LR-USB USB Communication Sample Program (Windows Java)

Contents

1. Overview

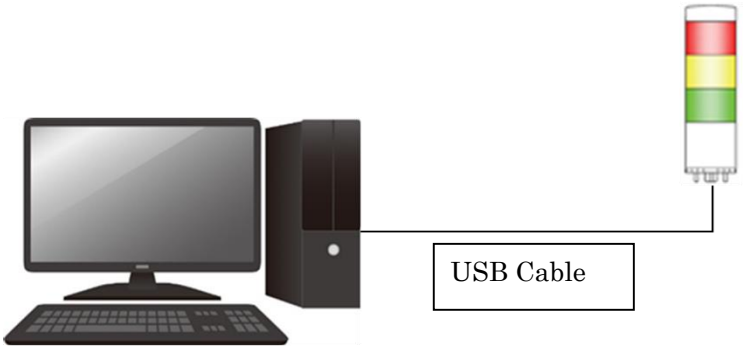
This is an outline of sample programming to control LR-USB via USB communication.

The programs are intended to control the unit using Windows Java without the use of DLLs provided by PATLITE.

1.1. System Overview

The system configuration diagram of this program is as follows.

This program controls one LR-USB by USB communication..



2. Development Environment

The development environment of the sample program is shown below.

2.1. Windows Environment

Development Environment		Remarks
Development OS	Windows 10	
Development Language	Java	11.0 or later
Package	usb4java	1.3.0 or later
Library	libusb,	1.0.25 or later

2.1.1. Environment

・Installation of libusb

Download libusb binaries from GitHub.

*As of 2022/03/30, the current version is v 1.0.25

https://github.com/libusb/libusb/releases

Unzip VS2019¥MS64 ¥dll¥ libusb-1.0.dll in the compressed file and place it in the C:¥Windows¥System32.

* Administrator privileges are required.

・Installation of usb4java

Download package.

https://github.com/us b 4java/usb4java/releases

Place the three files in the compressed file, commons-lang3-3.8.1.jar, libusb4java-1.3.0-win32-x86-64.jar and usb4java-1.3.0.jar, in the Main.java folder..

3. Sample Source Overview

3.1 Command Operation

At the Command Prompt, specify the command line arguments to execute commands for each operation.

3.1.1. Command List

Command Name	Description
Control LED Unit	Set LED color and LED pattern to display and activate it.
Control Multiple LED Units	Set multiple LED colors and LED patterns to display and activate them.
Alarm Control by Alarm Pattern	Set alarm pattern and activate it.
Alarm Control by Alarm Pattern and Scale	Set alarm scale and pattern and activate it.
Reset	Turn off all LED units and stop the alarm.

3.1.2. Control LED Unit

Execute command with the following command line argument

No.	Command Line Arguments	Value
1	Command ID	1
2	LED Unit Color	Red: 0 Amber: 1 Green: 2 Blue: 3 White: 4

3	LED Pattern	Off: 0 Lit: 1 LED pattern 1: 2 LED pattern 2: 3 LED pattern 3: 4 LED pattern 4: 5 No change: 15

Example: j java -cp "commons-lang3-3.8.1.jar;libusb4java-1.3.0-win32-x86-64.jar;usb4java-1.3.0.jar" Main.java 1 0 1

3.1.3. Control Multiple LED Units

Execute the command with the following command line arguments

No.	Command Line Arguments	Value
1	Command ID	2
2	Red LED Pattern	Off: 0 Lit: 1 LED pattern 1: 2 LED pattern 2: 3 LED pattern 3: 4 LED pattern 4: 5 No change: 15
3	Amber LED Pattern	
4	Green LED Pattern	
5	Blue LED Pattern	
6	White LED Pattern	

Example: java -cp "commons-lang3-3.8.1.jar;libusb4java-1.3.0-win32-x86-64.jar;usb4java-1.3.0.jar" Main.java 2 1 2 3 4 5

3.1.4. Alarm Control by Alarm Pattern

Execute the command with the following command line arguments

No.	Command Line Arguments	Value
1	Command ID	3
2	Alarm Pattern	Stop: 0 Sounding (Continuous): 1 Alarm Pattern 1: 2 Alarm r Pattern 2: 3 Alarm r Pattern 3: 4 Alarm Pattern 4: 5 No change: 15
3	Alarm Continuous Operation and Number of Cycles	Continuous operation: 0 Number of cycles: 1 to 15

Example: java -cp "commons-lang3-3.8.1.jar;libusb4java-1.3.0-win32-x86-64.jar;usb4java-1.3.0.jar" Main.java 3 1 15

3.1.5. Alarm Control by Alarm Pattern and Scale

Execute the command with the following command line arguments

No.	Command Line Arguments	Value
1	Command ID	4
2	Alarm Pattern	Stop: 0 Sounding (Continuous): 1 Alarm Pattern 1: 2 Alarm Pattern 2: 3 Alarm Pattern 3: 4 Alarm Pattern 4: 5 No change: 15
3	Alarm Continuous Operation and Number of Cycles	Continuous operation: 0 Number of cycles: 1 to 15
4	Sound A Alarm Scale	Stop: 0 A6: 1 B♭6: 2 B6: 3 C7: 4 D♭7: 5 D7: 6 E♭7: 7 E7: 8 F7: 9 G♭7: 10 G7: 11 A♭7: 12 A7: 13 Default value of sound A: D7: 14 Default value of sound B: (Stop): 15
5	Sound B Alarm Scale	

Example: java -cp "commons-lang3-3.8.1.jar;libusb4java-1.3.0-win32-x86-64.jar;usb4java-1.3.0.jar" Main.java 4 1 15 1 13

3.1.6. Reset

Execute the command with the following command line arguments

No.	Command Line Arguments	Value
1	Command ID	5

Example: java -cp "commons-lang3-3.8.1.jar;libusb4java-1.3.0-win32-x86-64.jar;usb4java-1.3.0.jar" Main.java 5