top)

static boolean	dec1 Decimal LED Display #1 (Right most)
static boolean	dec2 Decimal LED Display #2 (2nd from right)
static boolean	dec3 Decimal LED Display #3 (2nd from left)
static boolean	dec4 Decimal LED Display #4 (Left most)
static boolean	led1 Discrete LED #1 (Right most)
static boolean	led2 Discrete LED #2 (2nd from right)
static boolean	led3 Discrete LED #3 (2nd from left)
static boolean	led4 Discrete LED #4 - (Left Most)
static char	zero Null character

Constructor Summary

[**LedTerminal**](#) ()

Creates new Uart, and String Buffers

Method Summary

void	banner (String s, int wait) Scrolls a message across the display.
void	clear () This will turn all LEDs off and clear the screen.
void	direct (String xmit) This routine will give you direct access over the AppMod.
void	direct (StringBuffer xmit) This routine will give you direct access over the AppMod.
void	display (String msg, int wait) This will display a message.

void	displayTime (boolean display) This method will display or hide the time
void	setTime (int day, int hour, int min, int sec) The setTime method will set the internal clock, and display it.

Methods inherited from class java.lang.[Object](#)

[equals](#)

Field Detail

zero

```
public static final char zero
```

Null character

See Also:

[Constant Field Values](#)

dec1

```
public static boolean dec1
```

Decimal LED Display #1 (Right most)

dec2

```
public static boolean dec2
```

Decimal LED Display #2 (2nd from right)

dec3

```
public static boolean dec3
```

Decimal LED Display #3 (2nd from left)

dec4

```
public static boolean dec4
```

Decimal LED Display #4 (Left most)

led1

```
public static boolean led1
```

Discrete LED #1 (Right most)

led2

```
public static boolean led2
```

Discrete LED #2 (2nd from right)

led3

```
public static boolean led3
```

Discrete LED #3 (2nd from left)

led4

```
public static boolean led4
```

Discrete LED #4 - (Left Most)

colonTop

```
public static boolean colonTop
```

Colon (Top)

colonBot

```
public static boolean colonBot
```

Colon (Bottom)

Constructor Detail

LedTerminal

```
public LedTerminal()
```

Creates new Uart, and String Buffers

Method Detail

banner

```
public void banner(String s,  
                   int wait)
```

Scrolls a message across the display. Will accept a String of any length, will automatically pad the begining and ending of the String.

```
String s="Parallax Inc"; msg.banner(s,4000);
```

Parameters:

`s` - String to be scrolled

`wait` - delay: 1 unit ~ 1/10 milisecond

direct

```
public void direct(StringBuffer xmit)
```

This routine will give you direct access over the AppMod.

Parameters:

`xmit` - - Constructed data packet to be transmitted

direct

```
public void direct(String xmit)
```

This routine will give you direct access over the AppMod.

Parameters:

`xmit` - - Constructed data packet to be transmitted

display

```
public void display(String msg,  
                    int wait)
```

This will display a message. If the input String is greater than 4 characters, it will be truncated to 4 characters. If the input string is less than 4 characters the output will be right justified.

Parameters:

`msg` - Message to be displayed

`wait` - delay: 1 unit ~ 1/10 milisecond

clear

```
public void clear()
```

This will turn all LEDs off and clear the screen.

setTime

```
public void setTime(int day,
                    int hour,
                    int min,
                    int sec)
```

The setTime method will set the internal clock, and display it. When this device is communicating with the stamp, its internal clock will halt. When communication is complete, it will try to estimate the correct time and adjust. For most accurate time, keep communication with AppMod to a minimum.

Parameters:

day - Time in day(s): 0-99

hour - Time in hour(s): 0-23

min - Time in minute(s): 0-59

sec - Time in second(s): 0-59

displayTime

```
public void displayTime(boolean display)
```

This method will display or hide the time

Parameters:

display - - Set TRUE to display time, set to FALSE to hide time

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Javelin Stamp

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